FM 55-6

DEPARTMENT OF THE ARMY FIELD MANUAL

TRANSPORTATION SERVICE IN THEATERS OF OPERATION

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FIELD MANUAL
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DEPARTMENT OF THE ARMY
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TRANSPORTATION SERVICE IN THEATERS OF OPERATION

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CHAPTER 1

GENERAL

1. Purpose

The purpose of this manual is to familiarize commanders and staff officers with the organization and functions of the Transportation Service in the field, and to outline the employment of Transportation Corps troops in a theater of operations.

2. Scope

The manual discusses the principal functions of the Transportation Service, such as military and civilian transportation agencies, planning, movement control, highway regulation, intelligence, security, maintenance, and supply. It outlines the transportation staff organization and its application at various command levels. It describes the employment of Transportation Corps units and facilities and covers pertinent considerations affecting base development. It also considers the preparation and form of transportation estimates, plans, and standing operating procedures.

3. Mission

The Transportation Corps in a theater of operations is responsible for the provision of an adequate Transportation service; that is, supply and maintenance of Transportation Corps equipment, regula-

tion of traffic, and transport services for the Armed Forces and civil population as directed by the theater commander. These responsibilities are coordinated through the theater transportation officer (joint or combined staff) to effect the movement of persons and things for the military forces of the theater and to handle such civilian transport requirements as directed.

a. Support Operations in an Area Under Sovereign Government. When support operations are conducted in a territory under a sovereign government, the transport mission normally will be accomplished in accordance with local civilian practices and agreements made on a governmental level. In allied territory, military demands will continually be competing for transport services with national requirements, both military and civilian. Under such circumstances it will be necessary for the transportation staff to collate and program requirements for presentation to the appropriate national agencies for the allocation of services.

b. Support Operations in Territory Formerly Held by the Enemy. In territory formerly held by the enemy all transport agencies and facilities will normally be operated under direct military control. Under these circumstances the technical operation of facilities and equipment will be effected or supervised by military personnel of the Transportation Corps. Military units will provide the organizations and manpower to operate local civilian facilities and equipment in the initial phases of operation. Transition from Phase I through Phase II to Phase III will be expedited in order that units composed of mili-

tary personnel will be available for employment in forward areas.

c. Utilization of Civilian Resources. During support operations in an area under sovereign friendly government or in an occupied territory, maximum utilization should be made of local civilian resources and labor.

CHAPTER 2

TRANSPORTATION STAFF

Section I. STAFF ORGANIZATION

4. General

The transportation staff section in the theater of operations is organized and staffed commensurate with the command and its mission. Although organization and staffing will vary with levels of command and mission, the organization, in general, will follow the same pattern (fig. 1), and the principal staff functions will remain virtually the same.

5. Transportation Officer

a. The transportation officer in a major headquarters in a theater of operations is usually a special staff officer. He has special staff functions as listed in FM 101–5.

b. Specific duties and responsibilities of the transportation officer include—

(1) Advises the commander and staff on transportation matters.

(2) Supervises the determination of requirements for, and the requisitioning, procurement, storage, distribution, and documentation of, equipment and supplies for which the Transportation Corps is responsible.

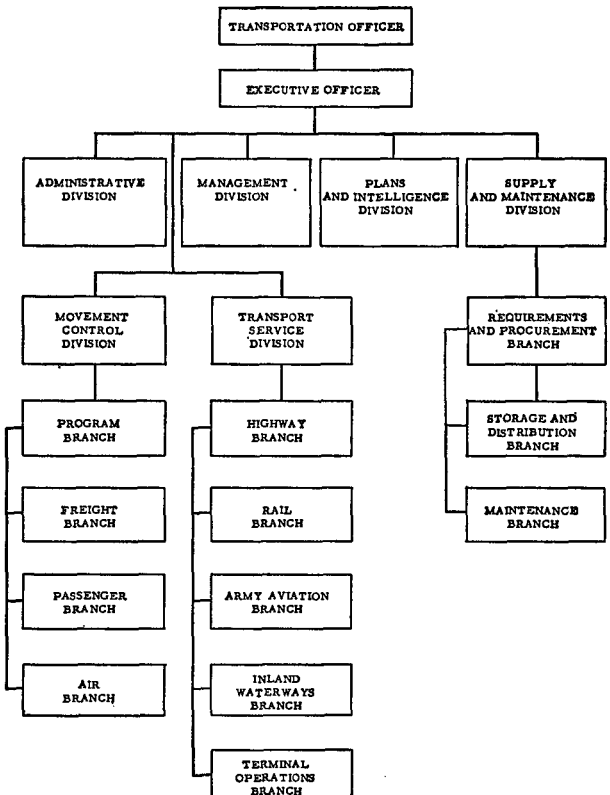


Figure 1. Type transportation staff organization.

(3) Makes plans and recommendations pertaining to requirements for, availability of, and employment of transportation equipment and transportation troops within the command including requirements for and employment of such troops in evacuation and retrograde movements.

(4) Prepares and supervises training programs of transportation units under his operational control.

(5) Exercises technical supervision over transportation activities throughout the command.

(6) Plans and supervises the following transportation operations:

(*a*) Establishment and operation of the transportation service of the command.

(*b*) Preparation of detailed plans for movement of troops and supplies by all means of transport.

(*c*) Preparation of plans and orders pertaining to the regulation of transportation means, and the operation of movement control incident thereto, to include the enforcement of established priorities as to the utilization of transportation.

(*d*) Recommendations on location and adequacy of main supply lines and location of supply and service installations.

(*e*) Coordination of all organic, attached, and supporting transportation agencies of the command, to include civilian transportation when appropriate.

(*f*) Maintenance of liaison with transportation agencies of higher, adjacent, subordinate and supported headquarters, and with those of applicable Navy, Air Force, and allied commands.

(*g*) Preparation and maintenance, as appropriate, of records, studies, graphs, and plans pertaining to the employment of transportation of the command, to include such items as availability tables, assignment tables, road distance and time length tables, march tables, march graphs, and loading plans.

(*h*) Planning for, and operation of, staging areas, terminals, in-transit storage areas, and Transportation Corps maintenance and supply facilities.

(*i*) Technical inspection of Transportation Corps equipment and supplies to include organizational maintenance of such equipment and supplies.

(*j*) Recovery, evacuation, maintenance, and reclamation of Transportation Corps materiel to include Army aircraft beyond the capabilities of using agencies.

(*k*) Examination and processing of captured transportation supplies and equipment.

(*l*) Technical intelligence pertaining to transportation activities.

(*m*) Preparation and maintenance of studies and analysis of transportation systems, facilities, equipment, and operations to include estimates of capacity, capability,

vulnerability, trafficability, and transportability.

6. Transportation Staff Section

a. Organization. A typical transportation staff section is composed of the following divisions: administrative, management, plans and intelligence, supply, movement control, and transport services. The divisions are subdivided into the number of branches necessary to fulfill requirements.

b. Major Staff Division Functions.

(1) *Administrative division.* This division performs all internal administrative functions for the transportation staff to include military and civilian personnel matters; authentication, publication, dispatch, and receipt of official correspondence; maintenance of library and office files; top secret and registered document control; and office space control.

(2) *Management division.* The management division exercises staff action on fiscal matters and management policies and practices within the office of the transportation officer, and exercises staff responsibility for action projects which are not of primary interest to any of the other divisions within the transportation officer's staff. The scope of management and fiscal matters should be such that a division is justified before establishment of such a division. If these functions are limited in scope, they may be more economically performed by other divisions.

(3) *Plans and intelligence division.* This division performs the following functions:

(*a*) Initiates, coordinates, and prepares long range, medium range, and short range plans based on a continuing estimate of the situation and such special transportation plans as may be required to meet emergencies.

(*b*) Coordinates the analysis and review of operational projects.

(*c*) Maintains liaison with the transportation planners of other services and commands.

(*d*) Prepares and coordinates estimates or forecasts of transportation resources and requirements.

(*e*) Collects transportation information and produces transportation intelligence concerning foreign transportation systems, facilities, and materiel, as required by the command and by transportation staff sections of higher and subordinate commands.

(*f*) Exercises technical supervision over intelligence activities of subordinate transportation staff sections.

(*g*) Supervises intelligence detachments and personnel assigned or attached to transportation staff sections.

(*h*) Provides technical assistance to Assistant Chief of Staff G–2 on transportation technical intelligence matters when required.

(*i*) Establishes and/or implements security measures for the safeguarding of military information within the office of the transportation officer.

(*j*) Exercises staff supervision over the selection, processing, and evacuation of foreign materiel, related documents, and reports to the zone of interior for intelligence purposes as required by the Chief of Transportation or by the intelligence officer (G2).

(4) *Supply division.*

(*a*) *Functions.*

1. Determines requirements for and allocation of Transportation Corps supplies and equipment including Army aircraft.

2. Plans for and supervises operation of Transportation Corps supply and maintenance installations.

3. Establishes policy and procedure for the recovery, evacuation, reclamation, and maintenance of supplies and equipment for which the Transportation Corps is responsible.

4. Performs technical inspection of Transportation Corps supplies and equipment.

5. Establishes liaison with Air Force depot, supply and maintenance installations supporting Army aviation activities.

6. Edits requisitions for Transportation Corps equipment.

(*b*) *Composition.* The supply division will normally be organized on a functional basis and contain a requirement and procurement branch, a storage and distribution branch, and a maintenance branch.

(5) *Movement control division.*

(*a*) *Functions:*

1. Compiles and analyzes transportation requirements in the development of the supply movement plan and program.

2. Recommends allocation of the transport capacity.

3. Adjusts program to changing requirements.

4. Expedites shipments through subordinate commands and/or field transportation offices.

5. Recommends regulations for the use and employment of transport capacity.

6. Coordinates with users of transportation, the transport services including the Air Force concerning troop carrier command capacity.

7. Prepares analysis of transportation movement activities to ascertain the effectiveness of transportation support and to improve the efficiency of movement policy and procedures.

8. Prepares basic studies for the negotiation of rates and transportation services with sovereign nations when required.

9. Studies the transportation traffic pattern and net to provide recommendations to

the transportation officer concerning necessary adjustments.

10. Exercises operational control over transportation movement control personnel not assigned or attached to subordinate commands.

11. Recommends location of in-transit storage areas and transfer points.

12. Controls, regulates, and expedites the movement of Transportation Corps transporters within the theater.

13. Maintains current information on status of supply movement program implementation and recommends corrective action if required.

(*b*) *Composition.* The movement control division will normally be organized along functional lines consisting of program, freight, air, and passenger branches.

(6) *Transport service division (or divisions).*

(*a*) *Functions.*

1. Exercises, for the transportation officer, operational control over Transportation Corps transport services of the command not assigned or attached to subordinate commands.

2. Prepares and supervises training programs of Transportation Corps transport services under operation control of the command.

3. Performs staff supervision of the transport services of the command.

4. Advises the transportation officer and movement control division of capabili-

ties of the transport services and local civilian transport facilities and equipment.

5. Insures maximum availability of local civilian transport capabilities in occupied areas as well as Transport Service Units.
6. Recommends adjustments in the employment, distribution, and capabilities of Transport Service Units, equipment, and facilities.
7. Performs command and technical inspections of transport units.
8. Provides operating statistics and information to other divisions of the staff section as required.
9. Assists the transportation officer in the preparation of highway regulation plans, and acts as a staff supervisory agency in the execution of these plans.

(*b*) *Composition.* The transport services division may be composed of highway, rail, Army aviation, inland waterways, and terminal services branches, or each one of these may compose a separate transport division in the transportation staff organization.

Section II. ORGANIZATION WITHIN COMMANDS

7. Theater Command Relationships

a. The transportation function is present at all echelons of command. The size and the duties of the transportation element of the staff are dictated

by the mission of the command and, to a lesser degree, by the type and composition of subordinate commands.

b. The global nature of modern warfare often requires the use of command echelons which command the armed forces of two or more allied nations. Such forces are designated combined forces; the staff elements are designated combined staffs.

c. A joint command is established where it is necessary to constitute a force from two or more services, that is, Army, Navy, or Air Force. The staff of a joint commander is designated a joint (or J) staff.

d. Theaters of operations are organized as set forth in FM 100–10 and FM 100–15. Except for those headquarters for which there are appropriate tables of organization and equipment, command echelons will be organized and staffed as necessary by the theater or theater army commander.

8. Theater

a. Responsibilities.

(1) The theater transportation officer is the member of the joint or combined staff who establishes, for the theater commander, policies for operating the theater transportation service and coordinates this service for the theater logistics officer. The joint or combined staff sets up an agency, headed by the transportation officer, to coordinate the transportation requirements of the military forces in the theater. Certain transportation, such as that supplied by the Military Air Transport Service (MATS) and the

Military Sea Transportation Service (MSTS), is under the direct control of the Department of Defense. Military Air Transport Service units are not assigned either to the theater commander or to the theater Air Force commander. Since their mission transcends the boundaries of the theater, they are exempted from its control; however coordination is necessary since a portion of their capacity is allocated to and utilized by the theater commander.

(2) Although organization and staffing vary with command level and mission, all transportation sections follow much the same pattern, and the principal staff functions remain practically the same. The theater transportation officer may be an Army, Air Force, or Navy officer depending upon the service having predominant interest. The theater transportation officer may also be the transportation officer of the theater army, air force, or navy.

(3) The responsibilities of the theater transportation officer are both supervisory and advisory. His duties include broad or general planning, issuing broad directives, and assuming overall control of the theater transportation organization for the joint or combined staff to the extent authorized by the commander.

b. Functions. Specific functions of the theater transportation officer closely parallel those of the transportation officer outlined in paragraph 5.

9. Theater Army

a. Responsibilities. The theater army transportation officer is responsible to the commander, under the general staff supervision of the G4, for providing an adequate transportation service within the theater. This includes the responsibility for broad plans, supervision, and coordination of Transportation Service activities of all forces under the theater army commander. His plans must take into consideration the policies and directives established by the theater commander in the employment of transport services of the Navy and Air Force and the employment of allied and civilian transport.

b. Functions. Specific functions of the theater army transportation officer closely parallel those of the transportation officer outlined in paragraph 5.

10. Field Army

a. Responsibilities. The army transportation officer is responsible for advising the commander and his staff on all transportation matters and for the preparation of plans involving the use of the transport system for which the Army is responsible. He is also charged with the staff responsibility for providing installations and units of the command with transportation as required beyond the capabilities of subordinate commands.

b. Functions. Specific functions of the field army transportation officer closely parallel those of the transportation officer outlined in paragraph 5.

11. Communications Zone

a. Responsibilities. The communications zone transportation officer advises the commander and his

staff on Transportation Corps matters and directs, controls, and coordinates the operations of the communications zone transportation service. He plans and implements the transportation required to support the mission of the communications zone commander and to provide transportation to Air Force, Navy, allied, and civilian agencies as directed by higher authority. Transportation Corps units involved in intersectional services normally remain assigned to the communications zone under his operational control.

b. Functions. Specific functions of the communications zone transportation officer closely parallel those of the transportation officer outlined in paragraph 5.

12. Other Commands

a. The transportation officer of other commands, such as army group, corps, section, base, district, or area command, has responsibilities and functions similar to those of the field army or communications zone transportation officer. The organization and size of the transportation staff will vary with the magnitude and complexity of the transportation operations of the respective commands.

b. The division transportation officer is not a special staff officer, but is assigned to the general staff as Assistant G4, Transportation. He is an advisor to the division commander on matters pertaining to employment, capabilities, and limitations of organic and attached transportation. He is concerned with both tactical and administrative movements. His specific functions are similar to those listed in para-

graph 5 which are pertinent to the division or as determined by the commander.

c. Headquarters and headquarters company, logistical commands, type A, B, or C, may be utilized to exercise command of an integrated organization of the combined services, such as area command, district, base or section of the communications zone. A transportation section is provided in each of these logistical command headquarters.

CHAPTER 3

FUNCTIONS

Section I. OPERATION OF TRANSPORTATION UNITS AND FACILITIES

13. Operation of Military Transportation Agencies and Facilities

The Transportation Service of a command must utilize, plan for the development of, and exploit all transportation resources which will contribute to the logistical mission and success of the campaign.

a. Army Transport Services. Certain transport services are operated or coordinated and controlled by the transportation officer. They are—

(1) Transportation Corps units (railway, highway, aviation, inland waterway, terminal, supply, and movement control).

(2) Civilian carriers and terminals.

b. Support Transport Agencies. Transport agencies of the Air Force and Navy may be utilized to support a command when authorized by the theater commander. The support furnished by these agencies to the army will be coordinated with such agencies by the transportation officer of the command. These agencies are—

(1) Military Sea Transportation Service.

(2) Military Air Transport Service.

(3) Air Force Troop Carrier Command.

c. Control. Commanders are responsible for the provision of the transportation capacity necessary for subordinate commanders to accomplish their mission. However, when certain transportation units are required to serve more than one subordinate command, operational control will normally be retained by the higher headquarters. This assures flexibility in the distribution of transport capacity to fill varying requirements of the subordinate commanders.

14. Utilization of Civilian Personnel and Facilities

a. Except in the least developed areas, the basis of the military transport service is the existing transportation net expanded as may be necessary to meet military requirements. Efficient utilization of civilian transport systems in occupied areas requires that they be completely integrated with military transport media. When operations are conducted in an area controlled by a sovereign friendly government military transport units are used to augment the local civilian capacity.

b. The use of local civilians is a highly effective method of supplementing the available military manpower. The procurement of local civilian personnel is subject to procedures prescribed by the theater commander. It is essential that plans provide for the utilization of local manpower to the fullest extent. Civilian personnel utilization and management are command functions at all echelons.

c. A large number of transportation service tasks can be performed by civilian labor in the theater of operations. Some jobs which can be performed by civilians are clerical and administrative work, rail-

road operation and maintenance, cargo handling at terminals, operation and maintenance of motor vehicles.

d. Provision for the use of local labor should be a part of every theater transportation plan. Cognizance must be taken of labor availability; technical experience and ability; and the social customs, religion, education, language, and political affiliations of the populace. A knowledge of the civilian transportation organizations and facilities, including personnel who hold key positions, is necessary to fully exploit the existing transport systems.

Section II. PLANNING

15. General

Planning is an important function in a theater of operations, and transportation staffs at all levels of command participate. Planning within Transportation Corps units is essential to complement and implement staff planning.

16. Basic Considerations

a. A transportation plan designed to support the mission of the command must assure the maximum availability of capacity within the capabilities of available personnel, equipment, supplies, and facilities. The transportation planner must consider the extreme possibilities of the military situation and provide for as many contingencies as possible. Basic considerations include, but are not limited to, a complete understanding of the following:

(1) Available modes of transport.

(2) Movement capabilities of available modes.

(3) What must be moved.
(4) When it must be moved.
(5) Where it must be moved.
(6) The enemy capability to disrupt The Transportation Service.
(7) Characteristics of Tranportation Corps installations and facilities.
(8) Capabilities of organic communications and services provided by the Signal Corps.
(9) Loading and unloading capabilities of installations served by the transport service.
(10) Type and characteristics of transportation facilities available.

b. The plan must include provisions for an adequate number of transportation units and facilities, flexibility, efficiency, and simplicity. Provisions must be made for alternate plans, necessary communications, security, and timely issuance of orders. (See chapter 6 for details of transportation planning.)

c. Railroads, highway transport, inland waterways, pipelines, and air transport all have their own characteristics and capabilities. Blending the capabilities of each available mode of transportation with requirements is a major function of staff transportation officers. Close coordination is required with all planning elements. Advance planning, for instance, will require the closest coordination with other special staff officers in developing the type and amount of construction effort required for rehabilitation or construction of transportation and communications facilities and distribution of bulk petroleum products. Sound conclusions can only be reached after

careful consideration of all the implications of the transportation plan.

d. The overall plan is normally broken down into detailed plans for specific areas. Detailed plans are the responsibility of the transportation officers of subordinate commands who must coordinate them with the requirements of the commander and with the general transportation plan of higher headquarters.

Section III. INTELLIGENCE

17. General

a. Military information, military intelligence, strategic intelligence, combat intelligence, and counterintelligence are discussed in FM 30–5. Transportation intelligence and technical intelligence are discussed in FM 30–16. Intelligence is a function of the G2. The collection of information in the field is a generic operation, and the distinction in the production of types of intelligence is chiefly in terms of scope, perspective, and level of use.

b. Transportation intelligence is knowledge acquired by the collection, evaluation, analysis, integration, and interpretation of all available transportation information of a country or area. Such transportation information includes, but is not limited to foreign transportation systems and facilities, including railroads, highways, inland waterways, ports (sea and inland waterway), rotary and light fixed-wing aircraft, and other modes of transport. It provides US military planners with the basic data required to calculate the military movement capabilities, limitations, and vulnerabilities of foreign transportation systems and facilities. It provides com-

manders in the field with similar knowledge for use in planning tactical operations.

18. Transportation Intelligence

a. The transportation officer on each special staff (oversea commands) is responsible for the collection of transportation information and the production of transportation intelligence, as prescribed in FM 30–16. The transportation officer's intelligence plan is prepared and executed by the transportation intelligence officer who acts as the chief of the intelligence branch, plans and intelligence division, of the transportation officer's staff. The intelligence produced under the transportation officer's supervision is that required by his own commander, higher headquarters, his own staff section for transportation planning, and for use by operating units.

b. The Assistant G4 for transportation in infantry, armor, and airborne divisions has the same intelligence functions as transportation officers of higher echelons, subject to such modifications as may be directed by the division commander.

c. At each level of command, transporation intelligence activities, including intelligence relationships with Navy, Air Force, and allied forces, are under the general staff supervision of the G2. Systematic and continuing intelligence liaison is maintained by the transportation officer or his designated representative with pertinent theater intelligence agencies, through or as directed by the G2.

d. Transportation officers of theater headquarters and oversea commands maintain appropriate intelligence coordination and liaison with the Chief of Transportation through technical channels.

19. Transportation Intelligence Requirements

a. The transportation intelligence officer of each level of command will assemble, analyze, and incorporate into his collection plan the transportation intelligence requirements of his own and, where applicable, higher, lower, and adjacent headquarters. Orders and requests based on this intelligence collection plan are disseminated to provide transportation intelligence officers and transportation intelligence detachment commanders a basis for the preparation of their intelligence collection plans. G2 and transportation collecting agencies will be informed of changing priorities and completion of specific requirements to preclude unnecessary collection effort.

b. Available collecting agencies include, but are not limited to the following:

(1) Intelligence branch of transportation special staff sections.

(2) Transportation intelligence detachments (HB-strategic intelligence; HA-combat intelligence).

(3) All other Transportation Corps units and personnel.

(4) The organic and attached facilities of higher, lower, and adjacent units, including troops and intelligence personnel organic to or attached to combat units.

c. All basic documents, maps, and diagrams should be studied, analyzed, annotated, and forwarded through intelligence channels in accordance with FM 30–15, paragraphs 56 through 64.

d. Information obtained by unit commanders con-

cerning enemy transportation systems, facilities, and materiel will be forwarded to the nearest transportation intelligence officer without delay. Captured enemy transportation materiel will be processed in accordance with FM 30–16.

20. Transportation Intelligence Teams

a. Transportation intelligence detachments (HB) normally are assigned to transportation special staff sections of theater, army, and communications zone. Transportation intelligence detachments (HA) are normally assigned to each corps. Subteams are provided each frontline division as required. Both types of transportation technical intelligence detachments are under the operational control of the transportation officer of the headquarters to which assigned or attached.

b. The commanding officer of a transportation technical intelligence detachment (HB) may be designated as the chief of the intelligence branch, plans and intelligence division, of the transportation officer's special staff.

Section IV. MOVEMENT CONTROL

21. General

a. Movement control is defined as the competent selection, allocation, and use of transportation facilities for the movement of personnel and things to meet military requirements with the maximum economy of resources.

b. The objective of movement control is to insure that persons and things are moved in accordance with established priorities, and in the quantities specified

between origins and destinations as required to support military operations. For this reason, planning, programing, and controlling military shipments in war are essential functions of command at all echelons.

c. The transportation officer of each headquarters or command is responsible to the commander, under the general staff supervision of G4, for planning and controlling movements performed by any mode of transportation made available to the command. The transportation officer coordinates closely with the G3 for all movements of a tactical nature. In major commands the movement control division in the office of the transportation officer performs the two functions of planning and controlling shipments. In smaller commands these functions may be consolidated with those of other sections.

22. Principles of Movement Control

a. General. In theaters of operations movement capacity will seldom exceed transportation requests. In operating under any conditions, the following fundamental considerations should be observed:

(1) Movement control must be centralized to the degree permitted by the organization of the command and necessary to accomplish the mission.

(2) Shipments must be regulated and coordinated to the degree essential to military operations.

(3) The flow of traffic must be continuous and flexible.

(4) Efficient utilization of the transport capacity.

b. Centralized Movement Control. Planning for the use of all transport capacity available to a command is normally centralized to obtain the maximum utilization of this capacity. The transportation officer of a senior headquarters will normally allocate transport capacity to subordinate units as follows:

(1) By allocating space for intrasectional and intersectional movements on transport services or units which are employed in intersectional service and over which he retains operational control.

(2) By attaching transport units on a temporary basis to accomplish a specific mission.

(3) By assigning transport units on permanent basis to take care of normal intrasectional requirements.

c. Coordination of Movement. Free use by shippers, at their discretion, of the facilities and equipment of the transport services may tax the transport system beyond its capacity and lead to congestion and consequent loss of flexibility. Therefore, regulation of shipments is essential. A shipment must be initiated only when terminal and transfer facilities are adequate to accommodate it, when the transport services concerned can implement the movement from origin to destination, and it is required for the accomplishment of the military mission. It is imperative that a balance is maintained between transport requirements and transport capacity.

d. Continuity and Flexibility of Movement.

(1) All modes of transportation must be coordinated to provide a transport system over which shipments may move without regard for administrative boundaries.

(2) Transport equipment usually must return to points where shipments originate if flow is to be continuous. Except when they might interfere with forward support shipments, return loads of salvage material will be dispatched whenever possible.

(3) When not outweighed by other considerations, shipments should be allocated to that unit of transportation which can accomplish a through movement from origin to destination.

(4) Changes in the tactical situation often necessitate rapid revision of supply movement plans and programs. The available transportation facilities supporting military operations must be highly flexible, since such facilities must not only provide transportation when and where required, but also must be able to divert such movements en route when necessary. Full utilization of the transportation net must be possible to insure immediate implementation of decisions of the commander.

(5) Plans for retrograde movements should be such that continuity and flexibility of forward movements are not impaired.

e. Utilization of Capacities. Transportation equipment is best utilized when turn-around time is reduced to a minimum, when equipment is loaded to its capacity, and when uniform rate of flow is maintained in transit.

(1) The time required for transportation equipment to pick up a load, deliver it to its destination, and arrive at the next loading

point is one of the determining factors in the movement capability of transport equipment.

(2) The economical load for every form of transportation equipment varies according to conditions. When this is exceeded, loss of speed, excessive wear and tear, and eventual breakdown will result. If the load is less than optimum, movement capacity is wasted.

(3) The movement capacity of a transport net is determined by the total capacities of all transport modes. Moreover, the maximum capacity of the most restricted segment of a line of communications is the determining factor in the overall capacity of the line. The maximum volume of movements over a system during any particular period is governed by current conditions, and attempting to force more movements over the system than it can accommodate will result in congestion and delay, irregular flow of movements, and failure of shipments to reach their destinations in accordance with plans and priorities.

(4) When conditions permit, a limited express type service for priority cargo may be established on any one or a combination of modes of transportation.

23. Supply Movement Plans and Programs

a. General. The objective of supply movement planning is to fit the capabilities of available transportation to the demands of the users so that all re-

quirements can be filled, or to comply with the priorities determined by the commander. This planning is conducted at all echelons of command having responsibility for transportation service. The supply movement plan, when authenticated by the G4, becomes the supply movement program of the command and indicates when, where, and the means of accomplishing authorized shipments.

b. Supply Movement Plans. Supply movement planning consists of: assembly of requirements, analysis of capabilities, application of priorities established by the commander, and tentative allocation of available capacity against requirements.

(1) *Assembly of requirements.* At each echelon of command, users of transportation submit in advance their needs for transportation for a future period. These requirements are assembled into a coordinated statement of transportation requirements. At this time the logistics officer adds any known requirements imposed by higher authority. The sum of these factors constitutes the command's requirements for movement.

(2) *Analysis of capabilities.* An up-to-date knowledge of transport capacities is essential to movement planning. Current information on capacity, by mode, is provided by the transport service division and is usually expressed in terms of short tons per mode per day. Information on the ability of units and installations to ship and receive must also be available before the total capability to ship can be determined.

(3) *Establishment of priorities.* The military demands on transportation agencies in peacetime normally are met without difficulty by the existing civil transportation systems. In time of war, however, a greatly increased military demand is placed on the civil systems both in the zone of interior and in oversea theaters of operations, in addition to an expanded civil demand resulting from the changeover to a national war economy. Transport capacity, moreover, may have been substantially reduced by damage through enemy action or by restrictions imposed by wartime operations, such as use of the convoy system, blackout, or inadequate number of maintenance facilities. Consequently, it may be expected that requests for transportation may exceed capabilities and this in turn will impose a need for establishment of priorities in order that the commander's plan may be appropriately implemented. The establishment of priorities is a command responsibility.

(4) *Principles of supply movement planning.*

(*a*) The available capacity of the most economical mode is utilized first for shipment as far forward as possible.

(*b*) Shipment of freight by rail or water for short distances should normally be avoided.

(*c*) Highway transport is used best for short hauls.

(*d*) Backhauling and crosshauling should be avoided.

(*e*) Transfer of cargo en route to final destination should be avoided.

(*f*) Maximum utilization of transport capacity.

(5) *Supply movement program.* The supply movement program is the result of supply movement planning. When the plan is completed, it is submitted to the Assistant Chief of Staff, G–4, for approval and authentication. When authenticated, the plan becomes the program and is the authority for shipment of programed items and for the transport services to furnish transport equipment on demand. It specifies what is to be moved, origin and destination of the shipment, and the mode of transportation on which it is to be moved. This program, however, is not self-implementing. The shipping agency must request the transportation required, designating the mode specified on the supply movement program for the specific shipment.

(6) *Programed personnel movements.* When personnel shipments can be planned to move on a regular basis, they are programed in a manner similar to supply shipments. With personnel shipments the G1 and the G3 have primary interest rather than the technical services. However, the majority of personnel movements will be nonprogramed because most shipments will not move on a regular basis.

(7) *Nonprogramed movements.* As many shipments as possible should be programed, however there is a large percentage of shipments that cannot be planned in this manner. Agencies desiring to initiate shipments not included on the supply movement program must furnish the necessary details to the transportation officer in sufficient time for the transport space to be allocated to meet the demand for the supplies at destination. If the shipment is intersectional it will normally require the approval of the communications zone transportation officer.

24. Movement Instructions

a. Movement instructions are detailed instructions for the coordination of a shipment. They are issued by a movement control agency as instructions for accomplishment of programed and nonprogramed movements and represent agreed procedure to be followed by the shipper, receiver, and carrier.

b. Movement instructions will normally contain the following information for each programed movement:

(1) Identification and description of the movement.
(2) Points of origin and destination.
(3) Points of loading and/or unloading.
(4) Responsible agency and its representative at points of origin and destination, where practicable.
(5) Date and time for the movement.
(6) Transport mode and facilities to be provided for the movement.

(7) Special arrangements for critical cargo, etc., if appropriate.
(8) Special instructions for documentation and marking, if appropriate.
(9) Such additional information as may be of assistance to the users of transportation or to the transport services in accomplishing the movement.

25. Supervision of the Supply Movement Program

a. Supervision of the execution of the supply movement program is a staff responsibility of the transportation officer. Coordination with consignor, consignee, and transport service is required to determine adequacy of service and to insure that transport capacity is not unduly delayed.

b. Specific, timely, and accurate information is fundamental to the effective supervision of movement. Movement information is accumulated through technical channels. Field transportation offices and transport units are the principal means of furnishing such information.

26. Communications

a. Adequate communications are essential in the performance of movement control functions at all levels. Field transportation officers must maintain constant contact with higher headquarters, transport service organizations, and units and installations which they serve.

b. Communications requirements are determined, planned, facilities surveyed, and necessary equipment procured prior to the establishment of field transportation offices. Reconnaissance is conducted to deter-

mine the best method for providing necessary communications with other agencies. An alternate method of communications should always be available. The signal officer of the command is responsible for providing the necessary signal support as outlined in FM 11–20.

27. Documentation

Proper and adequate documentation cannot be overemphasized. It is essential that the shipper be required to provide proper documentation of the cargo before departure, however, redocumentation in transit is the responsibility of the Transportation Service. This is necessary to provide a means for proper control, clearance, receipt, and identification. Documentation procedures and forms should stress simplicity consistent with adequacy and should be as common to all transport agencies as the peculiarities of the various modes of transportation will permit.

28. Field Movement Control

a. The nature of transportation operations in the field, the fluctuating demands placed on the Transportation Service as a result of changes in the logistical requirements of the combat forces, and the interruptions to programed movements caused by enemy attacks on the supply lines with subsequent breaks in the transportation system all require the presence in the field of movement control personnel. Field transportation personnel represent the transportation officer of the command having territorial jurisdiction over the area in which such personnel are located. They act to insure full coordination of the shippers' and transport services' activities.

They insure adherence to the movement program and receive requests for and procure requests for nonprogramed movements. Field transportation personnel are deployed as required at communication centers, depots, inland terminals, water terminals, transfer points, railheads, truckheads, air terminals, and Ordnance vehicle parks.

b. Movement control teams are organized administratively as companies and groups under the provisions of TOE 55–500R. These companies and groups furnish personnel for the movement control mission of the transportation officer of the command to which assigned.

Section V. SECURITY

29. General

Security, as applied to the Transportation Service, covers a broad field of activities. A partial list of items to be considered are communications security, pilferage, documentation, and tactical security of transportation units and installations including camouflage, cover, concealment, and dispersion. The lines of communications of the theater offer excellent targets for the enemy. Enemy action, such as sabotage, guerilla activities, espionage, chemical-biological-radiological attack, and infiltration must be anticipated. Normally, combat personnel will not be available to guard the supply routes. The burden of security passes to the troops of the services; however, the Military Police Corps provides guard detachments for each train, military railway service. Transportation units, because of the nature of their operations, are the major users of the lines of com-

munications. Therefore, Transportation Corps units must be well trained in security measures.

30. Responsibility

Staff supervision of transportation security is the responsibility of the transportation officer. The issuance of directives pertaining to transportation security will be accomplished by the transportation officer, in the name of the commander, and governed by the policies established by him. Implementation of plans from higher commands and the necessary training to provide tactical security are responsibilities of the area, unit, or installation commander. The area commander is responsible for lines of communication security.

Section VI. SUPPLY AND MAINTENANCE

31. Supply

a. The transportation officer of the command is responsible for Transportation Corps supply. Supply encompasses the activities concerned with determination of requirements, procurement, storage, and distribution. The transportation officer directs and supervises the policies pertaining to all supply activities for the appropriate transportation service.

b. Army aviation supply responsibility is divided between the Air Force and the Transportation Corps. Depot stocks are maintained by the Air Force and the Transportation Corps is responsible for procuring supplies from the Air Force for issue to using agencies. Depot stock levels are determined by the Chief of Transportation and are carried on a separate account for the Army. The responsible trans-

portation officer will usually assign liaison officers to appropriate Air Force depots to monitor and coordinate depot support activities.

c. Supply economy is the conservation, maintenance, safeguarding, recovery, repair, and salvage of all equipment and supplies. The Transportation Corps unit commander will strengthen and enforce supply economy so that each individual is conscious of the cost of hoarding and wasteful use of supplies and equipment. Close supervision by the transportation officer in enforcing accepted methods of loading, unloading, handling, and storage of in-transit supplies will contribute to supply economy by safeguarding from pilferage and damage. It is his responsibility to ascertain that his stock control activities are efficiently operated in compliance with established policies. Supply discipline exercised continuously and effectively is imperative.

32. Aviation Maintenance

Depot maintenance of Army aircraft and allied aircraft equipment is performed by the supporting Air Force depot. Repair beyond the capability of the depot may be accomplished by contract with local civilian firms or evacuated to the zone of interior through Air Force channels. Maintenance below the depot level is accomplished by Transportation Corps maintenance units and the using organization.

CHAPTER 4

MODES OF TRANSPORTATION

Section I. TRANSPORT SERVICE

33. General

a. This chapter outlines the various modes of transportation and their utilization and briefly describes the units and installations of the transport services. Since any one, or any combination, of the modes may be employed throughout a theater, this chapter is not to be construed as limiting the utilization of any particular unit of the Transportation Corps or any particular type of transportation. The most economical and efficient means of transportation will be used, depending upon the urgency of requirements and the availability of capacity.

b. The creation of an effective transport system in any military situation demands that available means of transportation (water, railway, highway, pipeline, and air) be integrated and utilized as an entity. The complexities of modern warfare are such that a failure in any part of the military transport system may result in failure of the entire transportation system and the logistical support of the combat forces. The transport modes are organized to accomplish the regulation and/or operation of the net and to provide for the integration of the local civilian transport system. The various modes of

transportation, or the transportation nets of separate areas, cannot be operated without regard for the requirements of the other modes of transportation or those of the entire system. A high degree of flexibility is necessary in order that the transportation capabilities may be diverted, concentrated, or reallocated as the strategic and tactical situation demands. The integration and flexibility required are best achieved through the establishment of centralized control and decentralized operations. Reciprocal support and close liaison between all services of the Armed Forces are required for effective development, rehabilitation, maintenance, and functioning of the transportation system.

34. Combat Zone

The Transportation Service in the combat zone, except for that portion assigned or attached to subordinate commands, functions under the operational control of the transportation officer of each field army. Since the ultimate purpose of the communications zone transportation service is to place cargo and personnel within reach of the combat forces, communication zone units will be required to operate within the army area. The major share of the transportation task within the army area, however, is performed by highway transport. As military operations progress, every opportunity to develop other means of transportation must be exploited in order to increase the shipping capacity within the area and to assure the maximum possible transportation support to the combat forces.

a. Water Transport. Normally inland waterways are not utilized as a mode of transport in the combat zone. Destruction of facilities and equipment by the enemy, the need for developing suitable transfer points, and the absence of local skilled personnel such as bargemen, pilots, and tugboat operators usually makes use of such waterways impractical.

b. Railway Transport. Railway operations extend to railheads as far forward as possible. Rail facilities and equipment, regardless of gage, within the army area should be utilized by the military railway service to increase transportation capacity. Rail units are seldom assigned to a field army but may be located and operate within the army area.

c. Highway Transport. Transportation truck companies form the nucleus of transportation for the field army. These companies provide a general hauling service for the movement of persons and things beyond the capabilities of the organic motor transport resources of the other units of the field army. Transportation truck battalions with the army are organized to command two to six truck companies each. A headquarters, transportation highway transport group, provides command and administration for these truck battalions when they are not attached to subordinate commands.

d. Air Transport. Army transport aviation consisting of both fixed- and rotary-wing aircraft provides tactical and logistical support to forces in the combat zone. Army transport aviation units are normally assigned to Army, but they may be attached to subordinate commands when required for performance of a specific mission. A definition of Army

organic aviation and an outline of functions may be found in SR 95–400–5. Figure 2 shows typical Transportation Corps army aviation units in a type field army.

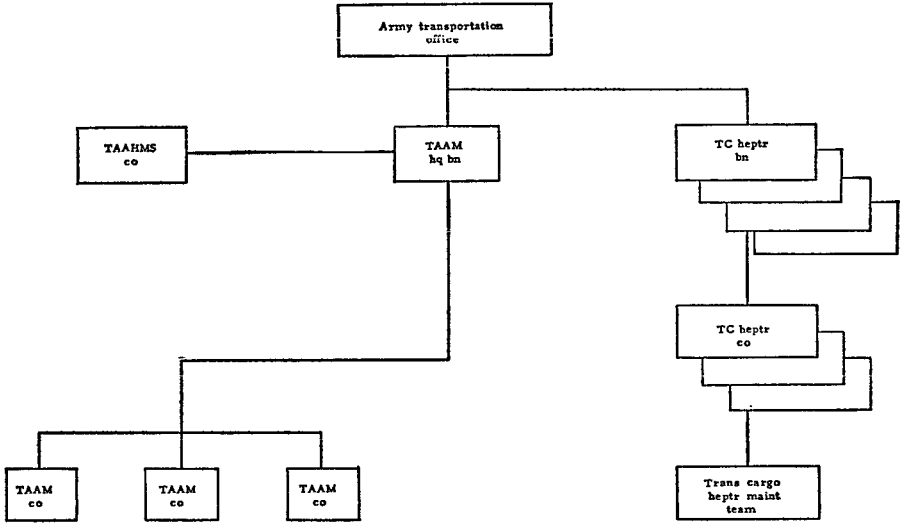
(1) *Helicopter battalion.* The helicopter battalion provides a headquarters for control and administration of assigned or attached transportation helicopter companies and assigned or attached maintenance teams. The component parts of the battalion are a headquarters and headquarters detachment and two to four helicopter companies plus required field maintenance teams.

(2) *Helicopter company, army.* The component parts of the company are the company headquarters, maintenance and service platoon, and 3 operating platoons. This company provides short haul air transport to expedite tactical operations and logistical support in the forward areas of the combat zone.

(3) *Helicopter teams (TOE 55–500R).*

(*a*) *Helicopter aircraft teams.* The following helicopter teams, containing sufficient personnel and equipment for their organizational maintenance only, are normally assigned to a major headquarters or field headquarters or may augment a helicopter company to expedite and improve short range tactical and logistical movements:

1. Team KA, helicopter team (light cargo), equipped with two light cargo helicopters.



TAAM = Transportation army aircraft maintenance
TAAHMS = Transportation army aircraft heavy maintenance and supply

Figure 2. Transportation Corps army aviation units in a type field army.

2. Team KB, helicopter team (medium cargo), equipped with two medium cargo helicopters.

(*b*) *Helicopter field maintenance team.* The team KD, light cargo helicopter field maintenance team, is assigned to the army for the purpose of providing field maintenance (3d echelon) support for a cargo helicopter company. The team also provides limited supplies and spare parts to support the company's organizational and field maintenance requirements.

(4) *Army aircraft maintenance battalion.* This battalion normally consists of a headquarters and headquarters detachment, one heavy maintenance and supply company, and three aircraft maintenance companies. It is normally assigned on the basis of one battalion per field army.

(5) *Army aircraft maintenance company.* Army aircraft maintenance companies are assigned to the army for the purpose of providing field maintenance support, including battlefield recovery, for approximately 325 two-place fixed-wing army aircraft, or the equivalent, and allied aircraft equipment. They provide supplies and spare parts to supported units for organizational maintenance of aircraft and maintain a small reserve of aircraft of the type supported.

(6) *Heavy maintenance and supply company.* This company provides heavy maintenance and supply support for the Army Aircraft

Maintenance Company and operators of fixed- and rotary-wing aircraft. It will normally be located in the army rear area. Without augmentation it can support approximately 687 of the aircraft in a field army (355 fixed-wing observation aircraft, 58 utility and command aircraft, 181 reconnaissance helicopters, 30 utility helicopters, and 63 cargo helicopters, 1½-ton). Augmented this unit can support three additional helicopter battalions.

(7) *Army aircraft repair team KC.* Army aircraft repair teams are assigned to the army as required for the purpose of providing limited field maintenance support for approximately 50 two-place fixed-wing army aircraft, or the equivalent. These teams provide supplies and spare parts to supported units for organizational maintenance of aircraft.

35. Communications Zone

Movement of troops, equipment, and supplies from rear to forward areas and evacuation and salvage from forward to rear areas usually progress through successive, separate stages. This fact, coupled with the diverse operational and administrative needs of the forces in the theater, has resulted in a general policy of decentralization of operations to separate commands. Such a policy is normally expressed and effected through the division of a theater into various territorial areas. The requirements established for transportation service will determine the modes of transportation utilized and the quantity of trans-

port present in any subdivision of the theater of operations at any given time. The Transport Service must be organized to make the most of the means available. Intersectional transport services operating in more than one section should normally be exempted from operational control of the respective section commanders. Detailed information on modes of transportation used in the communications zone appears in paragraphs 36 through 49.

Section II. RAIL TRANSPORTATION

36. Railway Transport

Railway transport is characterized by its ability to move large tonnages of cargo over long distances at a uniform rate of speed utilizing comparatively fewer numbers of personnel than other modes of transportation. Flexibility is limited by its dependence upon a fixed roadbed, the direction assumed by the scheme of maneuver in relationship to the rail route, and vulnerability to enemy action.

37. Military Railway Service

The military railway service is comprised of Transportation Corps railway command, operating, and maintenance units as required for the operation and maintenance of military railways and their facilities. The military railway service is also utilized to supervise the functions of those railways operated and maintained by civilians in support of military operations. The military railway system may be operated entirely by military personnel (phase I operation), civilian and military personnel in combination under military control (phase II operation), and

by civilians under military supervision (phase III operation). The utilization of civilian personnel is dependent upon such circumstances as proximity to the enemy, security requirements, and the willingness and ability of local civilians to perform the job.

a. Command. Dependent upon the extent of the rail net to be operated, one or more of the following command units is utilized to direct the operation and maintenance of railroads used in the logistical support of military operations.

(1) *General headquarters, military railway service.* The senior railway headquarters in the theater will be assigned to Theater Army when the military service extends into both the combat zone and COMZ. The senior railway headquarters will always be assigned to the lowest echelon of command having area jurisdiction over the entire railway system.

(2) *Headquarters and headquarters company, railway command.* The headquarters and headquarters company, railway command, is normally the highest echelon of the military railway service and as such is assigned in the same manner as the general headquarters mentioned in *a*(1) above. It is capable of performing the overall supervision and direction of an extensive railway system requiring the employment of two or more railway groups.

(3) *Headquarters and headquarters company, railway group.* This headquarters is capable of supervising and administering two to six railway operating battalions, one or two

railway shop battalions, and such units from TOE 55–500R and the other services as may be attached or assigned. In theaters of operations with a limited rail net, the group may act in the capacity of, or in lieu of, the headquarters and headquarters company, railway command. This unit is normally assigned to a headquarters and headquarters company, railway command.

b. Units.

(1) *Railway operating battalion.* The railway operating battalion is the basic operating unit of the military railway service. It is capable of administering, operating, and maintaining the equipment, tracks, terminals, shops, and structures required for coordinated operations on the normal railway division. That portion of a railway system which is assigned to a railway operating battalion is known as a railway division. It usually consists of 90 to 150 miles of right-of-way or a large terminal. The actual distance is determined by the location of terminals, desirable or undesirable physical characteristics, and traffic density. A railway operating battalion consists of a headquarters and headquarters company which provides staff planning, supervision, coordination, and control of operations, of units of the battalion. This company dispatches all trains operated by the battalion, distributes railway rolling stock which comes under the jurisdiction of the battalion, and operates railway stations and tow-

ers. The railway engineering company is capable of performing maintenance and repair for approximately 90 to 150 miles of railway right-of-way and railway signals, communications, structures, bridges, tunnels, and buildings located within a railway division.* The railway equipment company, depending upon shop facilities and the type and condition of the equipment, is capable of inspecting, maintaining, and making running repairs to the locomotives and railway cars normally operated on the railway division. It also can repair tools and mechanical equipment of all companies within the battalion. The train operating company is capable of providing an average of 40 train and engine crews per day in either road or yard service over 90 to 150 miles of railroad, depending upon local conditions. The electric power transmission company is normally attached to the battalion, where electric motive power is operated by means of electrified catenary or third-rail systems, and is capable of maintaining and repairing electric power transmission facilities, including substations, catenary or third-rail, of 200-track miles of electrified railway.

(2) *Railway shop battalion.* The shop battalion performs depot maintenance on the steam and/or diesel-electric locomotives and roll-

*See AR 55-650 for Corps of Engineers and Signal Corps responsibilities for construction and repair of facilities.

ing stock of a military railway. Within the railway shop battalion is a headquarters and headquarters company to provide command, staff coordination, technical supervision, inspection service, and plant maintenance for the battalion. The erecting and machine shop company provides depot maintenance involving erecting and/or machine shop work for a military railway utilizing steam and/or diesel-electric locomotives. The boiler and smith shop company provides depot maintenance of steam and/or diesel-electric locomotives involving boiler and/or smith shop work. The car repair company provides depot maintenance of freight and passenger cars. The diesel-electric locomotive repair company performs depot maintenance and inspection of diesel-electric locomotives.

(3) *Augmentation.* The units of the military railway service can be augmented in various strengths to meet requirements under given conditions, in accordance with the provisions of TOE 55–500R.

Section III. HIGHWAY TRANSPORTATION

38. Highway Transport

Highway transport is characterized by its ability to move cargo and personnel at a relatively high speed. Inherently flexible and highly adaptable to ever changing military needs, highway transport is widely employed in combination with other means of transport and forms the principal connecting link

in the transportation system. It is the vital link between the more fixed types of land transport, such as railways and inland waterways, and the armies operating in the field.

39. Highway Transport Service

The highway transport services performed by the Transportation Corps provide a general cargo and personnel hauling service, *wheeled vehicle delivery by drive-away method*, and highway regulation for the Armed Forces. The term includes all transportation highway transport staffs and units and all highway resources (field army, communications zone, and section levels) used to operate a general hauling service. It formulates and coordinates plans for the utilization of the command's motor transport resources and provides for the integration and supervision of the operation of such local civilian highway transport facilities as are used in logistical support of military operations.

a. Organization. The organization of highway transport service is highly flexible. Within any given command or area it is determined by the type and scope of the mission to be performed. Truck units are attached to major commands in the numbers and types required to perform the mission. Dependent, therefore, on the scope of operations and the total number of units, one of the command organizations shown in *b* below is selected to direct the operations and maintenance of highway transport service subordinate units.

b. Command Units.

(1) *Headquarters and headquarters company, highway transport division.* This head-

quarters coordinates and directs the training, administration, supply, operations, and maintenance of attached highway transport units. Normally the unit is a command agency for two or more highway groups. When operating on an area basis, this headquarters is assigned to a section of the communications zone. When providing a major intersectional motor transport haul, this headquarters will normally be assigned to the communications zone and may supervise supporting technical service units. It is capable, when supporting units are attached, of assuming complete responsibility for the regulation and operation of a highway line of communications extending from the coastal area to points within the Army area.

(2) *Headquarters and headquarters company, highway transport group.* The headquarters and headquarters company, highway transport group, may be assigned to a section, communication zone, field army, or highway transport division. It normally controls and administers four to six truck battalions.

(3) *Headquarters and headquarters company, truck battalion.* Four to six truck or car companies are normally attached to this headquarters. It may be assigned to a highway transport group or may operate separately under any major headquarters.

c. Operating Units. Truck companies are the basic element of a highway transport service. They

are organized and equipped to provide transportation service for the movement of cargo, personnel and for the delivery of Ordnance vehicles. Truck and car companies are normally attached to a truck battalion but are organized so that they can operate separately.

(1) *Light truck company.* The light truck company provides motor transportation for the movement of cargo and personnel. It is capable of operating on poor roads or off the road, and is used when the use of heavier truck units is impractical. Normal assignment is to a field army.

(2) *Medium truck company.* The medium truck company provides truck transportation for the movement of general cargo, personnel, bulk petroleum products, and refrigerated cargo. It is normally assigned within the communications zone but should operate as far forward as road conditions permit.

(3) *Heavy truck company.* The heavy truck company provides truck transportation for the movement of general, out-sized, and heavy-lift cargo and provides bus transportation for the movement of personnel. This unit is normally assigned in the communications zone but should operate as far forward as practical.

(4) *Car company.* The car company furnishes passenger, messenger, and light cargo administrative hauling service for the headquarters of major commands.

(5) *Augmentation.* Truck and car companies require driver and maintenance augmentation when continuous 24-hour operation is to be conducted, or in any other instance when two drivers per vehicle are required.

40. Highway Regulation

a. General. The emphasis placed on the mechanization of military forces in the field imposes an abnormal amount of vehicular traffic on a highway net. Highways are essential elements of the transportation system and vital facilities in any scheme of maneuver, and it is therefore unwise to permit unplanned and unrestricted use. The movement of units and of vehicles engaged in supply and evacuation involves the use of roads and highways under conditions subject to rapid change. When the road net available for military movements is limited, or when the flow of highway traffic is heavy, the need for coordination and supervision of highway use becomes more important. This requirement becomes greater when highway facilities are subject to enemy action. Under such conditions it becomes necessary for the commander to assign priorities to vehicular movements in order of their relative importance, specify routes, schedule movements, and provide supervision to insure that movements are executed as planned.

b. Function. Highway regulation is planning for, and supervision exercised over, the utilization of highway facilities and embraces routing, scheduling, and directing the use of highways by vehicles, personnel afoot, and animals, as required to fulfill the

operational needs of the command. It is an important function of the highway officer of the transportation staff at all echelons of command. It is exercised to the degree required to assure the retention of fluidity in the highway facility. The highway regulation functions may be delegated to the senior highway unit commander when highway units are the principal user of a route, or delegated to a highway transport division on an area basis. If this is done the units must be augmented with appropriate teams from TOE 55-500R.

c. Planning. Planning for highway regulation must be a continuing process to assure the progressive adaptation of road movement requirements and available highway facilities to the needs of the command, including forward, retrograde, and lateral traffic.

(1) *Considerations.* In planning the efficient utilization of highway facilities, the transportation aspects of the following must be considered:

(*a*) Tactical situation, including the commander's plan and scheme of maneuver and the enemy capability to interdict the highway lines of communications.

(*b*) Logistical plans, including a complete understanding of who or what is to move over the highways, the origin and destination of movements, and the priorities for road use established by the commander. These plans must include both forward and retrograde movements.

(*c*) Technical data pertaining to the road network, access highways including the ca-

pacities of bridges and road bed, the limitations imposed by tunnels, bridges, or bottlenecks, and available communications.

(*d*) Operational data pertaining to the highway facility, including types of traffic, principal directions of movement, present and contemplated traffic flow, and traffic capacity.

(*e*) Policies of the commander and restrictions imposed by higher headquarters with respect to the use of lights, road speed, safety, and security.

(2) *Coordination.* Coordination is essential in the preparation of a highway regulation plan. Specifically there must be coordination with—

(*a*) The engineers, concerning results of road and bridge reconnaissance; highway and bridge construction and maintenance activities; and preparation of road maps, signs, signals, and control devices.

(*b*) The provost marshal, concerning plans for traffic control, the enforcement of laws and regulations, and the disciplinary control of traffic.

(*c*) The signal officer, concerning the communications network.

(*d*) Other technical services, concerning the location of supporting installations.

(*e*) The G1 and the G4, concerning the location of logistical installations.

(3) *Promulgation.* Analysis of the considerations (*c*(1) above) and effective coordination (*c*(2) above) should result in the preparation and promulgation of a plan for highway utilization which is capable of implementation. Pertinent facts should be incorporated in the appropriate paragraphs of administrative orders, with a map or an overlay thereto, properly annotated and attached as an annex. Routine details should be included in the standing operating procedure of the command. The resultant plan for highway utilization will cover both forward and retrograde movements and include—

(*a*) The road net to be used, control classification of routes, permissible directions of movement, and designation of main supply route (MSR).

(*b*) Bridge and route classifications.

(*c*) Locations of terminal facilities, dumps and depots, and supply points.

(*d*) Locations of traffic control posts.

(*e*) Locations of highway regulation points.

(*f*) Signal communications plan.

(*g*) Priorities for highway use, when applicable.

(*h*) Restrictions applicable to safety and security.

41. Routing

Consistent with the current plans for highway regulation and traffic circulation, the transportation

officer prescribes the routings to be followed by highway traffic to attain three ends—

a. Keeping highway movements constantly under control.

b. Preventing confusion or congestion on the highways.

c. Insure efficient utilization of the entire highway net.

42. Scheduling

Scheduling is the time apportionment of road space. It is a means by which priorities are implemented and traffic density is controlled. It is achieved by the regulation of departures from origin and/or points en route, the rates of advance en route, and times of arrival at destination or points en route.

43. Directing

Directing is the supervision of the highway regulation plan. It is accomplished by use of the convoy clearance system, standing operating procedures, other directives, military police, and highway regulating points.

Section IV. WATER TRANSPORTATION

44. Water Transportation

Water transportation is characterized by its ability to move large volume of cargo for great distances but at comparatively slow speeds. Flexibility is limited by vulnerability to attack and the adequacy and location of beach and/or terminal facilities. Small vessels such as barges and tugboats may be

employed in the utilization of water transportation in a land mass theater for the coastwise movement of cargo and personnel. These are also frequently used in ocean areas as an interisland service to supply small or isolated garrisons. Maximum use should also be made of rivers, lakes, and canals offering an adequate channel permitting the passage of inland waterway craft for the routine movement of bulk supplies such as coal, petroleum products, construction materials, and low priority cargo.

45. Inland Waterways Service

a. The inland waterways service is formed, when required, to control and operate Army craft and similar small vessels indigenous to the area on inland waterways. Manning is accomplished in accordance with the provisions of TOE 55-500R, which furnishes basic teams, for operation and maintenance of craft, in a number of different categories and sizes, thus affording sufficient flexibility to provide a suitable organization for an operation of any type or scope. The inland waterways organization may be composed entirely of military personnel or local civilian operating personnel supervised by teams of military from TOE 55-500R.

b. The operational organization for inland waterways may vary in size from a single barge crew to a complete inland waterways service. The magnitude of the organization will depend upon a number of factors—the geographical location of the waterway and its characteristics, length, and importance; the volume of traffic anticipated; means available for supervision; and the military situation.

c. Water terminals on rivers, canals, etc. inland from the coast, involved in retrograde shipments to coastal terminals, will normally be under the control of the terminal command concerned. If shipments are forward only, then this inland terminal is considered as a transfer point and is under the appropriate commander in the area where it is located.

Section V. AIR TRANSPORTATION

46. Air Transportation

Air transportation is characterized by high speed, great flexibility, and relatively unlimited choice of routes within aircraft range. It usually can be made available in forward areas in the early phase of an operation since it does not require prepared lines of communication and can utilize hastily prepared terminals. Air transport operations are restricted by the requirement for air superiority, by susceptibility to prevailing weather conditions, and by the present design and characteristics of aircraft with respect to capacity, range, and fuel consumption. Within the limitations of present aircraft design and the availability of craft, air transport is capable of lifting large forces and their impedimenta over long distances in relatively short periods of time and is especially adaptable for supplying forces otherwise inaccessible.

47. Military Air Transportation

The air transportation of shipments moving in the interest of the army is accomplished by "army fixed- and rotary-wing aircraft," by the Air Force Troop

Carrier Forces and the Military Air Transport Service, and by such other aircraft as may be assigned to the theater commander.

a. Army Aviation. Army fixed- and rotary-wing transport aircraft normally provide a short range airlift service in the combat zone for the logistical and tactical support of the army. While transport helicopter units are under the staff supervision of the Army aviation special staff section, they are an integral part of the Transportation Service. Priority for employment is given to missions in support of tactical units.

b. Military Air Transport Service. Air transport service is provided for the military forces by the Military Air Transport Service, a joint agency under the direction of the Chief of Staff, United States Air Force. It operates as a service for the benefit of the Army, Navy, and Air Force in the continental United States between the continental United States and a theater of operations, or between theaters. The Military Air Transport Service is normally employed on regularly established routes on a scheduled basis and may be augmented by contract civilian aircraft as well as troop carrier forces.

c. Troop Carrier Forces. Intratheater air transportation is furnished principally by troop carrier forces which operate normally within the geographical limits of the theater of operations. They are an element of the theater air force. Troop carrier accomplishes the following types of missions: (1) support of airborne forces, (2) aerial resupply, (3) air landed supply, (4) air evacuation of sick and wounded, (5) personnel and material transport and

air movement of units. USAF troop carrier units may be augmented by theater navy cargo aircraft, etc.

d. The organization for control of overall use of air transportation is established at theater level by joint regulation. The Joint Military Transportation Board establishes priorities and periodically allocates available airlift to major theater commands which in turn program airlift to subordinate technical services and other units.

Section VI. PIPELINE TRANSPORTATION

48. Pipelines

Pipelines provide the most economical means of land transport for the movement of bulk liquid products, providing a continuous flow of cargo at a minimum expenditure of manpower. They are relatively unaffected by weather conditions. Pipelines are readily installed, since a minimum of terrain alteration is required even under the most rugged terrain conditions. Easily camouflaged or placed underground, they are the least vulnerable to air attack of any mode of transportation. They are, however, extremely vulnerable to sabotage, which in areas of aggressive guerilla activity will require that the lines be frequently patrolled or otherwise closely guarded.

49. Petroleum Supply System

a. The petroleum supply system functions through the coordinated efforts of the quartermaster, engineer, signal, and transportation officers.

b. The Quartermaster Corps prepares broad plans for the supply and distribution of bulk petroleum products; operates bulk petroleum dispensing facilities and dispensing equipment; and operates off-vessel discharging and loading hoses, including dock manifolds if an integral part of a quartermaster dispensing installation. In arranging for movement of bulk petroleum products via pipeline, the Quartermaster Corps also determines what petroleum products are to be transported through pipelines and the destination to which the products will be pumped. The quartermaster officer will state the mode of transportation to be used in the movement of bulk petroleum.

c. The Corps of Engineers constructs, maintains, and operates the pipeline systems, including operation of off-vessel submarine pipelines, submarine hoses, and dock manifolds not an integral part of a quartermaster installation.

d. The Signal Corps provides the necessary communication support required for the operation of the petroleum supply system.

e. The Transportation Corps arranges for movement, except by pipeline and local distribution, of bulk and packaged petroleum products, including the scheduling of shipments where necessary with the Navy (Military Sea Transportation Service), the Air Force (Military Air Transport Service), and commercial agencies; and provides railroad, highway, and inland waterway operating services to implement the approved plans for the supply and distribution of petroleum products. Governed by the priorities established by the commander and the re-

quirements of the quartermaster, the Transportation Corps coordinates and integrates the movement of tank car bulk shipments and packaged shipments of petroleum products with the overall movement requirements and capabilities.

CHAPTER 5

TERMINALS AND INSTALLATIONS

50. Water Terminals

Water terminals are a means of entry to an oversea theater of operations for the bulk of materiel and personnel required in the conduct of a military campaign. Desirable facilities include anchorages, wharves, hardstands, beaches, airfields storage areas, communications, and the railway or highway facilities required for port clearance. The equipment and personnel required to operate water terminals after the assault phases of amphibious operations are contained in the TOE for Transportation Corps units described in paragraph 52. The potentialities of mass destruction weapons employed against concentrated installations may dictate that operations be dispersed. Dispersal must be sufficient to minimize the disruptive effects of attacks which will be directed at such sensitive activities. As a result of the requirement for disperal, operations will often be conducted over beaches with limited facilities. Inherent difficulties may be lessened by the unitization of cargo through the employment of cargo tranporters, palletization, and by special handling equipment such as rough terrain fork lifts, floating cranes, floating piers, amphibious trucks, landing craft, barges, treadway bridges, aerial tramways, and helicopters.

a. The cargo transporter, a reusable, steel shipping container, was developed and placed in use as part of a plan to reduce handling time. It is designed to facilitate documentation and in-transit security of cargo and is constructed to permit handling by fork lift and overhead hoist. The flow of these transporters into, through, and out of an oversea theater must be regulated and controlled to insure uniformity and to minimize loss and/or delay in transit.

b. Utilization of such craft as the landing ship, tank, (LST); landing craft, utility, (LCU); and the barge, amphibious, resupply, cargo, (BARC) for the transporting of loaded vehicles also minimizes difficulties encountered in beach operations. Discharging time and effort and congestion on the beach are reduced.

51. Terminal Through-Put Capacity

a. Terminal through-put capacity is that tonnage capability which the terminal can receive, discharge, and clear during a specified period of time. It is usually expressed in short tons per day. It is determined in all cases by consideration of the following major factors, any one of which may be the limiting factor:

(1) The ability to move ships into the harbor or coastal area of the terminal, that is, terminal reception capacity.

(2) The ability to accommodate ships in the harbor and to discharge them, that is, terminal discharge capacity.

(3) The ability to accomplish clearance, that is, terminal clearance capacity.

b. Each of the factors given in *a* above is estimated and computed separately. In the final comparison, the factor representing the lowest tonnage figure will be the limiting factor which determines the through-put capacity. Even though the limiting factor may be obvious, all three factors should be estimated accurately. At a later date these estimates may be used to indicate the facilities where improvement will yield the greatest return in terms of tonnage movement capability.

c. The terminal's through-put capacity is an influencing factor in the determination of ship's destinations. Ship's destination meetings are called by the Communications Zone G–4 upon receipt of advance copies of ship's papers (supply manifest, hatch lists, and stowage plans). The purpose of this meeting is to determine the terminal having the best location with reference to receiving depots and capability for the reception, discharge, and clearance of personnel and supplies aboard the vessel. Attendance at these meetings may include, but is not limited to representatives of G4, G1, G3, transportation officer, major agencies to which inbound personnel and supplies are destined, and terminal commands. The transportation officer of the communications zone obtains from the technical services disposition instructions for supplies arriving by ship and issues the necessary instructions to the terminal commanders through command channels. These instructions identify supplies loaded on specific inbound ships, specify what depots are to receive these supplies, and indicate the mode of transportation to be used if the shipment is not local in nature. Supplies des-

tined for local depots will be cleared, utilizing transportation assigned or attached to the terminal command. Instructions are normally issued through the medium of cargo disposal instructions. The transportation officer of the section of the communications zone in which the port and the depots are located must exercise vigorous efforts to implement these instructions to prevent congestion and subsequent loss of the terminal's through-put capacity.

52. Terminal Units

Based on the initial and anticipated tonnages to be handled in a given period, terminal commands are assigned to supervise the operation of port installations and beaches. The senior unit of a military oversea water terminal installation is usually the headquarters and headquarters company of a terminal command. This unit is normally assigned to a base section, however, ship's destination authority functions should remain in communications zone headquarters. Terminal command may relieve the amphibious support brigade in the early phases of an amphibious assault (D+5 to D+30). Normally certain units of the terminal command are attached to the amphibious support brigade for the assault phase. These elements will revert to the control of the terminal command when it becomes operational in the objective phase. The terminal command may or may not be operational in the assault mounting area. In either case movement to and into the objective area and assumption of control of terminal service units will be in accordance with the operations and base development plans. It will furnish heavy

logistical support and will be assigned to the landing force headquarters. Terminal service units and units of other technical and administrative services are assigned or attached as required to man and operate the installation. Reserve lighterage capability must be available to the terminal command in order to reinforce or augment subinstallations during peak or critical phases of operations. The number and types of service units attached to a terminal command depend on several factors, such as the magnitude and type of operations to be performed, planned development of discharge and/or loading capacity, limitations created by the requirements for dispersal, security, weather, terrain, and facilities. If operations are widely dispersed terminal commands will normally be required to provide operating supplies and special equipment to all subinstallations. Usually this can be most efficiently accomplished by water transportation. Resupply and support activities of this nature are the responsibility of the terminal command commander.

a. Terminal Commands. Table I shows capabilities for terminal commands C, B, and A discussed in (1) through (3) below. These commands exercise supervision over operating units through terminal battalions.

(1) *Terminal command C.* From 7 to 24 terminal service companies are assigned to terminal battalions subordinate to the headquarters and headquarters company, terminal command C, in the operation of a water terminal. This command, depending upon the number of supporting units, has a

capacity of from 135,000 to 520,000 short tons per month and embarks or debarks 50,000 to 150,000 peronnel per month. This should not operate with less than 12 terminal service companies unless expansion is planned to meet increased target tonnages at a future date.

(2) *Terminal command B.* From 5 to 12 terminal service companies are assigned to terminal battalions subordinate to the headquarters and headquarters company, terminal command B, in the operation of a water terminal. This command, depending upon the number of supporting units, has a capacity of from 75,000 to 260,000 short tons per month and embarks or debarks from 25,000 to 75,000 personnel per month.

(3) *Terminal command A.* Up to six terminal service companies are assigned to terminal battalions subordinate to the headquarters and headquarters company, terminal command A, in the operation of a water terminal. This command has a maximum capacity of 130,000 short tons per month and embarks or debarks up to 37,500 personnel per month.

(4) *Subinstallations.* The terminal subinstallation is established by and operated under the jurisdiction of a terminal command. Headquarters personnel and transportation units making up the installation are furnished by the terminal command which has jurisdiction over the operations.

Table I. Capabilities of Terminal Commands A, B, and C

Unit	Activity	Pier Operation			Beach Operation		
		Personnel per month	*Tonnage per month (short tons)*	*Ships working simultaneously*	*Personnel per month*	*Tonnage per month (short tons)*	*Ships working simultaneously*
Hq and Hq Co, Terminal Command C, TOE 55-111	Loading	75,000	195,000—360,000	9—17	50,000	135,000—240,000	7—11
	Unloading	150,000	280,000—520,000	13—24	100,000	194,000—346,000	9—16
Hq and Hq Co, Terminal Command B, TOE 55-121	Loading	37,500	105,000—180,000	5— 8	25,000	75,000—120,000	4—6
	Unloading	75,000	151,000—260,000	7—12	50,000	108,000—172,000	5—8
Hq and Hq Co, Terminal Command A, TOE 55-131	Loading	18,750	Up to 90,000	Up to 4	12,500	Up to 60,000	Up to 3
	Unloading	37,500	Up to 130,000	Up to 6	25,000	Up to 86,000	Up to 4

Note. Unloading capability of a terminal service company is 21,600 short tons per month (720 short tons per day). Loading capability of a terminal service compan is 15,000 short tons per month (500 short tons per day).

b. Units.

(1) *Terminal battalion.* The mission of the headquarters and headquarters detachment, transportation terminal battalion, is to provide command and administrative supervision of assigned or attached terminal service companies, heavy boat companies, amphibious truck companies, and aerial tramway companies. When required, this headquarters acts as a command agency for harbor craft detachments, truck companies, and other technical service units in addition to the units listed. A maximum of four companies or company-sized detachments may be supervised by the terminal battalion. When augmented with the appropriate supporting units, this organization is capable of supervising the operation of a water terminal of two-ship capacity. Terminal battalions activated for beach operations also have sufficient capability to discharge two ships and load the initial land mode of transport. This operational capability includes the lighterage for moving cargo from ships in the stream to the shore.

(2) *Terminal service company.* At an established port or in a beach operation, the terminal service company is capable of discharging 720 short tons of general cargo or loading and stowing 500 short tons aboard a vessel per day. In addition to the above, this company can load or discharge the same amount of cargo on to or from

a mode of transport on a pier or at the waterline; sort cargo by technical service, class and destination; prepare transportation documents for rail, highway, and barge shipments; and account for the cargo handled. The terminal service company can operate a water terminal of one-ship capacity when augmented, by landing craft, harbor craft, or amphibious vehicle detachments; or trucks.

(3) *Terminal service teams.* Terminal service teams, when required for the augmentation of terminal battalions and terminal service companies for a particular task, are organized in accordance with the provisions of TOE 55–500R. These teams consist of a maintenance section, crane operating sections, materials handling teams, port contract supervision teams, stevedore gear and equipment sections, cargo documentation sections, amphibious truck squads, and cargo handling sections.

(4) *Amphibious barge platoon (proposed).* The Transportation Corps has developed the BARC, a craft which has a capacity of 60 tons under normal conditions and 100 tons under emergency conditions. Its use eliminates the necessity for waterline transfer of cargo from one transporter to another, thereby reducing congestion and saving time and manpower in vital beach areas. The amphibious barge platoon, equipped with 4 BARC's, provides amphib-

ious lighterage service for heavy and bulky items of equipment in logistical support and amphibious operations. The unit is capable of transporting 720 tons of equipment per day.

(5) *Amphibious truck company.* The amphibious truck company is organized and equipped to provide for the movement of cargo and personnel from ship to shoreside installations and from shore to shore. Amphibious trucks are utilized in water terminal operations, particularly in the early stages of port development, and in loading or unloading operations conducted across beaches. During the conduct of amphibious landings on hostile shores, amphibious truck units may be attached to elements of the amphibious support brigade.

(6) *Harbor craft and crews.* Harbor craft of various descriptions are essential to the activities of port installations. Army personnel to man this type of craft are organized in accordance with the provisions of the TOE 55–500R series and/or the heavy boat company. Normal organization is by formation of composite units including appropriate administrative cells, in which case they may be self-sufficient with the exception of medical service. Teams from cellular units may operate separately, but when so operating they are dependent upon the headquarters to which assigned or attached for administration, transportation, and

medical service. When theater policy permits, local civilian labor may be utilized as crews on Army-controlled craft in the operation of a water terminal.

(7) *Marine maintenance and repair teams.* Field maintenance of harbor craft is performed by personnel organized as Transportation Corps cellular units and normally included in harbor craft composite units. Maintenance of craft and marine equipment of the amphibious support brigade is provided for under provisions of the appropriate TOE.

c. Additional Facilities. In addition to the physical facilities and units described above as desirable components of water ports, the fluctuations peculiar to port clearance operations require the establishment of certain facilities adjacent to and as integral parts of the port installation. These include staging areas for personnel and in-transit storage areas for cargo.

53. Staging Areas

Staging areas are established to accommodate troop units during or between moves over lines of communications. They are contiguous to water and air terminals, transfer points, and locations on railroads and highways where troop units being moved by the Transportation Service may be quartered and messed en route. Depending on the magnitude of the task, facilities may vary from bivouac areas offering only essentials, such as messing facilities and ground space for camping, to establishments with provisions

for medical service, parking area, training, and recreation.

a. The staging area complement when employed in conjunction with a water terminal is the responsibility of the terminal commander and includes a headquarters unit, organized in accordance with the provisions of TOE 55–500R, and the required number of staging area companies.

b. The staging area company is organized to provide messing facilities for transient personnel and is capable of serving a maximum of 4,000 individuals per meal.

54. In-Transit Storage Areas

In-transit storage areas are established to provide for the temporary storage of cargo en route. They should be kept to the minimum number consistent with operations in order to reduce the additional handling of supplies. Subject to the requirements for dispersion, they are usually located adjacent to ports and may also be located at transfer points or other transportation terminals. Facilities vary from open storage areas to complex establishments of warehouses with elaborate highway and rail nets. Transport equipment should not be used for mobile storage purposes. In-transit storage areas enable the Transportation Service to release transport equipment when delays to cargo en route occur, occasioned by changes in requirements and missions, or when another carrier agency or receiver is unable to accommodate the cargo. A terminal service company may be used to man in-transit storage areas since this company's personnel and equipment can be

adapted to this mission. Composite units organized under the appropriate sections of TOE 55-500R, augmented with Quartermaster or local civilian labor, may be used when terminal service companies are not available.

55. Transfer Points

Transfer points are transportation facilities established when required to effect the transfer of cargo or personnel from one unit of transport or mode to another. The establishment of a transfer point on a line of communications may be required because of a variance in gage of the railroads, major disruptions to through routes, or reduction of capacity at a point on the route of one mode of transport making necessary the transfer of the excess load to another means of transportation. Transfer points will be the responsibility of terminal service units or composite organizations organized from TOE 55-500R when terminal service companies are not available.

56. Transportation Depots

The Transportation Corps determines requirements for, procures, stores, and distributes transportation equipment and supplies. To perform the storage and issue function in the field, at depot level, the Transportation Corps employs depot companies for storage and distribution of all Transportation Corps supplies and equipment except Army aviation. These are handled by the heavy maintenance and supply company.

a. Depot Company. This company is employed as a branch depot or as the transportation supply

section of a general depot. It is capable of handling approximately 7,000 tons per month when augmented by approximately 200 laborers from local civilian sources, quartermaster service units, or prisoners of war.

b. TOE 55–500R provides specialized teams for augmentation of all Transportation Corps units. These teams should be used to adjust the capability of units to the requirement as dictated by the situation or to organize units to meet emergencies for which other TOE units are not available. In all cases where TOE 55–500R teams are used the ratio of personnel and equipment should conform with that established in the basic TOE of the units. This applies particularly to mechanic and necessary maintenance equipment.

CHAPTER 6

ESTIMATES, PLANS, AND STANDING OPERATING PROCEDURES

Section I. ESTIMATES

57. General

Transportation staff officers must be prepared to present a current estimate of the situation at frequent intervals. The estimate should be as thorough as the time available will permit. It may vary from a short verbal presentation to a written document requiring hours of preparation and the collaboration of various staff sections. Logistical estimates are based on ascertainable facts, with assumptions made concerning those factors which cannot be definitely established.

58. Form for the Estimate

The estimate is a logical and orderly examination of all of the factors affecting the accomplishment of the mission to determine the most suitable course of action. The basic form is arranged to insure the investigation of all pertinent factors in order to arrive at a course of action which will accomplish the mission. For further details on estimates of the situation see FM 101–5.

Section II. PLANS

59. General

The effectiveness of a military operation is dependent upon planning. This involves the coordination of many individuals engaged in planning various phases of supporting activities. To be effective, planning must be systematic. It should be a clear and easily understood routine operation accomplished by prescribed format and procedure. This involves establishing procedures for planning by various agencies at successive echelons and prescribing measures necessary to insure coordination of action in the planning process.

60. Procedure for the Development of a Transportation Plan

The preparation of overall transportation plans, particularly as pertains to the initial computation of transportation requirements and assignments of transportation planning projects, is the responsibility of the staff transportation officer. The basic principle of transportation planning is that availability and capabilities should be commensurate with requirements. The development of the transportation portion of a logistics annex should encompass the following procedure if and when applicable:

a. Begin development of a plan upon receipt of the overall basic planning directive from G4 or the chief of staff, which normally includes a complete statement of the objective of the plan and the phasing of all tasks composing it. The G2 estimate of enemy capabilities and the G3 scheme of maneuver have an important bearing on the transportation

plan. The general staff guidance must include the overall situation, missions, troop basis, logistics plans and policies, tonnage factors, and command structures. Assumptions and working estimates essential to development of the plan must be made by those agencies having responsibility for the specific areas involved.

b. Brief planning members of the transportation staff on basic plan with information as to area and concept of operations.

c. Have transportation intelligence officer immediately obtain the required technical intelligence pertinent to the plan and make distribution to the transportation planners. Where technical intelligence is inadequate, make necessary assumptions until information has been obtained.

d. Study and determine characteristics and capabilities of appropriate media of transportation in area concerned.

e. Obtain from G4 the requirements of the forces involved to include initial tonnage and maintenance tonnage for Army, Navy, and Air Force depending upon the joint logistical supply policy.

f. Hold conferences with representatives from the appropriate staff sections, units, and agencies, especially engineer, quartermaster, and ordnance officers, to reach agreement concerning location of supply installations, transportation arteries, and routes for pipelines.

g. Study outline transportation plan, making notes of items which must be coordinated. Hold coordination meetings with interested agencies.

h. Prepare a detailed coordinated plan.

i. Determine Transportation Corps troop unit requirements.

j. Determine Transportation Corps supply requirements.

k. Obtain service unit requirements applicable to plan of other technical services.

l. Obtain service estimates (construction, maintenance, etc.) from other technical services.

m. Prepare description and justification of each assignment of tasks in sufficient detail to permit a decision as to approval or disapproval.

n. Consolidate requirements into an overall transportation requirements summary.

o. Submit the transportation plan to G4. (In the combat zone in a rapidly changing situation most of the above steps may be accomplished during conferences.)

61. Specific Considerations

Specific considerations in planning are as follows:

a. Intelligence. It is essential that all United States and allied sources of transportation intelligence concerning the area under consideration be fully exploited. The sources include engineer surveys, National Intelligence Surveys (NIS), native sources, rail tables, highway maps, city plans, meteorological and hydrographic data, and sailing directions, in addition to information gathered through reconnaissance by transportation intelligence personnel.

b. Coordination. Concurrent planning for the operation must be conducted in order that all concerned will be informed of items of common interest con-

tained in each other's plans. This will assure the necessary coordination.

c. Computing Logistical Data. Some items of information that should be considered concerning the various transportation modes that are the responsibility of the Transportation Corps include the following:

(1) *Water terminals (ports and beaches).* Information relative to water terminals should include current capabilities, degree of anticipated damage to be repaired, and increased capacity required shown by phase dates. Consideration must also be given to personnel requirements for operation of a water terminal as well as availability of local civilian labor. Items such as berths available, hydrographic data, suitable anchorage areas, cargo handling equipment, and harbor craft are necessary elements of pertinent information. In conjunction with the assembling of this data collaboration with the quartermaster and engineers is necessary regarding all water terminal construction work, and the installation and operation of pipelines. Plans for security, especially antiaircraft artillery defense, must be coordinated with all headquarters concerned.

(2) *Rail.* Data concerning the operation of railroads should include such items as rail facilities in water terminal areas; yard capacities; bridge and tunnel limitations; location of fuel and water facilities; spurs to be repaired and constructed; require-

ments for general repair to main lines, bridges, signal communications, or new construction of above items. Planning for utilization of railroads should include an estimate of the tonnage capacities which can be achieved, the railroad equipment required to move the tonnage, the rail units required to operate and maintain the equipment and railroad, and the operating supplies necessary to support the operation.

(3) *Highway.* The considerations affecting the employment of highway transport should encompass such items as amount of repairs to the main supply road, new access roads required, bridge and tunnel limitations, alternate routes designated and city traffic plans, egress from terminals and cities, location of regulation points, signal communications to be repaired or constructed, selection of truck refueling points and terminals, truck bivouac sites, and the necessary arrangements with the engineers for preparation of road signs.

(4) *Pipelines.* Although operation of pipelines is not a responsibility of the Transportation Corps, certain information is essential to the transportation officer for planning. Such information will generally include phase dates of operation, location and size of lines, location and capacity of water terminals, planned tonnages to be moved, and type of petroleum products being moved (par. 49).

(5) *Air.* The following planning factors should be established:

(*a*) Air Force cargo aircraft capabilities.

(*b*) Quantity of cargo to be moved by air.

(*c*) Cargo aircraft requirements.

(*d*) Army organic aircraft transportation requirements and capabilities within the combat zone.

(*e*) Terrain including air fields, airstrips, hardstand, potential airstrips, and helicopter landing sites. The factor of maintenance sites should also be considered to provide proper and adequate maintenance support.

(*f*) Effect on accomplishment of transportation mission through study and compilation of meteorological data, particularly helicopter support missions. The cargo carrying capabilities of the helicopter are greatly affected by variations of density, altitude, and weather.

(*g*) Field maintenance and supply support required.

(*h*) Capabilities of enemy air as they will affect air transportation.

62. Logistics Annex

The transportation portion of a logistics annex will be found in appendix II.

Section III. STANDING OPERATING PROCEDURES

63. General

Standing operating procedures for transportation staff sections, units, or installations consist of published instructions giving methods to be followed for the performance of those features of administrative and operational activities which the commander desires to make routine. They establish the regular procedure to be followed in the absence of instruction to the contrary.

64. Scope

It is impossible to prescribe standing operating procedure for all units or for all operations. Each transportation staff section, unit, or installation develops appropriate and effective procedures adapted to its particular situation and conforming to those procedures established by the next higher unit. Standing operating procedure is changed as necessary; material is deleted or added to meet changed conditions or to effect modification in existing practices. Instructions concerning only a limited number of elements of a command are issued in the form of separate memoranda or as annexes with appropriate reference in the standing operating procedure.

65. Form

A standing operating procedure is published in the form most effective for the issuing agency—as a single pamphlet or in some cases as separate pamphlets pertaining to seeparate operations or administrative functions.

66. Purpose

The purposes of a transportation standing operating procedure are—

a. To simplify the preparation and transmission of orders.

b. To reduce the number and length of orders.

c. To simplify and perfect training of troops.

d. To promote understanding and teamwork.

e. In general, to facilitate and expedite operations, both tactical and administrative, and to minimize confusion and errors. For further information see FM 101–5.

CHAPTER 7

BASE DEVELOPMENT

67. General

Base development is the improvement and expansion of the resources of an area to support current and future military operations. Base development starts with extensive theater planning and progresses under the control of lower echelons; then the plan or parts of the plan return to theater for assembly and issuance as a theater base development plan. It embraces advanced studies, site reconnaissance, and harbor and area clearance, followed by both the construction and operation of bases. Base development in oversea operations affects all participating services and involves all phases of a campaign.

68. Responsibility

The theater commander is responsible for all base development planning. He is also responsible for delineating clearly the authority and responsibilities of the base, island, or area commander, and of the commanders of other forces and units within such areas.

69. Purpose

The purpose of base development planning is to achieve a broad development of theater resources in accordance with the theater strategic mission and

operational plans and to establish base facilities in objective areas to support combat or other operations.

70. Basic Planning Factors

During the preparation of the transportation portion of the base development plan the following basic planning factors should be carefully considered.

a. Site Requirements. The selection of suitable sites presents the problem of finding areas where hydrographic and topographic characteristics are such that facilities will be located to accomplish operating requirements. It is essential that the transportation planner participate in the selection of the location of all installations to which the army must provide transportation service as well as transportation facilities.

b. Degree of Permanency. Plans should provide only for the minimum facilities necessary for fulfillment of the mission, taking into consideration safety, health, morale of the using forces, and protection against the elements.

c. Areas Available for Development. The possibility of the need for future expansion should be considered in studying available areas and in selecting sites.

d. Priority of Development. Priority of development is established by balancing requirements against capabilities while considering the support mission of the area, installation, or facility. Transportation facilities to serve the area or installation must be developed concurrently.

e. Requirements—Personnel, Tonnage, Equipment. Transportation planners must bear in mind

the requirements in terms of personnel, tonnage, and equipment necessary to supply combat forces and to service the base. The transportation planner must continually weigh capabilities against requirements. In planning transportation, strict control must be exercised in the employment of both personnel and equipment.

f. Local Civilian Resources. Consideration must be given to the provision for the maximum utilization of local civilian labor and facilities.

APPENDIX I

REFERENCES

FM 30–5	Combat Intelligence.
FM 30–16	Technical Intelligence.
FM 100–10	Administration.
FM 100–15	Larger Units.
FM 101–5	Staff Organization and Procedure.
AR 55–650	Railroads.
SR 95–400–5	Memorandum of Understanding Relating to Army Organic Aviation.

APPENDIX II

EXAMPLE, TRANSPORTATION APPENDIX TO A LOGISTICS ANNEX

a. Maps and Charts
(Identify primary references)

1. *General*
   a. Purpose
   (State purpose of plan and refer to authority)
   b. Relationship to other plans
   (List and identify related plans. Explain each briefly if appropriate)
   c. Assumptions
   (List basic assumptions relating to plan. Additional assumptions and factors may be listed in Annex)
2. *Mission*
   (Brief statement of mission)
3. *Policies and Procedures*
   a. Policies
   (State related policies)
   b. Procedures
   (Identify SOP's and related guides)
4. *Intelligence and Security*
   a. Intelligence
      (1) Characteristics of the area of operations
      (Brief statement of terrain, weather and unusual characteristics of area including languages)
      (2) Enemy forces
      (Identify primary enemy forces and alignment, identify local enemy forces)
      (3) Friendly forces
      (Identify local adjacent or supporting allied forces)

4. *Intelligence and Security*—Continued
   a. Intelligence—Continued
      (4) Intelligence missions
      (State the EEI as provided by higher Hq and EEI developed within the Command)
      (5) Maps, charts, photos, etc.
      (Identify all references. Include appropriate items in Annex C)
      (6) Counterintelligence
      (State coordinating efforts required)
      (7) Technical intelligence
      (Provide guidance for operation and support by all TC units)
      (8) Reports
      (Periodic, routine, special; channels of reporting)
   b. Security
      (1) Individual
      (Requirements for clearances of military and civilian personnel. Other related matters)
      (2) Facilities
      (Restricted areas, protective plans, guards, etc.)
      (3) LOC
      (Coordination requirements, escorts, attachment of tactical forces, bridge and tunnel guards)
      (4) Shipments
      (Guards, escorts, marking)
      (5) Censorship
      (Reference regulations and orders; procedure)
      (6) Reports
      (Periodic, routine, special; channels of reporting)
5. *Operations*
   a. Army Aviation
   (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
   b. Railways
   (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
   c. Highways
   (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)

5. *Operations*—Continued
   d. Ports and beaches
      (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
   e. Inland waterway
      (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
   f. Movement control
      (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
   g. Staging areas
      (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes).
   h. TC Depots
      (General Statement. Details of unit tasks, projected loads, schedules, etc. may appear in Annexes)
6. *Troops and Labor*
   a. General
      (Statement of general guidance on use of troops and labor)
   b. Troop units
      (List troop units and strengths in Annex)
   c. U. S. Civilian personnel
      (Indicate planned use. List authorization in Annex)
   d. Native labor
      (Indicate planned use and availability, coordination required, feeding, housing, etc.)
   e. POW labor
      (Indicate planned use and requests for POW labor)
7. *Facilities and LOC's*
   a. Airports and heliports
      (Indicate locations, capacities, terms of joint use, etc., in Annex)
   b. Railways
      (In Annex, indicate locations, capacities, terms of joint use, etc., of railways and special communication systems)
   c. Highways
      (In annex, indicate locations, capacities, terms of joint use etc., of highways, vehicular hardstands and special communication systems)

7. *Facilities and LOC's*—Continued
   d. Ports and beaches
      (Indicate locations, capacities heavy lift capabilities, terms of joint use etc. in Annex. Include statement as to the land transportation net within port or beach area)
   e. Inland waterways
      (Indicate locations, capacities, terms of joint use etc. in Annex)
   f. Staging areas
      (Indicate locations, capacities, terms of joint use etc. in Annex)
   g. TC Depots
      (Indicate locations, capacities, terms of joint use etc. in Annex)
8. *Supply*
   a. Level of Supply
   b. Replacement factors' consumption rates
   c. Requisition
      (1) Procedure and cycle
      (2) Emergency
   d. Local procurement
   e. Controlled items
   f. Surplus material
   g. Captured material
   h. Salvage and scrap
   i. Inter-Service supply
   j. Class IV equipment
9. *Maintenance*
   a. Aircraft and Helicopters
      (Statement of responsibilities, locations of maintenance shops etc.)
   b. Marine
      (Statement of responsibilities, locations of maintenance shops etc.)
   c. Rail
      (Statement of responsibilities, locations of maintenance shops etc.)
   d. Highway
      (Statement of responsibilities, locations of maintenance shops etc.)

9. *Maintenance*—Continued
   e. Terminal
      (Statement of responsibilities, locations of maintenance shops etc.)
   f. Containers, CONEX
      (Statement of responsibilities, locations of maintenance shops etc.)
10. *Command*
   a. Command Posts
      (Indicate locations of major commands relating to this plan)
   b. Field Transportation offices
      (List key area and field transportation offices)
      (1) Area of responsibility
         (Give brief statement on areas of responsibility)

Annexes (With appendices and tabs to include overlays, loads, graphs, and all essential details not included in body of plan)

   a. Task organization and assignment of forces
      (Indicate troop list, organizational and functional charts)
   b. Concept of operations
      (Brief résumé required here to provide data for planning—i. e.: duration of operations, displacement, etc.)
   c. Intelligence
      (See par. 4. Include time and tide tables and other related material)
   d. Command Relations
      (Provide statement or organizational chart indicating U. S. and allied command relationship)
   e. Cover and Deception
   f. Assumptions
      (See par. 1c)
   g. Army Aviation
      (See pars. 5 and 7)
   h. Army Aviation
      (See pars. 5 and 7)
   i. Highway
      (See pars. 5 and 7)

10. *Command*—Continued

j. Ports and Beaches
(See pars. 5 and 7)

k. Movement Control
(See par. 5)

l. Staging areas
(See pars. 5 and 7)

m. Depots
(See pars. 5 and 7)

n. U. S. Civilian Personnel
(See par. 6c)

o. Phased workloads
(See par. 5. Indicate projected port and beach, inland cargo and personnel workloads)

p. Movement Plan

q. Documentation and Marking
(References and policies)

r. Search and Rescue

s. Communications
(SOI)

t. Public Relations
(Policy, format, etc.)

u. GA/MG
(Coordination, relationship)

v. Defensive Measures
(Defense plan, coordination necessary, warnings and alerts, defense against mines, etc.)

w. CBR
(Indicate essential defensive measures)

x. Emergency Plans
(List emergency plans such as evacuation plans)

y. POL Plan
(Provide essential details or references)

z. Reefer Plan
(Cover essential details)

aa. Contract Negotiations
(Policy, regulations, references, essential details)

APPENDIX III

OUTLINE FOR PREPARING A STANDARD OPERATING PROCEDURE FOR TRANSPORTATION OFFICER OF MAJOR OVERSEA COMMANDS

Section I

GENERAL

I. PURPOSE
Outline the purpose of the SOP.

II. SCOPE
State the application and coverage of the SOP.

III. UNIT PROCEDURES
Direct the action required by subordinate units in preparation of unit SOP to include definite statement that SOP procedures of subordinate units will be based on and conform to the SOP procedure of the issuing command.

IV. RESCISSIONS
List any publications superseded or rescinded by the SOP, including fragmentary SOP's, orders, memorandums, bulletins, or other directives.

V. REFERENCES
Refer to publications which should be used in conjunction with the SOP.

VI. DEFINITIONS
Define, as required, all terms or phrases used in the SOP to insure mutual understanding and interpretation by all recipients.

VII. TRANSPORTATION ORGANIZATION (unless otherwise published)

MISSIONS, ORGANIZATIONS, FUNCTIONS

A. Office of the transportation officer.
   1. Transportation officer
   2. Deputy transportation officer (or executive officer).
   3. Staff sections
   4. Liaison officers (United States Air Force, Military Sea Transportation Service, Army, allied, and others).

B. Field installations.
   1. Water terminals.
   2. Transportation Corps supply depots.
   3. Transfer points and other special transportation activities.
   4. Field transportation offices and other transportation organizations.

VIII. ADMINISTRATION

A. General.
   Application and implementation of command policies and directives.

B. Correspondence.
   1. Types of correspondence, with instructions for preparing, forwarding, and handling; paper economy measures.
   2. Classified documents.
      Types of classification and authority to classify; handling, delivery, and receipting methods and procedures; security measures and responsibilities.

C. Personnel.
   1. General.
      Application and implementation of command policies and directives.
   2. Local civilian labor.
      Implementation of command policies and administrative procedures for procurement, utilization, and pay; application of provisions of Geneva Convention.

VIII. ADMINISTRATION—Continued

C. Personnel—Continued

3. Prisoners of war.
   Implementation of command policies and administrative procedures for procurement as labor; utilization, treatment, handling, and security; application of provisions of Geneva Convention.
4. Replacements.
   Responsibilities and procedures for requisitioning Transportation Corps replacements; implementation or elaboration of command policies and directives.

D. Reports.
   Types and quantity of administrative reports to be submitted; method and frequency of submissions (samples to be appended); application of reports control procedures.

IX. INTELLIGENCE

A. General.
   Purpose and importance of transportation intelligence, transportation intelligence mission, types of intelligence, application of command directives.

B. Collection of information and direction of collection effort.
   Collection agencies, essential elements of information, sources, coordination, collection plan, methods, reporting and disposition of captured enemy material for intelligence purposes.

C. Processing information.
   Responsibilities and procedures for recording, evaluating, and interpreting information (to include flow charts if applicable).

D. Dissemination.
   Policies, methods, criteria, security classification, transmission, time considerations.

E. Usage.
   General application of intelligence to transportation operations and planning; precautions against enemy counterintelligence.

IX. INTELLIGENCE—Continued

F. Counterintelligence.
Objectives, responsibilities, and application to the transportation service.

G. Reconnaissance.
Purpose and responsibility.

X. PLANS

A. Transportation requirements.
Responsibility for maintaining current lists of transportation requirements for movement of the unit or its elements by rail, truck, inland waterway, and air.

B. Transport availability.
Responsibility for maintaining current lists of available transportation—organic, assigned, or attached to the unit (including local civilian transportation).

C. Entrucking plans.
Responsibility of subordinate units for maintaining current entrucking plans; designation of vehicles to transport personnel, supplies, and organizational equipment.

D. Traffic circulation plans.
Statement that traffic circulation plans will be coordinated with traffic circulation plan of this headquarters.

E. Special operations (examples: river crossings, pursuit, retrograde movements).
Statement that transportation aspects of subordinate troop plans for special operations will be coordinated with this headquarters.

F. Plans by reserve units.
Statement that plans by units in reserve for forward or lateral movement will be coordinated with this headquarters.

G. Pooling organizational transportation.
Procedures for pooling organizational transportation—availability reports, unit responsibilities for furnishing commissioned and noncommissioned officers, maintenance of equipment, and administrative support of personnel.

X. PLANS—Continued

H. Civil aid.

Statement that services and subordinate units will submit plans in advance for movement of civilians and civil aid supplies, but that plans will not be implemented without prior approval.

I. Main supply routes and supply and service installations.

Responsibilities and procedures for maintaining up-to-date plans for recommending main supply routes and service installations.

XI. TRAINING

A. Responsibilities and procedures for preparing and supervising training programs of transportation units.

B. Responsibilities and procedures for exercising technical supervision over transportation training throughout the command.

XII. DEFENSE AND DISPERSION

Implementation of command policies and directives; responsibilities of corps transportation units for area of defense; defense against airborne, bacteriological, atomic, or chemical attack; defense against sabotage; measures against infiltration and guerilla warfare; reporting procedures of enemy activity. Action to be taken with respect to local civilian personnel employed at transportation activities.

XIII. AMPHIBIOUS OPERATIONS

A. General.

This SOP standardizes normal procedures in the preparation and execution of amphibious operations. It will apply unless otherwise prescribed.

1. Subordinate units issue SOP to conform.
2. References.

B. Planning.

Consideration must be given to the following:

1. Requirements of the tactical plan and the scheme of maneuver.
2. Availability of landing craft and ships (by type, size, cargo, and/or personnel capacity).

XIII. AMPHIBIOUS OPERATIONS—Continued

B. Planning—Continued

3. Establishing and maintaining close liaison with the Navy, the Air Force, and task force commanders.
4. Tables to be submitted by task force commanders indicating the landing force embarkation and tonnage and the breakdown of equipment and supplies.
5. Arranging and coordinating through channels for training appropriate personnel in unit loading and embarkation.
6. Movement to the embarkation areas and delivery of equipment and supplies to include waterproofing, marking and palletizing.
7. Supervision within the embarkation area.
8. Build-up period for supplies and ship turnaround time.
9. Alternate logistical procedures or an entire alternate plan to support alternate tactical plans being considered.

C. Movement to the staging area.

1. Warning orders.
2. Method of movement—rail, highway, air, water.
3. Control of movement.

D. Staging area.

1. Reception.
2. Spot delivery of equipment.
3. Control points to control flow of equipment and personnel to embarkation points or assembly areas.
4. Assembly areas for temporary storage of equipment and supplies to be loaded on transports.
5. Transportation to haul supplies and equipment from assembly areas to the ship.
6. Areas where final waterproofing can be completed.
7. Facilities to prepare cargo not already processed for loading.

XIII. AMPHIBIOUS OPERATIONS—Continued

E. Embarkation of troops.
   1. Movement to embarkation point or assembly areas.
   2. Control of movement to vessel.
   3. Transportation to close-out area.

F. Movement to objective area.
   In accordance with naval directives.

G. Ship-to-shore movement.
   1. Debarkation of equipment, supplies, and service troops at the proper time to support tactical operation.
   2. Control and landing of emergency supplies.
   3. Evacuation of casualties by water.

H. Beach organization.
   1. Transportation Corps reconnaissance party.
   2. Consolidation of supplies and transportation for subsequent logistical support of the landing force.
   3. Control.
      a. Vehicular traffic.
      b. Transfer operations (build-up area).
   4. Communication between beach organization and control vessel and ship.

XIV. INSPECTIONS

A. Reference to SOP of higher headquarters relative to inspections.

B. Purpose.

C. Policy.

D. Type of inspections to be conducted (vehicle utilization, transportation training, quality of maintenance and maintenance support, efficiency of operations, records system).

E. Frequency of inspections.

F. Procedures prior to making an inspection.

G. Procedures upon completing an inspection.

H. Reports to be rendered on findings from inspections, to include a sample format, number of copies, and distribution.

XV. AIRBORNE OPERATIONS

Implementation of command policies and directives in establishing responsibilities and procedures for Transportation Corps participation in airborne operations as prescribed.

XVI. COMMUNICATIONS

A. Communication net for coordination of transportation.

B. Method of ground-to-air contact for air drops to provide for coordination with land transportation.

C. Cross reference to communication net diagram.

Section II

PERSONNEL AND SUPPLY MOVEMENTS

I. GENERAL

General statement of responsibilities, policies, authorities, procedures, and coordination required to accomplish the various types of supply and personnel movements. Where appropriate, adequate coverage must be given to supply and personnel movements—

From water terminals to inland destinations or such other destinations as directed.

Within the communications zone.

From communications zone to combat zone.

From inland points to water terminals.

Evacuation from combat zone to communications zone.

Retrograde movements.

A. Supply movements.

1. Supply movement programs (as applicable).
   Procedures and responsibilities for preparation, scope, contents, publication, and implementation.

2. Water terminal clearance programs (as applicable).
   Procedures and responsibilities for preparation, scope, contents, publication, and implementation.

I. GENERAL—Continued

A. Supply movements—Continued

3. Nonprogramed movements.
   Procedures concerning requests for, authorization, and execution.
4. Priorities.
   Authority for establishment; procedures for obtaining, applying, and enforcing.
5. Requests for movement.
   When required, responsibilities for initiating, format, methods of transmission and handling, actions required.
6. Pilferage.
   Responsibilities of the Transportation Corps, the provost marshal, and shipping services; precautions and methods of prevention; reference to reports.
7. Documentation.
   Types, responsibilities, and methods of preparation and distribution; requirements and responsibilities for redocumentation.
8. Military government supplies.
   Policies for shipment and authority for shipment; how different from the normal military supply movement.
9. Captured enemy material.
   Procedures for reporting locations and securing disposition instructions; special movement instructions.
10. Reports.
    Types and quantity of reports to be submitted; methods, procedures, and frequency of preparation and submission. (Samples to be appended such as installation capacity reports, daily installation situation reports, reports of shipment, passing reports, reports of pilferage.)

B. Personnel movements.

1. Movement instructions.
   Preparation, publication, and implementation procedures.

I. GENERAL—Continued

B. Personnel movements—Continued

2. Requests for movement.
   When required, format, methods of transmission, handling and execution methods.
3. Movement authority.
   Types of command movement or travel orders, proper authentication, responsibilities for ascertaining authority for use of transportation services.
4. Quartering and messing en route.
   Responsibilities and procedures for securing, furnishing, and operating.
5. Documentation.
   Types, responsibilities, and methods of preparation, distribution, and usage; requirements and responsibilities for redocumentation.
6. Travel accommodations.
   Implementation of command policies concerning use of various types of accommodations and equipment for movement of specific types of passengers.
7. Patients.
   a. Responsibilities.
      Transportation officers, military railway service, chief surgeon, commanding officers of shipping and receiving hospitals, and medical regulating officers to include responsibilities for operating, scheduling, supplying, staffing, and maintaining ambulance trains.
   b. Requests for movement.
      Procedures and methods as they differ from normal troop movements, to include group and individual movements to airports or seaports for evacuation.
   c. Provisions of Geneva Convention.
      Application of; procedures and policies for compliance therewith in the movement of patients.

I. GENERAL—Continued

B. Personnel movements—Continued

7. Patients—Continued

d. Services.
Special considerations for the movement of patients, including provision of attendants.

8. Prisoners of war.

a. Responsibilities.
Transportation officers, provost marshal, shipping and receiving installations.

b. Security.
Responsibilities, methods, and procedures for obtaining and utilizing security personnel and facilities.

c. Requests for movement.
Procedures and methods as they differ from normal troop movements.

d. Provisions of Geneva Convention.
Application of; procedures and policies for compliance therewith in the movement of prisoners of war.

9. Civilian, refugee, and displaced persons.
Implementation of command policies concerning travel authority; procedures for requesting and performing movements of this category of personnel.

10. Reports.
Types and quantity of reports to be submitted; methods, procedures, and frequency of preparation and submission (samples to be appended such as reports of shipment, passing reports, station lists, unit directories).

II. RAIL MOVEMENTS

A. General.
Policies and factors involved in selecting and accomplishing movements via rail.

B. Supply movements.

1. Releases.
When required, methods of obtaining, formats, dissemination, action required.

II. RAIL MOVEMENTS—Continued

B. Supply movements—Continued

2. Routing.
Responsibilities and procedures for determination, coordination, and accomplishment.

3. Diversions and reconsignments.
Authority to effect diversions with consideration of the various command areas, procedures for initiating requests, and execution.

4. Records and reports.
Responsibilities and methods for the maintenance of specific records; appropriate reference to reports to be submitted.

C. Personnel movements.

Troops.

1. Military authority index numbers (MAIN).
Purposes, composition, methods and procedures for assignment and usage; marking on and eradicating from trains.

2. Halts.
Types of halts; policies, procedures, and responsibilities in the establishment and conduct of halts.

3. Travel warrants.
Types, forms, authority, and responsibilities for issue, distribution, and usage.

4. Troop train commanders.
Appointment, responsibilities and functions, relationship with transportation personnel; instructions to be furnished.

5. Rations and water.
Responsibilities and procedures for securing, furnishing en route, and disposition at destination.

6. Discipline of troops.
Responsibilities and command policies, police of rail equipment, sanitation.

7. Diversions.
Authority for ordering; responsibilities and procedures for effecting; reference to reporting.

II. RAIL MOVEMENTS—Continued

C. Personnel movements—Continued

8. Records and reports.
   Responsibilities and methods for the maintenance of specific records and appropriate reference to reports to be submitted.

III. HIGHWAY MOVEMENTS

A. General.
   Policies and factors involved in selecting movements via highway.

1. Highway regulations.
   Purpose, application or scope, responsibilities, methods and procedures for accomplishment.
2. Convoy clearance.
   Minimum vehicle requirements, convoy symbols, procedures and format for requesting and furnishing, routing halts, convoy composition restriction, tracked or outsized vehicle restrictions.
3. Highway regulation points.
   Purpose, establishment basis, responsibilities and procedures for operation, required records.
4. Traffic control.
   Responsibilities, relationship to highway regulation, coordination measures effected with provost marshal.
5. Return loads.
   Policies, methods, and procedures for securing and reporting.
6. Convoy commanders.
   Appointment, responsibilities and functions, relationship with transportation personnel, instructions to be furnished.
7. Halts.
   Types, policies, procedures, and responsibilities for establishment and conduct of halts; area policing.
8. Security.
   Responsibilities and methods of conducting defensive measures.

III. HIGHWAY MOVEMENTS—Continued

A. General—Continued

9. Records and reports.
   Responsibilities and methods for maintenance of required records; reference to reports to be submitted.

B. Supply movements.

1. Releases.
   When required, methods of obtaining, formats, dissemination, actions required.
2. Diversions and reconsignments.
   Authority to effect diversions with consideration of various command areas, procedures for initiating requests, and execution.
3. Records and reports.
   Types of records required to be maintained on personnel movements; reference to reports to be submitted.

IV. AIR MOVEMENTS

A. General.
   Amplification of command policies on use of air transportation (intratheater and intertheater) to include responsibilities, utilization, and procedures in the employment of organic helicopter units. Responsibilities for coordination with Air Force aerial ports.

1. Submission of requirements.
   Responsibilities for, timing, format, procedures, and policies affecting submission of advance and firm requirements for air movement of supplies and personnel.
2. Air tonnage allocations.
   Controlling agency; procedures for application, allocation, and use of allocations; formats.
3. Air priorities system.
   Controlling agency; procedures and responsibilities for application, determination, dissemination, and use of priorities; implementation of command policies and directives.

IV. AIR MOVEMENTS—Continued

A. General—Continued

4. Aerial port calls.
   Responsibilities and procedures for the issue of port calls for supply and personnel movements; implementation and execution of such calls.
5. Special movement control actions.
   Special actions required to integrate movement control of air transportation with other applicable modes of transportation.
6. Loading and unloading of aircraft.
   Policies, responsibilities, and procedures for loading and unloading troops, accompanied supplies, and equipment at aerial ports.
7. Diversions and reconsignments.
   Authority; procedures and channels prescribed for effecting and executing diversions or reconsignments.

B. Supply movements.

1. Designation for air movement.
   Authority for, responsibilities, how accomplished and disseminated, actions to be taken.
2. Special packing requirements.
   Special instructions for packing or preparing supplies for air movement.
3. Special marking.
   Types; responsibilities for applying marking on containers and for obliterating old markings.
4. Documentation.
   Responsibilities and procedures for preparing and distributing established documents.
5. Aerial supply.
   Amplification of command policies and directives on packaging and delivery responsibilities; methods and procedures for obtaining and accomplishing aerial supply; methods and responsibilities for marking landing or drop zones.
6. Records and reports.
   Responsibilities and methods for maintenance of specific records, and reference to reports to be submitted.

IV. AIR MOVEMENTS—Continued

C. Personnel movements.

1. Preparation for air movement.
   Command policies and directives on procedures and requirements for preparing units and individuals for air movement.
2. Movement to aerial ports.
   Procedures and responsibilities for the movement of units and individuals to aerial ports for air movement.
3. Documentation.
   Preparation, distribution, and uses of established flight forms and documentation.
4. Records and reports.
   Responsibilities and methods for maintenance of specific records, and reference to reports to be submitted.

V. INLAND WATERWAY MOVEMENTS

A. General.
   Policies and factors involved in selecting shipments for movement by inland waterways.

1. From deep water terminals to inland points.
   General procedures and policies concerning use of inland waterways for this type of movement and responsibilities for accomplishing.
2. Between inland points.
   General procedures and policies concerning use of inland waterways for this type of movement and responsibilities for accomplishing.
3. Routing.
   Responsibilities and procedures for determination, coordination, and accomplishment.
4. Diversions and reconsignments.
   Authority to make diversions and procedures for initiating requests.
5. Priorities.
   Applying established priorities to movements via inland waterways.

V. INLAND WATERWAY MOVEMENTS—Continued

A. General—Continued

6. Records and reports.
   Responsibilities and methods for maintenance of required records; methods and frequency of submitting specific reports (formats appended).

B. Supplies (releases).
   When required, methods of obtaining, formats, dissemination, actions required.

C. Personnel.
   Application of this mode of transportation to the movement of personnel.

Section III

TRANSPORT SERVICES

I. MILITARY RAILWAY SERVICE

A. General
   Policies and procedures for—
   1. Integration of rail transportation in the theater transportation net.
   2. Operational control.
   3. Coordination with adjacent commands for use of rail capacity and support of operating units.
   4. Coordination of the theater rail plan for selection, rehabilitation, and operation of rail lines in support of theater strategic plans.

B. Mission.
   Rail net and facilities operated; terminals; installations and commands supported.

C. Organization.
   Operating units available, location, and operating limits.

D. Functions.
   1. Responsibilities for operation and maintenance of military railways.
   2. Responsibilities for operation and maintenance of equipment.
   3. Responsibilities for operation and maintenance of freight, passenger, and special trains.

I. MILITARY RAILWAY SERVICE—Continued

E. Planning.

1. Long-range planning responsibility and procedures; selection of rail primary and alternate routes; determination of line capacity; troop, equipment, and supply requirements; rehabilitation and project requirements; communications and security requirements; demolition plans.
2. Current operational plans; current rail line capacity and requirements; phases of operation; selection and rehabilitation of new or additional railheads, yards, and installation facilities.

F. Operations.

Procedures for dissemination and implementation of movement programs; coordination with field transportation officer; priorities for and utilization of rail equipment; responsibility for preparation and compilation of operational and situation reports; procedures for ordering and documentation of cars; responsibilities for scheduling special trains; responsibility and methods of loading, blocking, and bracing of inspecting loaded cars.

G. Maintenance.

Responsibility, procedures, inspections, reports, and standards for maintenance of military and utility railway facilities and equipment, including organizational, field, depot maintenance.

H. Supply.

Responsibility and procedures for requisitioning, stocking, distributing, maintaining levels of, disposing of excess, and accounting for railway operating and maintenance supplies; requirements and priorities for major items, including locomotives and rolling stock.

I. Intelligence and reconnaissance.

Responsibility and procedures for collecting, processing, and using rail intelligence.

I. MILITARY RAILWAY SERVICE—Continued

J. Security.
Procedures, responsibility, coordination, and requirements for security of supplies en route by rail, and security of trains and rail line-of-communication facilities; defense and demolition plans.

K. Records and reports.
Responsibility and procedures for reports—railway operation, situation, personnel status, equipment maintenance and inspection, equipment status, and project.

L. Training.
Responsibility—unit and technical training.

II. HIGHWAY TRANSPORT SERVICE

A. General.
Policies involved in control, operation, and maintenance of facilities, equipment, and installation; command responsibility; technical supervision required and agencies involved.

B. Mission.
Service provided; extent of operation.

C. Functions.
1. Scheduled and nonscheduled operations.
2. Maintenance of equipment—responsibilities, procedures, facilities, and inspection practices.

D. Planning (operational).
Computation of troop and equipment requirements; capability and capacity estimate; communication procedure and requirements; rehabilitation requirements.

E. Operations.
Operational procedures and controls; pooling and utilization of equipment.

F. Maintenance.
Responsibilities and procedures for maintenance; regulations and reports.

G. Supply procedure.
Responsibilities for supplies, authorized levels, requisitioning procedures, accounting methods, disposal of excesses.

II. HIGHWAY TRANSPORT SERVICE—Continued

H. Intelligence and reconnaissance.
Responsibility for collection, collation, evaluation, and dissemination of highway transportation intelligence and reconnaissance information.

I. Security.
Responsibilities; plans—disaster and defense; convoy and cargo security; equipment and facilities.

J. Records and reports.
Responsibility; operational and personnel status reports; technical reports; miscellaneous.

K. Training.
Responsibility—unit and technical training.

III. INLAND WATERWAYS SERVICE

A. General.
Policies involved in the control, operation, and maintenance of facilities, equipment, and installations; command responsibility; technical supervision required and agencies involved; responsibilities for operational control.

B. Mission.
Service provided, extent of operation, limitations of craft and facilities, capabilities of the system.

C. Organization.
Equipment and units available, location of operating units and facilities, terminals served.

D. Functions.
1. Scheduled and nonscheduled operations.
2. Maintenance of equipment—responsibilities, procedures, facilities, inspection practices, and periodic overhaul.

E. Planning.
Computation of troops and equipment requirements, development of supply requirements, capability and capacity estimate, rehabilitation requirements and computations, construction requirements and responsibilities, communications procedures and requirements.

III. INLAND WATERWAYS SERVICE—Continued

F. Operations.
Operational procedures—utilization of equipment; coordination with field transportation officers; terminal operations and operational control, including position reports, sailing orders, sailing radios, maintenance of operational reports and statistics; communication net (call letters, frequencies); watches maintained; documentation of shipments; preparation of manifests; fueling facilities and procedures.

G. Supply.
Responsibility for supplies, authorized levels, requisitioning procedures, accounting methods, disposal of excesses.

H. Messing.
Messes authorized, locations, accounting for subsistence supplies, ration cycle, breakage allowances.

I. Security.
Responsibilities, plans (disaster and defense), cargo security, equipment, and terminals.

J. Maintenance.
Responsibilities and procedures for maintenance of waterways, locks, terminals, and equipment; inspections.

IV. AIR TRANSPORT SERVICE (AIR FORCE AND ARMY AVIATION)

A. General.
Policies involved in control, operation, and maintenance of facilities, equipment, and installations; command responsibility; technical supervision required and agencies involved; responsibility for operational control.

B. Mission.
Service to be provided by organic helicopter units, Air Force troop carrier units, and other aircraft in direct support; extent of operation.

C. Functions.
1. Scheduled and nonscheduled operations.
2. Maintenance of equipment—responsibilities, procedures, facilities, inspections.

IV. AIR TRANSPORT SERVICE (AIR FORCE AND ARMY AVIATION)—Continued

D. Planning (operational).
Personnel, equipment, and supply requirements; capabilities and capacities; communication procedures.

E. Operations.
Operational procedures and control; utilization of personnel, equipment, and facilities; priorities; coordination; documentation; records and reports; service to be given personnel and cargo.

F. Maintenance.
Responsibilities and procedures for maintenance; regulations, reports, and records.

G. Supply.
Responsibilities; authorized levels; procedures and accounting methods for the United States Air Force.

H. Intelligence.
Responsibility for collection, collation, evaluation, and dissemination of air transportation intelligence.

I. Security.
Responsibilities, plans (disaster and defense), area equipment and supply security.

J. Records and reports.
Responsibility—technical and operational; personnel and stock records and reports.

K. Training.
Responsibility—unit and technical training.

Section IV

FIELD INSTALLATIONS

I. WATER TERMINALS

A. General.

1. Implementation of command policies and directives concerning command; technical supervision and operational control of installations, facilities, and operations to provide a basis for water terminal SOP's.

I. WATER TERMINALS—Continued

A. General—Continued

2. Coordination with Military Sea Transportation Service (Navy). Responsibilities for coordination measures with Military Sea Transportation Service on movement and administration of vessels.

B. Operations.

General policies and procedures for the operation of water terminals to include berthing, loading and discharge of vessels, in-transit storage, preparation and execution of clearance programs, operation of staging areas, enforcement of priorities, evacuation, and liaison with appropriate water terminal director.

C. Maintenance.

Responsibilities and policies for maintenance of facilities and equipment.

D. Supply.

Implementation of command policies and directives on water terminal supply procedures to include established stock levels.

E. Security.

Implementation of command policies and directives on preparation and execution of installation defense plans; security measures for supply and personnel movements through the water terminals.

F. Communications.

Implementation of command policies and procedures for the installation, operation, and maintenance of communication facilities and equipment.

G. Records and reports.

Responsibilities for maintenance of specific records and preparation and submission of reports.

II. TRANSPORTATION CORPS SUPPLY DEPOTS

A. General.

Application of command policies and directives concerning the establishment and operation of Transportation Corps depots.

II. TRANSPORTATION CORPS SUPPLY DEPOTS—Continued

B. Stock levels.
Responsibilities and procedures for establishing and maintaining stock levels for Transportation Corps supply items.

C. Operations.
General policies and procedures for the operation of Transportation Corps supply depots to accomplish procurement, storage, and issue of Transportation Corps supplies when it is desirable to make these procedures routine and standard at all Transportation Corps depots within the command.

D. Communications.
Implementation of command policies and directives for installation, operation, and maintenance of communication facilities and equipment.

E. Security.
Reference to appropriate provisions of SOP or other command directives and any special security measures applicable to Transportation Corps depots.

F. Records and reports.
Responsibilities for maintenance of specific records and reference to reports to be submitted.

III. TRANSFER POINTS AND OTHER SPECIAL TRANSPORTATION ACTIVITIES

A. General.
Types, basis for requirement, responsibilities, and procedures for establishment and operation.

B. Command.
General statement of command designation, and responsibilities for command and administration, as appropriate.

C. Labor.
Responsibilities and methods of procurement and utilization; reference to appropriate provisions of SOP.

D. Documentation.
Responsibilities, methods and procedures for preparation and distribution of documentation.

III. TRANSFER POINTS AND OTHER SPECIAL TRANSPORTATION ACTIVITIES—Continued

E. Operations.
General coverage of operational policies, methods, and procedures which should be routine and standard at all transfer points.

F. Communications.
Procedures and responsibilities for requesting, furnishing, and maintaining communication facilities and equipment.

G. Security.
Reference to appropriate provisions of the SOP or other command directives.

H. Records and reports.
Responsibilities and methods for maintenance of specific types of records; reference to reports to be submitted.

IV. FIELD TRANSPORTATION OFFICES

A. General.
1. Implementation of command policies and directives for the establishment and functioning of field transportation offices.
2. Policies concerning employment, command, and operational control of movement control units.
3. Locations of field transportation offices; areas of responsibility of each field transportation officer, with overlays as appropriate.

B. Operations.
Reference to provisions of SOP as applicable; extent of authority for supervision of movements; coordination measures with transport services, shippers, and receivers.

C. Communications.
Procedures and responsibilities for requesting, furnishing, maintaining, and operating communication facilities and equipment.

D. Security
Reference to appropriate provisions of SOP or other command directives.

IV. FIELD TRANSPORTATION OFFICES—Continued

E. Records and reports.
Responsibilities and methods of maintenance of specific records; reference to reports to be submitted.

Section V

TRANSPORTATION CORPS SUPPLY

I. GENERAL
Application and references of command policies and directives to implement the Transportation Corps supply mission of the transportation officer.

II. PROCUREMENT

A. Plans and estimates.
Responsibilities and methods of preparation of long-range and current plans and estimates for Transportation Corps supply requirements.

B. Requisitions.

1. Responsibility and procedure.
Responsibilities and procedures for originating, processing, and transmitting supply requisitions on the continental United States and on Transportation Corps depot to include frequency of submissions, orders and shipping times, and basis for issue as appropriate.
2. Project supplies.
Responsibilities and methods of estimating and submitting requirements to include formats, justification provisions, and time elements.
3. Critical items.
Reference to appropriate command publications; policies and procedures for obtaining authority for issue and usage.

C. Local procurement.
Policies and procedures for local procurement of supplies and equipment.

III. MANAGEMENT

A. Utilization and economy.
Responsibilities and instructions for using and conserving supplies and equipment, overstocking restrictions, and disposition procedures for excess stocks.

B. Maintenance.
Policies, responsibilities, and methods of maintaining supplies and equipment; provision of adequate storage facilities.

C. Security.
Policies and responsibilities concerning abandonment or destruction of supplies and equipment; dispersion policies and safeguarding measures to prevent destruction or capture.

D. Salvage.
Disposition procedures for damaged or worn equipment, reclamation policies, and replacement procurement.

E. Storage.
Responsibilities and provisions for proper storage and issue of supplies and equipment.

F. Records and reports.
Responsibilities and methods for maintenance of specific supply records and submission of reports to include types, formats, and frequency.

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[AG 353 (22 Apr 55)]

BY ORDER OF THE SECRETARY OF THE ARMY:

MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

OFFICIAL:

JOHN A. KLEIN,
Major General, United States Army,
The Adjutant General.

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NG: State AG (6); units—same as Active Army.

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For explanation of abbreviations used, see SR 320–50–1.

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