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FM 5-162-1 (TEST)

DEPARTMENT OF THE ARMY FIELD MANUAL

ENGINEER COMMAND, TASCOM



HEADQUARTERS, DEPARTMENT OF THE ARMY
MARCH 1967

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FOREWORD

This manual provides interim guidance to commanders, staff officers, and other personnel concerned with Engineer support under the TASTA-70 concept of organization and operation. This information can be utilized to facilitate reorganization under the TASTA concept. Firm information on the organizational structure and composition of units will be as contained in TOE's when published. Although the basic TASTA-70 study has been approved by Department of the Army, detailed doctrine contained in this Test Field Manual is under continuing development and review. This test manual will be superseded by FM 5-162, Engineer Construction and Construction Support Units. Readers are encouraged to submit comments and recommendations for changes that will improve the clarity, accuracy, and completeness of the manual. Comments should be constructive in nature and reasons should be provided for each recommendation to insure understanding and to provide a valid basis for evaluation. Each comment should be keyed to a specific page, paragraph and line of the text. Comments should be forwarded directly to the Commanding Officer, U. S. Army Combat Developments Command Engineer Agency, Fort Belvoir, Virginia 22060. An information copy of recommendations that propose changes to approved Army doctrine may be sent, through command channels, to the Commanding General, U.S. Army Combat Developments Command, Fort Belvoir, Virginia 22060, to facilitate review and evaluation.

FIELD MANUAL }
 No. 5-162-1 (TEST) }

HEADQUARTERS
 DEPARTMENT OF THE ARMY
 WASHINGTON, D.C., 27 March 1967

ENGINEER COMMAND, TASCOM

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CHAPTER 1

INTRODUCTION

1-1. Purpose

a. This manual provides guidance for commanders, staff officers, and other personnel concerned with the employment of the engineer command, TASCOM, and its subordinate engineer units.

b. This manual and the other field manuals (test) listed in appendix A, provide doctrinal guidance for all personnel concerned with the organization, mission, capabilities, and operational doctrine of the theater army support command (TASCOM).

1-2. Scope

This manual describes the organization, mission, capabilities, and operation of the engineer command, TASCOM. It also describes briefly the missions, capabilities, and operations of the engineer construction and topographic units habitually found in the communications zone (COMMZ) and which are attached to the engineer command for command and control purposes (for further details regarding these units, see FM 5-1, FM 5-146, and FM 5-162). A brief discussion of the theater army and TASCOM is also included to enable the reader to relate the engineer command with the higher, parallel, and lower elements of TASCOM.

CHAPTER 2

THE THEATER ARMY AND THE THEATER ARMY SUPPORT COMMAND

Section I. THE THEATER ARMY

2-1. Theater Army

In a theater of operations requiring a field army consisting of eight or more divisions, the theater army will normally consist of a headquarters; a field army; a theater army support command (TASCOM); a signal command; an air defense command; military intelligence units; theater army reserve forces; and a civil affairs command, when required (fig. 2-1).

2-2. Major Subordinate Commands

The two major subordinate commands of the theater army are the field army and the TASCOM.

a. Field Army. The field army is located in the combat zone and consists of combat and combat support forces participating in combat with combat service support provided by the field army support command (FASCOM) and the division support command (DISCOM). For a detailed discussion of the operations, missions, and capabilities of the field army see

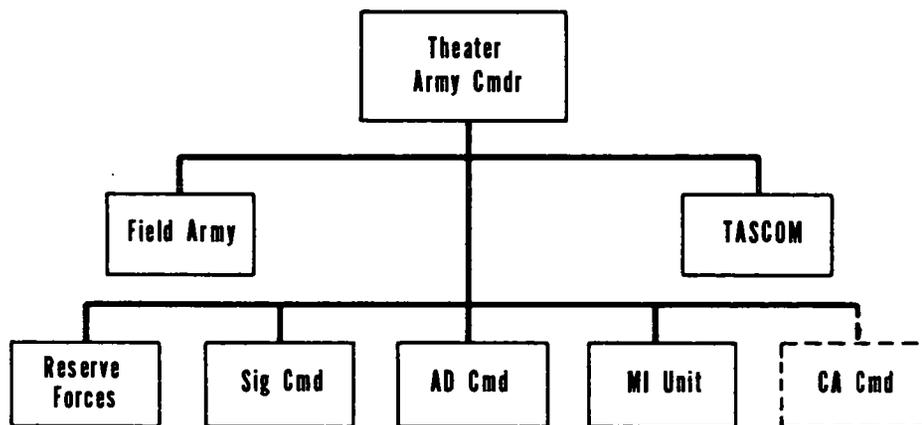
FM 100-5, FM 100-10, and FM 100-15. For a detailed discussion of FASCOM, see the applicable field manuals listed in appendix A; of DISCOM, see FM 54-2.

b. TASCOM. The TASCOM is located in the communications zone and provides combat service support to army forces in a theater of operations and to other forces as designated. The TASCOM is discussed briefly in paragraphs 2-4 to 2-11 to establish the command relationship of this headquarters with one of its subordinate major commands, the engineer command. A detailed discussion of TASCOM is contained in the field manuals (test) listed in appendix A.

2-3. Other Theater Army Elements

Other theater army elements included are—

a. Theater Army Signal Command (TASC). The TASC extends communications from the theater rear boundary, where access to the defense communications system is available, into



 As required *Figure 2-1. Organization chart, theater army.*

the field army areas where communications access points are established in the form of communications centers. The TASC provides a command and area oriented system within the communications zone. Signal units of the TASC are attached to major headquarters and area oriented units of the TASCOM. The TASCOM provides direct and general combat service support to the TASC.

b. Theater Army Reserve Forces. The theater army reserve forces consist of those combat units physically located in the COMMZ and designated as the theater army reserve forces. The TASCOM provides direct and general combat service support to these forces.

c. Theater Army Air Defense Command. The theater army air defense command provides command for army air defense means in the communications zone. The TASCOM pro-

vides combat service support for the theater army air defense command.

d. Theater Army Military Intelligence Group. When utilized, this group assists in performing military intelligence activities for which the theater army headquarters normally retains centralized control. Such activities include overall direction of the intelligence effort including technical intelligence. Both the field army and the TASCOM are assigned military intelligence units. The TASCOM provides direct and general combat service support to military intelligence units.

e. Other Major Units. Army Security Agency units, various other units, other services, allied military forces, and local governments and populations are provided combat service support by the TASCOM as directed by the theater army commander.

Section II. THE TASCOM

2-4. TASCOM

a. Mission. The mission of the TASCOM is to provide combat service support to army forces in a theater of operations and to other forces as designated. The support provided includes general support to the field army and direct and general support to all units located in the communications zone. The TASCOM is also responsible for rear area security and area damage control in the COMMZ.

b. Functions. Combat service support functions performed by the TASCOM include: administration; civil affairs; construction; topographic; maintenance; medical service; military police service; movements; personnel services; field services; supply and transportation.

c. Organization. A TASCOM supporting an eight division, two corps, field army, is composed of a headquarters and headquarters company and special troops, and the following major subordinate commands (fig. 2-2):

- (1) Area Support Command.
- (2) Engineer Command.
- (3) Medical Command.
- (4) Personnel Command.

- (5) Supply and Maintenance Command.
- (6) Transportation Command.

2-5. Headquarters and Headquarters Company and Special Troops, TASCOM

a. Headquarters and headquarters company and special troops, TASCOM, consists of the following elements:

- (1) Command Section.
- (2) Assistant Chief of Staff, Personnel.
- (3) Assistant Chief of Staff, Security, Plans, and Operations.
- (4) Assistant Chief of Staff, Services and Engineering.
- (5) Assistant Chief of Staff, Supply.
- (6) Assistant Chief of Staff, Maintenance.
- (7) Assistant Chief of Staff, Comptroller.
- (8) Assistant Chief of Staff, Civil Affairs.
- (9) Assistant Chief of Staff, Movements.
- (10) Adjutant Generals Office.
- (11) Headquarters Commandant.

b. Through its subordinate mission commands, the TASCOM headquarters commands and directs the provision of combat service support to army forces in a theater of operations and to other forces as designated, to in-

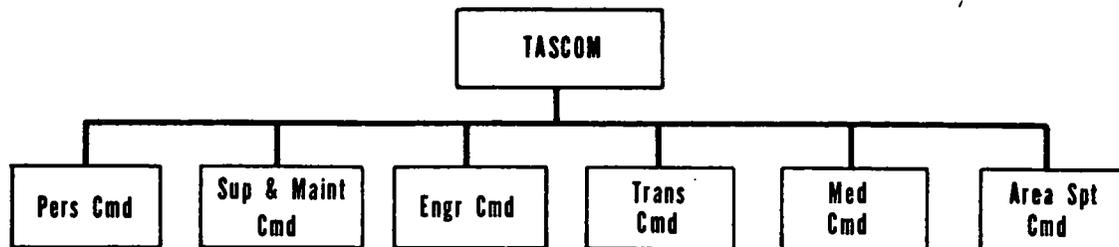


Figure 2-2. Organization chart, TASCOM.

clude rear area security and area damage control to the COMMZ. It provides broad overall plans, policies, priorities, and allocations to its subordinate operating commands and coordinates their activities. The TASCOM headquarters issues mission type orders to its subordinate commands. The detailed operations, planning, and management necessary to implement the mission type orders are a responsibility of the subordinate commands. The operations of the TASCOM are thus decentralized and the TASCOM is relieved of day-to-day operations allowing it to concentrate on its primary mission of mid- and long-range planning and coordinating combat service support operations.

c. As part of the office of the assistant chief of staff, services and engineering, TASCOM, the engineer branch, consisting of the staff engineer, an engineer operations officer, a topographic officer, a base development officer, and various officer and enlisted assistants, develops plans and policies for construction, topographic, and installation support for the TASCOM and coordinates requirements. Specifically, the engineer branch, ACofS, services and engineering, TASCOM—

- (1) Advises the assistant chief of staff for services and engineering on engineer support matters.
- (2) Develops plans and policies for topographic support including mapping, map production, and distribution in accordance with requirements established by theater army.
- (3) Coordinates requirements for construction support to mission commands, area support command, other services, and allied forces when appropriate. This includes establish-

ment of priorities, construction standards, and required completion dates.

- (4) Develops plans and policies for installations support including theater real estate guidelines, broad guidance on repairs and utilities, and fire protection activities.
- (5) Develops plans and policies for allocation of construction materiel resources and long-range estimates of theater requirements in this category of supply.
- (6) Develops the TASCOM engineer troop basis and makes recommendations for allocation of engineer units and replacements.
- (7) Maintains close working relationships with the engineer command and the area support command to insure mutual understanding on engineer support plans, requirements, and capabilities.
- (8) Prepares engineer support portion of TASCOM operations plans and orders.

d. The command relationship between the TASCOM and the engineer command with respect to construction and topographic support is discussed in this manual. The command relationship between the TASCOM and the area support command with respect to engineer installation support is discussed in FM 54-6 (TEST).

e. Automatic data processing equipment and functional control centers are assigned to subordinate commands. Data and reports required by the TASCOM are summarized and furnished by subordinate commands.

2-6. Personnel Command, TASCOM

a. The personnel command is a major subordinate mission command of the TASCOM and consists of a headquarters and headquarters company and the following operating units and agencies:

- (1) Military Police PW Brigade.
- (2) Graves Registration Battalion.
- (3) Finance Battalion (GS).
- (4) Postal Company (GS).
- (5) Replacement Regulating Company.
- (6) Special Services Detachment.
- (7) Personnel and Administration Group.
- (8) Rehabilitation and Training Battalion.
- (9) Chaplain Agency.
- (10) Automatic Data Processing Unit.
- (11) Military Police Crime Laboratory Detachment.

b. The personnel command, as a functionalized operating command of the TASCOM, directs, coordinates, and provides general support personnel, administrative, financial, morale (chaplain, postal, and special services), custodial (stockade and rehabilitation training), crime laboratory, and graves registration services to the theater. For a detailed discussion of the personnel command and its services, see the applicable field manuals listed in appendix A.

2-7. Supply and Maintenance Command, TASCOM

a. The supply and maintenance command is a major subordinate mission command of the TASCOM. It consists of a headquarters and headquarters company and special troops and the following operating units and agencies:

- (1) Automatic Data Processing Unit.
- (2) Inventory Control Agency.
- (3) Maintenance Management Detachment.
- (4) Field Depots.
- (5) Petroleum Group.
- (6) Ammunition Group.

b. The supply and maintenance command, as a functionalized operating command of the TASCOM, provides general support supply and maintenance support to United States forces

and to such other forces as directed. Using organizations in the combat zone receive scheduled amounts of all classes of supply directly from rear depots on a throughput basis. The command also provides backup maintenance service for the field army and for those units in the forward areas of the COMMZ as required and operates the inventory control center for the TASCOM. For a detailed discussion of the supply and maintenance command and its services, see the applicable field manuals listed in appendix A.

2-8. Medical Command, TASCOM

a. The medical command is also a major subordinate mission command of the TASCOM and consists of a headquarters and headquarters company and the following elements:

- (1) Hospital Center.
- (2) Medical Group.
- (3) Medical Laboratory.
- (4) Preventive Medicine Unit.
- (5) Convalescent Center.
- (6) Medical Service Teams (TOE 8-500).

b. The medical command as a functionalized operating command of TASCOM provides COMMZ level medical support within a theater of operations. It includes all medical units in the COMMZ. The medical command differs from the other operating commands of the TASCOM in that it provides both direct and general support services. For a detailed discussion of the medical command and its services in the theater of operations; see the field manuals (test) of the 8-series, listed in appendix A.

2-9. Transportation Command, TASCOM

a. The transportation command is also a major subordinate mission command of the TASCOM and consists of a headquarters and headquarters company and the following elements:

- (1) Automatic Data Processing Unit.
- (2) Transportation Movements Control Group.
- (3) Transportation Terminal Transfer Company.

- (4) Transportation Motor Transport Group.
- (5) Aviation Battalion.
- (6) Transportation Terminal Group.
- (7) Transportation Railway Group.

b. The transportation command is the major army transportation headquarters in a theater. It is also a functionalized operating command of the TASCOM and provides transportation and movements service in the theater. The transportation command, in coordination with the supply and maintenance command, is responsible for the uninterrupted movement of replacements and materiel from points of arrival in the theater to the unit of assignment or consumer, if feasible. For a detailed discussion of the transportation command and its services in the theater of operations, see the field manuals (test) of the 55-series, listed in appendix A.

2-10. Engineer Command, TASCOM

a. The engineer command consists of a headquarters and headquarters company and the following units:

- (1) Engineer construction brigades (para. 4-2d).
- (2) Engineer construction groups (para. 4-2b and c).
- (3) Engineer construction units.
- (4) Engineer construction support units.
- (5) Engineer base topographic battalion.
- (6) Teams of the engineer service organization (TOE 5-500).

b. The engineer command is also a major subordinate mission command of TASCOM. It provides general construction support to all Army and Air Force elements in the COMMZ and general topographic support to the theater army. For a detailed discussion of the mission,

capabilities, and operations of the engineer command, see chapters 3, 5, and 6. For a brief discussion of the engineer units assigned to the engineer command, see chapter 4; for a detailed discussion of these units see FM 5-1, FM 5-146, and FM 5-162.

2-11. Area Support Command (ASCOM), TASCOM

a. The area support command consists of a headquarters and headquarters company and the following type units or agencies:

- (1) Automatic Data Processing Unit.
- (2) Maintenance Management Detachment.
- (3) Personnel and Administration Battalion.
- (4) Area Support Groups.
- (5) Military Police Brigade.
- (6) Civil Affairs Brigade.
- (7) Military Intelligence Group, Security.
- (8) Signal Operations Company, Medium Headquarters.
- (9) Attached as required.

b. The area support command provides direct combat service support (less medical support) to the TASCOM, to units located in or passing through the COMMZ, and to other forces as directed by the TASCOM commander. The area support command is the single command assigned the mission of providing direct combat service support within the COMMZ. It accomplishes this through its attached area support groups and the other subordinate units listed in *a* above. The area support command is also responsible for the planning, coordination, and execution of rear area security and area damage control within the COMMZ. For a detailed discussion of the area support command and its services in the COMMZ, see the applicable field manuals listed in appendix A.



CHAPTER 3

HEADQUARTERS AND HEADQUARTERS COMPANY ENGINEER COMMAND

3-1. Mission

The mission of headquarters and headquarters company, engineer command, is to command; to perform operational planning and supervision; and to coordinate the activities of assigned or attached engineer construction brigades, engineer construction groups, and other units engaged in construction, mapping, and related engineer activities.

3-2. Assignment

The engineer command is assigned to, and allocated on the basis of one per theater army support command (TASCOM). It is physically located in the COMMZ.

3-3. Employment

a. The engineer command is one of the five major subordinate mission commands of the TASCOM. The engineer command functions as an operating element of TASCOM. It provides general construction support to all Army and other services and allies within the COMMZ, and topographic support to the theater army. The engineer command, based on the construction program, and priorities and construction standards established by the TASCOM, plans, coordinates, and supervises the construction or rehabilitation of ports, routes of communication, depots, hospitals, troop camps, administrative facilities, bulk POL distribution and storage facilities, airfields, and related Air Force projects.

b. The engineer command also produces, stores, and distributes maps, map substitutes, geodetic survey data, and related materials.

3-4. Capabilities

a. The engineer command may be organized

under the Levels 1, 2, or 3 columns of TOE 5-201T.

- (1) *Level 1.* When organized under level 1, this unit has full capabilities to execute the stated mission and provides:
 - (a) General construction support to all Army and other services and allies within the communication zone and topographic support to the theater army.
 - (b) Planning, coordination, and supervision of construction or rehabilitation of ports, routes of communication, airfields, missile sites, depots, hospitals, troop camps, POW and internee compounds, administrative facilities, operational and training facilities, and POL transmission, distribution and storage facilities.
 - (c) Operational plans, project plans, designs, and construction directives; allocation of engineer troops, materials, and equipment to projects; and guidance and technical assistance to units engaged in construction projects.
 - (d) General topographic support to theater army including programing data for mapping support and coordinating mapping requirements with CONUS.
 - (e) Comptroller services for the command and assigned or attached units. When required, the capability of the comptroller may be expanded by the attachment of appropriate comptroller cellular teams.
- (2) *Levels 2 and 3.* When organized under

levels 2 or 3, the table is adapted for reduced capabilities in 10 percent decrements for approximately 90 percent at level 2 to 80 percent at level 3.

b. Additional Capabilities. This unit is dependent upon TOE 1-407, Aviation Service Support Company, for air transport required for command, control, and liaison activities of the command; upon TOE 55-19, Transportation Car Company, for daily administrative motor transport services; upon TOE 12-67, Personnel Service Company, for personnel administration services; upon TOE 11-137, Signal Communication Center Operation Company (Platoon) or other appropriate unit of the Theater Signal Operations Command, for communication service; and upon appropriate elements from the Medical Command for medical service and advice.

c. Type B Unit. This unit is not adaptable to Type B organization.

d. Combat Capabilities. Individuals of this organization, except chaplain, can engage in ef-

fective, coordinated defense of the unit's area or installation.

3-5. Organization

The engineer command is a flexible organization. The number and composition of the units attached to it depend upon its mission. Its headquarters and headquarters company, however, is a fixed organization (fig. 3-1) and is organized under TOE 5-201T. It consists of the elements shown in figure 3-1 and described briefly in paragraphs 3-6 to 3-18.

3-6. Command Section and Personal Staff

The command section contains the command element of the engineer command. It consists of the commanding general and a deputy commanding general, three aides-de-camp, and two secretary-stenographers. The commanding general, assisted by his deputy, commands and coordinates the activities of the engineer command and its multiple assigned or attached units. He may perform any or all of the duties listed for the engineer in FM 101-5. The information officer, the inspector general, and the staff judge advocate are on the commanding

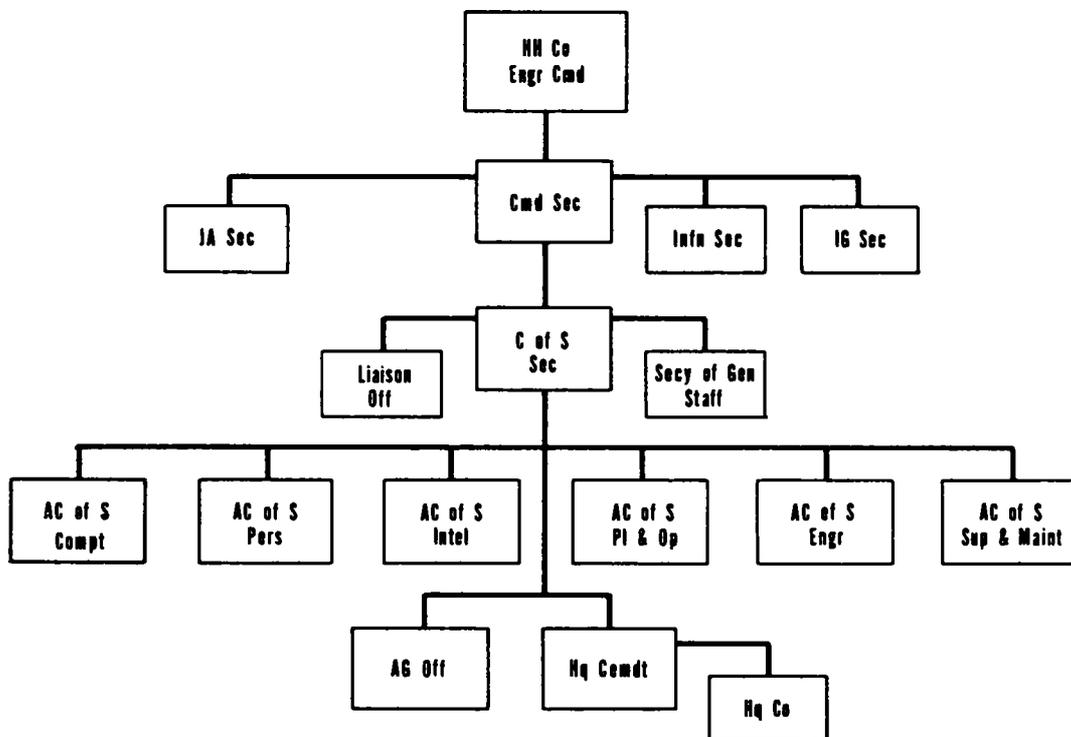


Figure 3-1. Organization chart, headquarters and headquarters company, engineer command.

general's personal staff and their sections perform the functions described below.

a. Information Section. The information section consists of an information officer, three enlisted assistants, and a clerk-typist. The information officer—

- (1) Advises the commander and staff on all aspects of troop information, public information, and command relations with the public.
- (2) Coordinates and supervises all public and troop information functions within the command to include information planning, dissemination of troop information, and preparation of press releases and other information media.
- (3) Disseminates information pertaining to the command to appropriate information media in accordance with established command and security policies.
- (4) Plans positive and continuing public relations programs to gain and maintain public understanding, goodwill, and support.
- (5) Maintains liaison with, receives, escorts, and controls certain activities of civilian and military information media representatives.
- (6) Prepares the public information and troop information portions of SOP's and operating plans and orders.

b. Inspector General Section. The inspector general section consists of the IG, his assistant, and two enlisted assistants. The inspector general is responsible for the functions outlined in FM 101-5. Additionally, the inspector general and the other personnel in his section provide the nucleus of the command inspection teams.

c. Judge Advocate Section. The judge advocate section consists of the staff judge advocate, deputy, three officer assistants, one warrant officer, and four enlisted assistants, including a clerk-typist. The staff judge advocate performs those functions indicated in FM 101-5. Included in the staff judge advocate's functions are the following:

- (1) Administration of military justice.
- (2) Furnishing legal advice and assistance

to military and other authorized personnel of the command concerning personal legal problems of a civil nature.

- (3) Administrating claims including certification for payment when appropriate.
- (4) Providing legal opinions on international law matters.
- (5) Examining procurement contracts and furnishing advice in connection therewith.
- (6) Furnishing advice and assistance to the engineer command on legal implications pertaining to real estate transactions.

3-7. Chief of Staff

The chief of staff is the coordinator of the general and special staff groups. He is also a planner and supervisor. He directs staff activities for the commander to insure coordinated action and to free the commander from routine details, and performs all or part of the duties listed for this position in FM 101-5. Included in this section is the secretary of the general staff and a liaison officer. The secretary of the general staff provides executive assistance to the chief of staff and performs the other duties listed for this position in FM 101-5. The liaison officer fulfills the chief of staff's responsibility to maintain liaison and continuity of information in the interchange of information and to promote coordination of effort between the engineer command and TASCOC.

3-8. Assistant Chief of Staff, Comptroller (ACofS, COMPT)

The assistant chief of staff, comptroller, serves as the principal staff officer to the commander with respect to management engineering, reviewing internal controls, controlling reports, programing, budgeting, and progress and statistical reporting and analysis; providing advice and assistance and, with appropriate delegation of authority, acting for the commander within his area of responsibility; and exercising staff responsibility over development and utilization of ADPS. For a detailed discussion of the duties of the ACofS, comptroller, see FM 101-5.

3-9. Assistant Chief of Staff, Personnel (ACofS, PERS)

The assistant chief of staff, personnel, is the principal staff assistant to the chief of staff in matters pertaining to the management of personnel, as individuals, while under military control, both friendly and enemy, military and civilian. The ACofS, personnel, supervises the overall operation of the personnel management and services function and recommends assignment of personnel based upon command requirements. He is also responsible for manpower management; the development and maintenance of morale; the maintenance of discipline, law, and order; headquarters management; and for miscellaneous matters not assigned specifically to another general staff officer. Additionally, the chaplain is assigned to the office of the ACofS, personnel, who thus has staff responsibility for the chaplain and his functions. For additional details on the ACofS, personnel, see FM 101-5.

3-10. Assistant Chief of Staff, Intelligence (ACofS, INTEL)

The assistant chief of staff, intelligence, is the principal staff assistant to the chief of staff in matters pertaining to intelligence and counterintelligence, and mapping and topography. His staff activity supervises the production and dissemination of intelligence, directs the counterintelligence effort and contributes intelligence data to all matters having an intelligence aspect. In the engineer command, the ACofS, intelligence, is also responsible for the theater map program and the technical supervision of map compilation; surveying and geodetic activities including supervision, collection, maintenance, and dissemination of survey control data; supervision and coordination of map reproduction, including evaluation of reproduction facilities and the planning for the employment of such facilities in the map reproduction program; and the supervision of the topographic and map supply program to include distribution through the operation of map depots and map supply points throughout the command. For additional details on the ACofS, intelligence, (G2), see FM 101-5.

3-11. Assistant Chief of Staff, Plans and Operations (ACofS, PLANS-OPERATIONS)

The assistant chief of staff, plans and operations, is responsible for the preparation of current and long range plans, procedures, policies, and programs pertaining to the operations and functions of the engineer command. He determines requirements for the distribution of engineer troops in the COMMZ; recommends the initial assignments of units to the TASCOM commander; and studies the adequacy of engineer units and equipment for current and future operations. He assists the assistant chief of staff, services and engineering, TASCOM, in developing the engineer troop bases. He is also responsible for the development of plans for the employment of engineer units for any required area damage control missions. He prepares recommendations for new or revised engineer unit TOE; develops logistical data on operational capabilities of engineer units and equipment; prepares engineer operational reports; prepares and distributes special engineer training literature and training aids; maintains liaison with higher echelons and with allied forces on matters pertaining to engineer training and engineer schools; formulates policies for engineer schools; inspects status of unit training; keeps data on strength, composition, assignment, and station of all engineer units in the theater; and maintains contact with allied forces and other sources on new techniques and developments.

3-12. Assistant Chief of Staff, Engineering (ACofS, ENGINEERING)

The assistant chief of staff, engineering, is responsible for those functions pertaining to engineering design and construction within the theater. These functions include design of such installations and facilities as ports; routes of communication; air landing facilities, pipelines and bulk POL storage areas; building complexes such as cantonments, warehouses, and prisoner of war inclosures; railroads; and other vertical and horizontal construction required in a theater of operations. Additionally, he is responsible for the design of all utilities required for these installations and facilities. He also aids the assistant chief of staff, services and engineering, TASCOM, in the formulation

of theater construction plans, standards, and priorities. He provides staff supervision of construction planning and construction operations of subordinate engineer units. To assist him in the accomplishment of these functions he has a staff of professional engineers who are specialists in the areas of civil, electrical, soils, pipeline, port construction, railway, public works and utilities engineering. Also included in his staff is a real estate officer who develops real estate plans and requirements in conjunction with the ACofS, services, TASCOM.

3-13. Assistant Chief of Staff, Supply-Maintenance (ACofS, SUP-MAINT)

The assistant chief of staff, supply-maintenance, supervises and coordinates activities pertaining mainly to class IV stocks and equipment required to support construction projects. He has a staff of officer and enlisted personnel to assist him. His section works closely with the engineering section to assure that construction supplies and equipment are available when required for construction projects. The assistant chief of staff for supply and maintenance also formulates plans, policies, and directives pertaining to logistics and maintenance. The maintenance officer of this section provides the technical knowledge required to formulate maintenance plans and directives. In addition, when required, he coordinates repair activities between the assigned units and repair facilities. The supply officer and projects materiel officer of this section, in coordination with the engineering section, plan and schedule the flow of materiel for major construction projects. In addition, they enter the supply chain, when required, to solve organizational supply problems. Enlisted personnel of this section provide enlisted assistance within the areas of procurement, supply, and maintenance. For additional details on the assistant chief of staff, supply-maintenance (G4), see FM 101-5.

3-14. Adjutant General's Office

a. The adjutant general (AG) is on the special staff and operates under the staff supervision of the ACofS, personnel. The adjutant general's office consists of three officers and seventeen enlisted men. The adjutant general performs the duties outlined in FM 101-5 for his position which include—

- (1) Provision of internal administrative services for the headquarters, including message center services, reproduction facilities, central classified document control and repository, and library service for the headquarters correspondence and publications.
- (2) Coordination with the servicing army post office for receipt and dispatch of headquarters official mail.
- (3) Reproduction of administrative orders, bulletins, letters, and other administrative publications.
- (4) Messenger service between elements of the headquarters and higher and adjacent headquarters.

b. For additional details on the adjutant general see FM 101-5.

3-15. Headquarters Commandant Section

This section consists of the headquarters commandant, an administrative NCO, and a typist. The headquarters commandant is responsible for the supervision of security, training, motor and air transport and other support activities required by the headquarters.

3-16. Headquarters Company

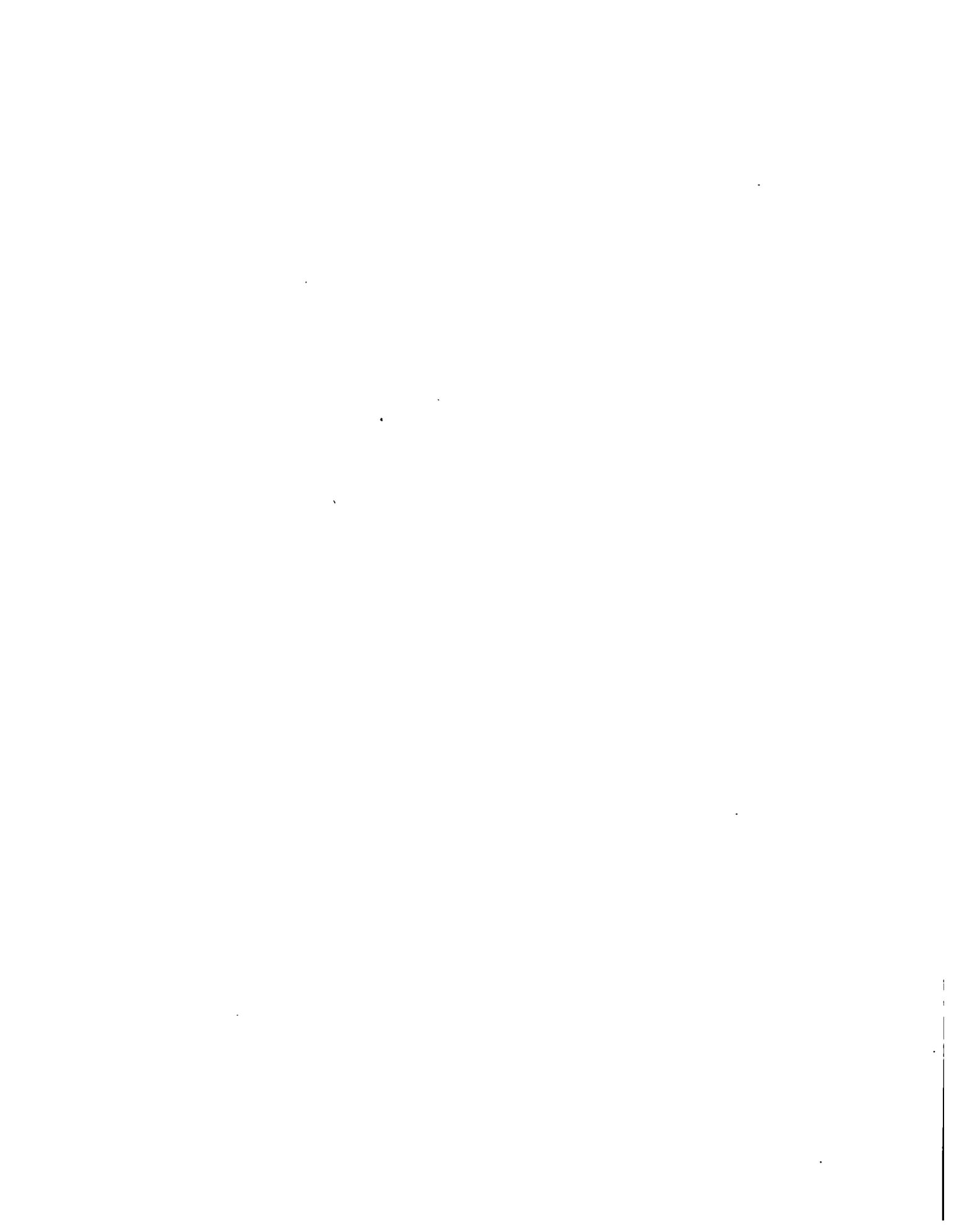
Headquarters company consists of the company commander and the enlisted personnel required to support the internal operations of headquarters by providing company personnel administration, supply, mess, and motor transport and maintenance. Two enlisted aides, on the personal staff of the general officers, are also included in the headquarters company.

3-17. Equipment

The equipment of headquarters and headquarters company, engineer command, is limited to individual equipment and that needed for housekeeping; ground transportation; organization maintenance equipment for organic equipment; and engineer drafting, survey, control, and testing equipment. Armament is restricted to rifles and pistols.

3-18. Mobility and Category

Headquarters and headquarters company, engineer command, is approximately 10 percent mobile and is 100 percent air transportable in medium cargo aircraft.



CHAPTER 4

ENGINEER UNITS IN THE COMMZ

Section I. GENERAL

4-1. General

a. Engineer construction units in a theater of operations are assigned to, and are under the command and control of the engineer command, TASCOM. These units are habitually located in the COMMZ and provide construction support to units in the COMMZ. On occasions, subordinate units of the engineer command may operate in the combat zone on a task- or mission-type basis to accomplish specialized construction tasks required in the combat zone or to accomplish interzonal projects (such as pipelines), or to support units of the air force operating in the combat zone.

b. The engineer base topographic battalion is also assigned to, and is under the command and control of the engineer command, TASCOM. The engineer base topographic battalion provides general topographic support to the theater army and direct topographic support to the units in the COMMZ. This unit and its subordinate elements are habitually located in the COMMZ. On occasion, however, elements of the engineer base topographic battalion may also operate in the combat zone in support of the field army.

4-2. Composition of the Engineer Command

a. The engineer command is a flexible or-

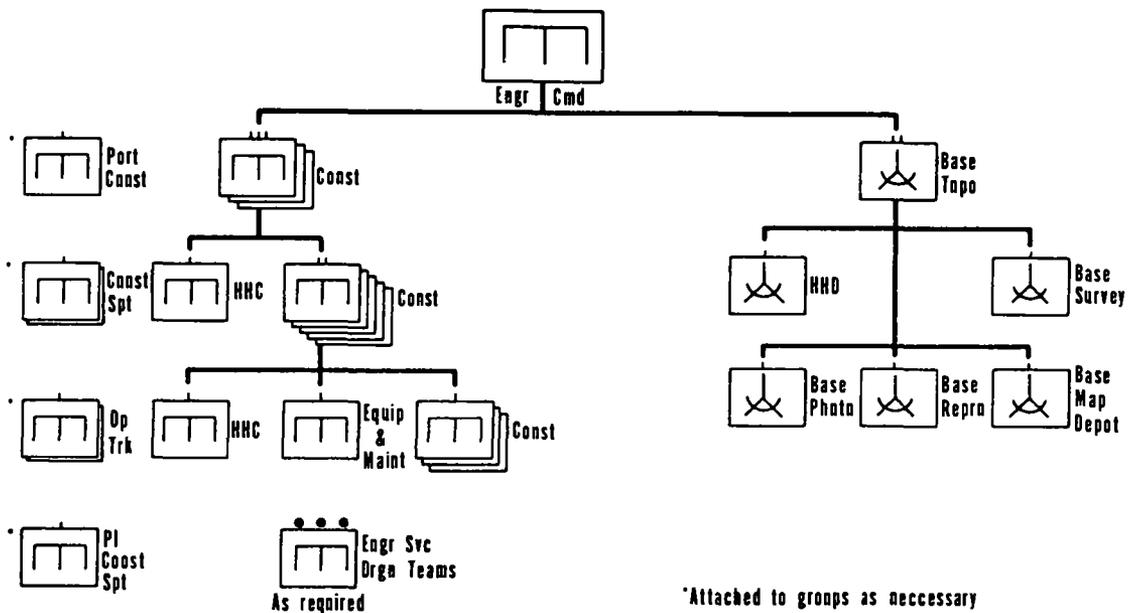


Figure 4-1. Organization chart, engineer command, TASCOM, eight division force.

ganization which may be tailored to fit the operational environment of a theater of operations. The engineer command is normally employed when a TASCOM is required to support a force consisting of eight or more divisions.

b. When a TASCOM is organized to support a force of eight divisions, its subordinate engineer command normally would be composed of (fig. 4-1)—

- (1) Three engineer construction groups.
- (2) Fourteen engineer construction battalions.
- (3) One engineer port construction company.
- (4) Two engineer construction support companies.
- (5) Two engineer dump truck companies.

- (6) One engineer pipeline construction support company.
- (7) One engineer base topographic battalion.
- (8) Construction and topographic teams of the TOE 5-500 series (as required).

c. When a TASCOM is organized to support a force of twelve divisions, its subordinate engineer command normally would be composed of (fig. 4-2)—

- (1) Four engineer construction groups.
- (2) Twenty engineer construction battalions.
- (3) One engineer port construction company.
- (4) Five engineer construction support companies.
- (5) Five engineer dump truck companies.

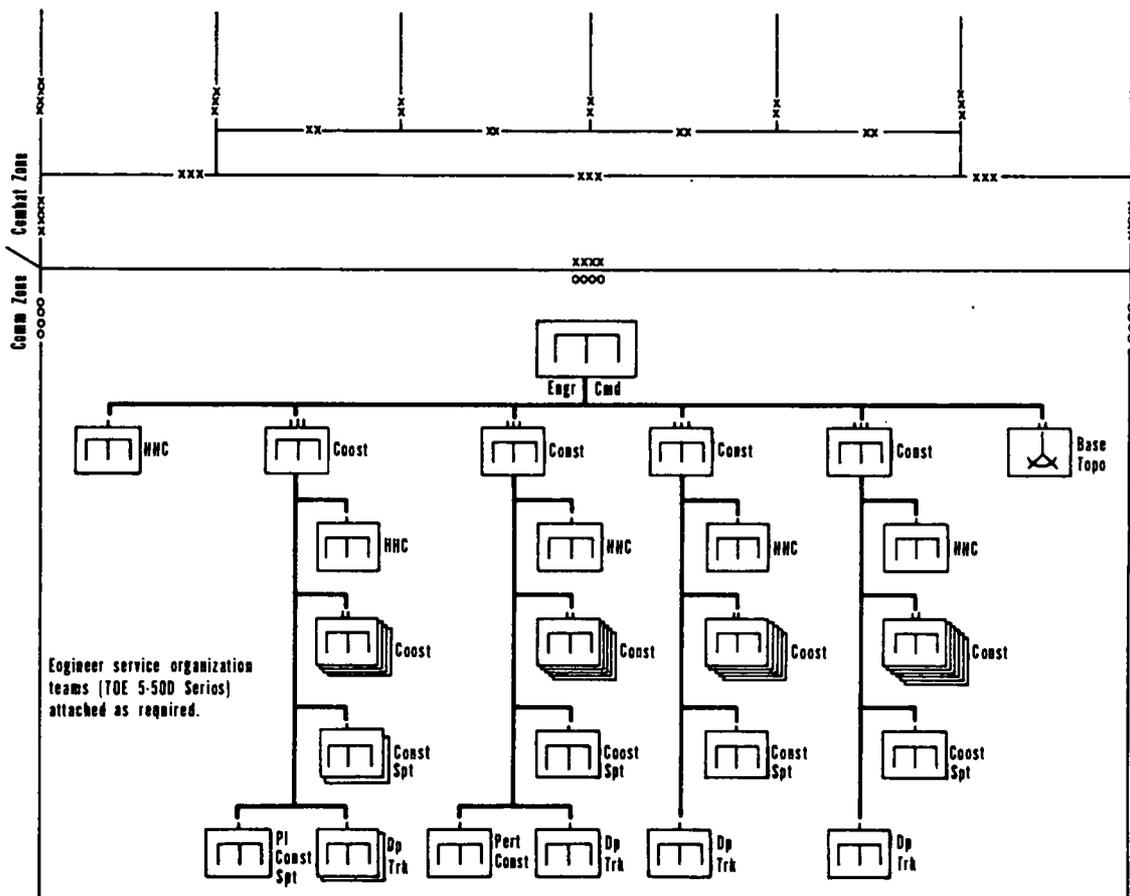


Figure 4-2. Organization chart, engineer command, TASCOM, twelve division force.

- (6) One engineer pipeline construction support company.
- (7) One engineer base topographic battalion.
- (8) Construction and topographic teams of the TOE 5-500 series (as required).

d. For a force in excess of twelve divisions, or where the complexity of the construction mission or the geographic conformation dictate, the engineer command may be composed of an engineer base topographic battalion and from two to three engineer construction brigades, with each brigade commanding and controlling two to four engineer construction groups, and selected teams of the TOE 5-500 series. To provide for the increase in the workload, the headquarters of the engineer command may be

augmented by the addition of teams of the TOE 500 series.

4-3. Types of Engineer Organizations and Units in the COMMZ

a. Engineer organizations and units habitually located in the COMMZ may be classified as follows:

- (1) Engineer command organizations.
- (2) Engineer construction units.
- (3) Engineer construction-support units.
- (4) Engineer topographic units.
- (5) Engineer teams (TOE 5-500 series).

b. These organizations and units are described briefly in paragraphs 4-4 through 4-20. For a detailed discussion of these organizations and units see FM 5-1, FM 5-146, and FM 5-162.

Section II. ENGINEER COMMAND ORGANIZATIONS

4-4. General

The volume of military construction in a theater of operation requires numerous engineer construction and construction-support units, working in conjunction with other units, teams, and civilian labor. Coordination and supervision of these elements are best accomplished by an engineer command organization. There are three such organizations:

- a.* The engineer command.
- b.* The engineer construction brigade.
- c.* The engineer construction group.

4-5. The Engineer Command

The engineer command is the largest engineer command organization located in a theater of operations. The mission, capabilities, and organization of the engineer command are discussed in the previous chapter.

4-6. The Engineer Construction Brigade

a. The engineer construction brigade is the next largest engineer command organization in a theater of operations. It is composed of a headquarters and headquarters company (TOE 5-111) to which two to four engineer construction groups and other units, as required, are attached for command and control purposes.

b. The mission of the engineer construction brigade is to command the separate units and coordinate the engineer construction activities within the appropriate command.

c. It is normally assigned to the TASCOM with further reassignment or attachment to an engineer command.

d. It provides command and control for an engineer force of from 9,000 to 15,000 troops engaged in theater construction and topographic activities.

4-7. The Engineer Construction Group

a. The engineer construction group is a command organization similar to the brigade but with lesser capabilities. It has a headquarters and headquarters company (TOE 5-112) to which construction and construction-support units are assigned or attached in the number and type required by the group mission.

b. The mission of the engineer construction group is to command the engineer construction battalions and other units assigned or attached to it; to perform engineer planning; and to coordinate the operations of its subordinate units engaged in engineer construction activities.

c. It is normally assigned to a TASCOM

with further reassignment or attachment to an engineer command or an engineer construction brigade.

d. It provides command and control for an engineer force consisting of from 3,000 to 5,000 troops.

Section III. ENGINEER CONSTRUCTION UNITS

4-8. General

Engineer construction units are those units which engage in actual construction operations, independently or in conjunction with each other. There are two such units, the engineer construction battalion and the engineer port construction company.

4-9. The Engineer Construction Battalion

a. The engineer construction battalion (TOE 5-115), is a fixed organization, and consists of a headquarters and headquarters company, an engineer equipment and maintenance company, and three identical construction companies. It contains varied types of construction equipment and is capable of performing all construction commonly required by the Army, Air Force, or other U.S. and allied forces in a theater of operations. It is capable of independent operation on general construction tasks.

b. The mission of the engineer construction battalion is to construct and rehabilitate roads, airfields, pipeline systems, structures and utilities for the Army and Air Force in the com-

munications zone and rear areas of the combat zone; and to assist in emergency recovery operations.

c. It is normally assigned or attached to an engineer construction group.

4-10. The Engineer Port Construction Company

a. The engineer port construction company (TOE 5-129) is a separate company. It is composed of a company headquarters, two construction platoons, and a service platoon. It contains specialized engineer equipment and personnel required for port construction operations.

b. The mission of the engineer port construction company is to perform special engineering work involved in providing port, beach, and POL facilities in support of military operations.

c. It is normally assigned or attached to an engineer construction group. On occasion it may be assigned to a field army and assigned or attached to an engineer combat brigade when working on an inland waterway port.

Section IV. ENGINEER CONSTRUCTION-SUPPORT UNITS

4-11. Engineer Construction-Support Units

Engineer construction-support units are those units which augment the capabilities of the construction units in their construction efforts by supplying specialized equipment and operators. Included in this category of engineer units are the engineer construction support company, the engineer pipeline construction support company, and the engineer dump truck company.

4-12. The Engineer Construction Support Company

a. The engineer construction support company (TOE 5-114) is a separate company. It is composed of a company headquarters, an equipment platoon, a maintenance platoon, an asphalt platoon, and a quarrying platoon. It

contains heavy construction equipment and specialized engineer personnel. It maintains and operates this equipment in support of the construction battalion and other units engaged in construction operations.

b. The mission of the engineer construction support company is to support engineer construction efforts with specialized equipment and operator personnel.

c. It is normally assigned or attached to an engineer construction group.

4-13. The Engineer Pipeline Construction Support Company

a. The engineer pipeline construction support company (TOE 5-177) is a separate company. It consists of a company headquarters,

a maintenance and support section, and three pipeline construction support platoons.

b. The mission of the engineer pipeline construction support company is to provide technical personnel and specialized equipment to assist construction units in the construction and rehabilitation of pipeline systems and to assist using units to accomplish specialized repairs.

c. It is normally assigned or attached to an engineer group to support engineer construction battalions in constructing or rehabilitating pipelines or POL storage and distribution facilities.

4-14. The Engineer Dump Truck Company

a. The engineer dump truck company (TOE 5-124) is a separate company. It is composed of a company headquarters, a maintenance and service section, and two dump truck platoons.

b. The mission of the engineer dump truck company is to operate dump trucks for the movement of bulk materials in support of other engineer units.

c. It is normally assigned or attached to an engineer construction group to support engineer construction battalions moving large quantities of earth, sand, and other bulk materials for construction operations.

Section V. ENGINEER TOPOGRAPHIC UNITS

4-15. Engineer Topographic Units

Engineer topographic units are assigned to theater army to support the TASCOM, field army, and corps. The topographic unit assigned to theater army to support TASCOM is the engineer base topographic battalion and is discussed briefly below and in detail in FM 5-146. For a discussion of the army topographic battalion which supports the field army and the corps topographic company which supports each corps, see FM 5-146.

4-16. Headquarters and Headquarters Detachment, Engineer Base Topographic Battalion

a. The engineer base topographic battalion is a flexible organization. It has a headquarters and headquarters detachment (TOE 5-346) to which the following units are normally attached for theater topographic operations.

- (1) Engineer base map depot company (para. 4-17).
- (2) Engineer base reproduction company (para. 4-18).
- (3) Engineer base photomapping company (para. 4-19).
- (4) Engineer base survey company (para. 4-20).
- (5) Engineer topographic and intelligence teams (TOE 5-500 series, as required) (sec. VI).

b. The mission of the engineer base topographic battalion is to—

(1) Provide combat support to a theater army by operational planning and technical control of a topographic battalion engaged in topographic, artillery and missile fire control survey, and topographic map compilation and reproduction.

(2) Provide geodetic survey control data, trigonometric lists, map reproductions, and other basic engineer intelligence materials to the field army and corps topographic units.

c. The engineer base topographic battalion is normally assigned to the TASCOM. It is further reassigned or attached to the engineer command, TASCOM.

4-17. Engineer Base Map Depot Company

a. The engineer base map depot company (TOE 5-344) consists of a company headquarters and three storage and distribution platoons. The company is dependent upon other organizations for messing and organizational maintenance for organic vehicles.

b. The mission of the engineer base map depot company is to provide for the receipt, storage, and distribution of maps, geodetic control data, gazetteers, aerial photographs, trig lists, intelligence documents, and related topographic materials.

c. Normally it is assigned or attached to the engineer base topographic battalion. It re-

ceives messing and organizational maintenance support from the battalion.

4-18. Engineer Base Reproduction Company

a. The engineer base reproduction company (TOE 5-347) consists of a company headquarters and two reproduction platoons. Each of the platoons consists of a platoon headquarters, a photo section, a plate and layout section, and a press and finish section. The company is dependent upon other organizations for messing and organizational maintenance for organic vehicles.

b. The mission of the engineer base reproduction company is to reproduce maps, map substitutes, charts, and allied mapping materials such as map indexes, trig lists, gazetteers, and engineer terrain and other engineer intelligence material, as required in support of a theater of operations.

c. Normally it is assigned or attached to the engineer base topographic battalion. It receives messing and organizational maintenance support from the battalion.

4-19. Engineer Base Photomapping Company

a. The engineer base photomapping company (TOE 5-349) consists of a company headquarters and two photomapping platoons. Each of the platoons consists of a platoon headquarters, a control and mosaic section, a laboratory section, a compilation section, and a drafting section. The company is dependent upon other organizations for messing and organizational maintenance for organic vehicles.

b. The mission of the engineer base photomapping company is to—

- (1) Provide combat support for a theater

army by compiling and revising new and existing multicolor maps and map substitutes, and by extending ground control for artillery and missile fire, using photogrammetric means to produce a gridded graph.

- (2) Compile and produce reproducible material for engineer intelligence and terrain studies and to evaluate aerial photography to determine its suitability for mapping purposes.

c. Normally it is assigned or attached to the engineer base topographic battalion. It receives messing and organizational maintenance support from the battalion.

4-20. Engineer Base Survey Company

a. The engineer base survey company (TOE 5-348) consists of a company headquarters, an operations section, and three survey platoons. Each of the platoons consists of a platoon headquarters and three survey sections.

b. The mission of the engineer base survey company is to—

- (1) Accomplish plane or geodetic surveys to provide Class II, 1st Order, topographic data, artillery and missile fire control, and to make necessary computations to establish, recover, or adjust existing geodetic control to a given control system for use in new or revised mapping projects and artillery and missile fire control nets.
- (2) Provide geodetic survey control and other basic data to the field army and corps topographic units.

c. Normally it is assigned or attached to the engineer base topographic battalion.

Section VI. TEAMS OF THE ENGINEER SERVICE ORGANIZATION (TOE 5-500 SERIES)

4-21. General

TOE 5-500 series provides cellular units of specialized teams of varying sizes, functions, and capabilities. These teams are generally attached to fixed strength units to provide specialized services or to augment the capabilities

of the units to which they are attached. Some of the teams which would be used to augment engineer construction and topographic units are described briefly below. For a complete listing and description of these teams see FM 5-1.

4-22. Administrative and Headquarters Teams, TOE 5-500

a. Team AB, Platoon Headquarters, Separate.

- (1) *Capability.* Provides command and administrative control of two or more teams not part of a company.
- (2) *Basis of allocation.* One per unit comprising 40 to 60 individuals, which operates separately, and to which no officer is organically assigned.
- (3) *Strength.* 1 Off 1 NCO 2 EM
4 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

b. Team AC, Company Headquarters.

- (1) *Capability.* Provides command and administrative control of two or more service platoons or equivalent composition.
- (2) *Basis of allocation.* One per unit comprising two or more platoons composed of teams with an aggregate strength of not less than 120 individuals.
- (3) *Strength.* 2 Off 2 NCO 4 EM
8 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

4-23. Equipment Operating Teams, TOE 5-520

a. Team GA, Forestry.

- (1) *Capability.* Provides personnel and equipment necessary to conduct logging and sawmill operations for the production of rough timber and timber piling. Capable of producing 10,000 to 15,000 board feet of rough lumber and timber piling per day.
- (2) *Basis of allocation.* Normally attached to a supply and service battalion of a general support group, to an engineer construction group, or to support independent large scale operations as required.
- (3) *Strength.* 1 Off 3 NCO 40 EM
44 Agg
- (4) *Category.* II

(5) *Mobility.* 100 percent.

b. Team GB, Well Drilling.

- (1) *Capability.* Provides personnel and equipment for drilling and developing water wells; installs casings, screens, and pumps, and develops well to supply water to units or stations at well head. May drill large blast holes for quarrying or to create obstacles. May be issued either percussion or rotary drill; the percussion drill is simple and slow; the rotary drill is more complicated and drills from 20 to more than 100 times as fast.
- (2) *Basis of allocation.* Normally attached to an engineer construction unit to provide additional support for drilling operations.
- (3) *Strength.* 2 EM 2 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

c. Team GC, Water Purification.

- (1) *Capability.* Provides personnel and equipment for purifying up to 3,000 gallons of water per hour, and storage facilities for 9,000 gallons.
- (2) *Basis of allocation.* Normally attached to an engineer unit with a water supply requirement.
- (3) *Strength.* 1 NCO 3 EM 4 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

d. Team GE, Water Transport.

- (1) *Capability.* Provides personnel and equipment for short hauls of from 10 to 15 miles to transport water in bulk to dry water points; 5,000 gallons may be transported at one trip.
- (2) *Basis of allocation.* Normally attached to an engineer unit with a water hauling requirement.
- (3) *Strength.* 8 EM 8 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

e. Team GH, Quarrying and Rock Processing.

- (1) *Capability.* Provides qualified personnel and equipment to operate the 225 ton-per-hour crushing, screening, and

washing plant and issue product to users. Provides personnel and equipment for drilling and blasting operations required to produce raw stone for the crushing, screening, and washing plant.

- (2) *Basis of allocation.* To an engineer construction group as required.
- (3) *Strength.* 1 Off 3 NCO 50 EM 54 Agg
- (4) *Category.* III
- (5) *Mobility.* 3 percent.

f. Team GI, Engineer Concrete Mixing and Paving.

- (1) *Capability.* Provides qualified personnel and equipment for the production and placement of concrete and for organizational maintenance of organic construction equipment.
- (2) *Basis of allocation.* To an engineer construction group as required.
- (3) *Strength.* 1 Off 2 NCO 25 EM 28 Agg
- (4) *Category.* III
- (5) *Mobility.* 30 percent.

4-24. Construction, Utilities, and Electrical Power Teams, TOE 5-530

a. Team HA, Diving.

- (1) *Capability.* Provides personnel with equipment to accomplish shallow or deep water diving in support of port construction and rehabilitation and construction of underwater pipelines.
- (2) *Basis of allocation.* Normally one per engineer group when engaged in major port or underwater pipeline projects.
- (3) *Strength.* 1 Off 8 EM 9 Agg
- (4) *Category.* III
- (5) *Mobility.* 40 percent.

b. Team HB, Welding.

- (1) *Capability.* Provides qualified welders and equipment for support of units where welding requirements exist which are beyond organic capabilities.
- (2) *Basis of allocation.* Normally to an engineer construction brigade, construction group, or functionalized GS group.

(3) *Strength.* 4 EM 4 Agg

(4) *Category.* III

(5) *Mobility.* 100 percent.

c. Team HE, Powerline.

- (1) *Capability.* Provides qualified personnel with equipment to install high voltage electric powerlines, and to maintain approximately 60 miles of high voltage electric powerlines.
- (2) *Basis of allocation.* Normally one per two electric power generating plants of 300 to 2,500 KW capacity.
- (3) *Strength.* 1 Off 1 NCO 12 EM 14 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent.

d. Team HG, Pipeline Design.

- (1) *Capability.* Provides qualified personnel to assist in the design and supervision of specialized pipeline construction projects. Assists in site reconnaissance and selection of major tank farm locations, pipeline routes, and pertinent structures, including off-vessel discharging and loading facilities and fixed dispensing equipment; assists in design and layout, preparation of construction specifications, selection of material and equipment, and formulation of a construction plan, and assists in the management and supervision of construction operations.
- (2) *Basis of allocation.* Normally to an engineer construction brigade on an as-required basis.
- (3) *Strength.* 2 Off 1 NCO 3 EM 6 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent.

e. Team HI, Water Distillation.

- (1) *Capability.* Provides qualified personnel with equipment to provide potable water by distillation, using sea or brackish water as a raw water source. The team has the capability of producing 6,000 gallons of potable distilled water per day by operating on a 2-shift basis.

- (2) *Basis of allocation.* May be attached to any sized unit or assigned a civic action mission on an as-required basis.
- (3) *Strength.* 1 NCO 4 EM 5 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent.

4-25. Topographic and Intelligence Teams, TOE 5-540

a. Team IA, Survey.

- (1) *Capability.* Provides qualified personnel and equipment to perform second, third, and fourth order topographic and artillery fire control support surveys. Tower and FADAC computer support is provided by the supported unit.
- (2) *Basis of allocation.* Normally assigned to a topographic unit.
- (3) *Strength.* 1 WO 2 NCO 12 EM
15 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent.

b. Team IB, Photomapping Platoon.

- (1) *Capability.* Provides qualified personnel with equipment for the preparation and revision of topographic planimetric and special maps, photomaps, mosaics, and other engineer intelligence data, to include final drafting of map manuscripts, color separation drawings and scribed manuscripts, grids and marginal data. Requires water supply support from supported unit.
- (2) *Basis of allocation.* May be attached to an engineer topographic battalion, when mapping operations require additional effort.
- (3) *Strength.* 1 Off 1 WO 4 NCO
38 EM 44 Agg
- (4) *Category.* II
- (5) *Mobility.* 80 percent.

c. Team IC, Map Reproduction Platoon.

- (1) *Capability.* Provides qualified personnel and equipment for the production of maps and other engineer intelligence material from original manuscripts.

- (2) *Basis of allocation.* Normally attached to an engineer topographic unit when mapping operations require additional effort.
- (3) *Strength.* 1 Off 1 WO 8 NCO
43 EM 53 Agg
- (4) *Category.* II
- (5) *Mobility.* 80 percent.

d. Team ID, Map Distribution Platoon.

- (1) *Capability.* Provides qualified personnel and equipment for the receipt, storage, and distribution of maps and other engineer intelligence material for a base, army, or corps. This platoon may operate a depot.
- (2) *Basis of allocation.* Normally one to three per topographic battalion to operate forward depots.
- (3) *Strength.* 1 Off 3 NCO 34 EM
38 Agg
- (4) *Category.* II
- (5) *Mobility.* 80 percent.

e. Team IE, Geodetic Survey.

- (1) *Capability.* Provides qualified personnel with equipment to accomplish, instruct in, or supervise first order astronomic observation surveys and computations in a theater of operations survey operation, or in the field army for guided missile and artillery fire control support.
- (2) *Basis of allocation.* Normally one per topographic battalion.
- (3) *Strength.* 3 Off 1 WO 1 NCO
15 EM 20 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

f. Team IF, Terrain.

- (1) *Capability.* Provides qualified personnel with equipment for the collection, evaluation, and dissemination of terrain data, the production of military terrain studies, and for consultant services in military geology and hydrology.
- (2) *Basis of allocation.* Normally one per field army.
- (3) *Strength.* 6 Off 1 NCO 6 EM
13 Agg
- (4) *Category.* II
- (5) *Mobility.* 100 percent.

4-26. Dredge Teams, TOE 5-550

a. Team JA, Dredge Cutterhead, Pipeline 12"-16".

- (1) *Capability.* Provides for the operation and maintenance of one diesel powered 12"-16" pipeline, cutterhead type engineer dredge.
- (2) *Basis of allocation.* Normally to an engineer brigade or logistical command.
- (3) *Strength.* 5 Off 6 WO 2 NCO
29 EM 42 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent afloat if dredge is self-propelled or provided with a towing vessel.

b. Team JB, Dredge Cutterhead, Pipeline 18"-24".

- (1) *Capability.* Provides for the operation and maintenance of one diesel-electric or steam powered 18"-24" pipeline cutterhead type engineer dredge.
- (2) *Basis of allocation.* Normally to an engineer brigade or logistical command.
- (3) *Strength.* 5 Off 7 WO 3 NCO
52 EM 67 Agg
- (4) *Category.* III
- (5) *Mobility.* 100 percent afloat if dredge is self-propelled or provided with a towing vessel.

c. Team JC, Dredge Seagoing Hopper, 500-900 Cu Yd (Dsl).

- (1) *Capability.* Provides for operation and maintenance of one engineer dredge,

seagoing hopper, diesel-electric powered, 500-900 cubic yard.

- (2) *Basis of allocation.* Normally to an engineer brigade or logistical command.

(3) *Strength.* 4 Off 9 WO 9 NCO
42 EM 64 Agg

(4) *Category.* III

(5) *Mobility.* 100 percent afloat.

d. Team JD, Dredge Seagoing Hopper, 1600-3500 Cu Yd (Dsl or Steam).

(1) *Capability.* Provides for operation and maintenance of one engineer dredge, seagoing hopper, diesel-electric or steam powered, 1600-3500 cubic yard.

(2) *Basis of allocation.* Normally to an engineer brigade or logistical command.

(3) *Strength.* 7 Off 12 WO 12 NCO
58 EM 89 Agg

(4) *Category.* III

(5) *Mobility.* 100 percent afloat.

e. Team JE, Dredge Seagoing Hopper, 6000-8100 Cu Yd (Steam).

(1) *Capability.* Provides for operation and maintenance of one engineer dredge, seagoing hopper, steam powered, 6000-8100 cubic yard.

(2) *Basis of allocation.* Normally to an engineer brigade or logistical command.

(3) *Strength.* 10 Off 9 WO 12 NCO
67 EM 98 Agg

(4) *Category.* III

(5) *Mobility.* 100 percent afloat.

CHAPTER 5

ENGINEER OPERATIONS IN THE COMMZ

Section I. GENERAL

5-1. General

a. Engineer construction and topographic support to the TASCOM is characterized by centralized control by the engineer command and decentralized operations performed by the units of the engineer command to conform to the dispersed location of requirements.

b. Engineer construction is accomplished throughout the COMMZ in general support of the five TASCOM mission commands, the area support command, and other Army, Air Force, and theater elements in the TASCOM area of responsibility. The units of the engineer command may also be employed in the combat zone on a task- or mission-type basis to accomplish the more specialized construction tasks (beyond the capabilities of the nondivisional engineer combat units) or those of an interzonal construction nature (such as pipelines).

c. The theater commander exercises centralized control of all topographic support for the theater with decentralized operations accomplished by the engineer base topographic battalion in the COMMZ and by the army engineer topographic battalion and the corps engineer topographic company in the combat zone.

5-2. Engineer Repair and Utilities Support

Although the initial construction of utilities systems is a responsibility of the engineer command, engineer repair and utilities support, including procurement of utilities services from local sources, is a responsibility of the area support command, TASCOM. Engineer repair and utilities support is accomplished by construction, utilities, and electrical power teams of the TOE 5-500 series which are assigned to, and under the operational control of the area support groups of the area support command, TASCOM.

Section II. CONSTRUCTION

5-3. Principles Governing Military Construction

a. Construction should be accomplished within the allotted time, utilizing a minimum of materials, equipment, and skilled labor, with the objective of conserving our own natural resources and supplies.

b. Maximum use should be made of installations and facilities described in TM 5-301, TM 5-302, and TM 5-303 of the engineer functional components system (see also, para 5-4), and the signal corps coded facility system when they are applicable. These systems provide necessary drawings, plans, and bills of materi-

als for a number of the most common and repetitive-type construction tasks. They are appropriately coded for use with the automatic data processing system (ADPS) and modernized supply procedures (see also, app. B). Use of the systems facilitates construction planning, programming, and review; and the procurement, distribution, and control of construction material.

c. If new design is necessary it should, whenever possible, be simple and flexible to provide for multipurpose use and future expansion of completed work.

d. Using services must express their antici-

pated needs well in advance of the actual needs to permit timely procurement of the necessary construction materials and supplies.

e. The permanency of any structure erected should be only that consistent with military necessity.

f. Existing facilities must be used before initiating new construction.

g. Only the minimum facilities consistent with military necessity can be provided. In view of the extremely heavy demands on engineer effort and the tonnages involved in construction, economy of construction is most important.

h. Generally, a large project is completed in units to allow the completed parts to be used while construction continues. Cases will arise, however, particularly in the combat zone, in which time is the vital factor. In such cases, economy of manpower is secondary and the project should be completed in the fastest and most practical way. Production-line methods may be employed in some instances.

i. Where practical, sites affording either cover or concealment or both should be selected in the construction of essential facilities. Additionally, maximum use should be made of all available local resources such as timber and gravel.

j. Facility planning should be of such a nature as to avoid creating lucrative nuclear targets.

k. Vague delineation of a project inevitably leads to confusion and friction. The engineer responsible should strive for an explicit understanding with the using agency, and, in particular, should point out borderline features not covered by the project plans.

l. Camouflage, where considered necessary, should be planned during initial site selection and construction.

5-4. Engineer Functional Components System (EFCS)

The engineer functional components system provides standards of construction, phases, standard plans, bills of materials, equipment, and unit augmentations, and general guidelines for the construction effort required for given facilities. It thus relieves the constructing units

of much of the task of preparing drawings, specifications, and bills of materials. In addition, the system is so designed as to be adaptable to automatic data processing in determining the overall requirements for the engineer support of military operations in any given theater of operations. This includes requisitioning, shipping, and maintaining balanced stocks of material, equipment, and units. The system is developed in three technical manuals, TM 5-301, TM 5-302, and TM 5-303.

a. *TM 5-301, Staff Tables of Engineer Functional Components System (EFCS)*. This manual explains the concept and use of the system and contains tables of the installations, facilities, and equipment in the system. It is of primary interest to logistics planners but all engineer officers should become familiar with it. Separate coding systems for installations, facilities, and equipment are established and explained. This coding permits exploitation of electronic data processing machines and allows for logical expansion and changes in the system. Note that "installation," "facility," and "equipment" have specific meanings when used in the EFCS—meanings different from their usual connotation.

- (1) An installation is a balanced grouping of facilities to be located in the same vicinity, to serve a particular function, such as a 300-bed hospital, a 1,000-man troop camp, an army airfield and heliport to accommodate 25 aircraft, or a 600,000-barrel POL tank farm.
- (2) A facility is a grouping of items and/or sets consisting primarily of construction material in the necessary quantities to provide a specified service such as a 20- by 100-foot building, one mile of 2-lane road, or an airfield control tower.
- (3) An equipment is a grouping of items and/or sets, consisting primarily of nonexpendable construction equipment, designed to provide or augment the equipment necessary for the execution of specific types of construction, by specific types of construction units, in a specific world area. For example, equipment is listed for an engi-

neer construction battalion to do railroad construction work in Western Europe.

b. *TM 5-302, Construction in the Theater of Operations.* Of the three manuals that constitute the EFCS, TM 5-302 is the most useful to construction units. It contains site and utility layout drawings; drawings of buildings and other structures; standard and special detail drawings; and simplified bills of materials for many of the structures. The first four digits of a facility code number identify the drawing of that facility as presented in TM 5-302.

c. *TM 5-303, Bills of Materials and Equipment of the EFCS.* This manual contains the complete bill of materials for each facility and the bill of equipment for each equipage in the EFCS. Construction units may use it as a guide for requisitioning. The facility code number identifies the bill of materials for each facility and the equipage code number identifies the bill of equipment for each equipage.

5-5. The Construction Program

Construction, rehabilitation, and major repair of COMMZ facilities is accomplished in accordance with a program or plan promulgated by TASCOM. This program sets priorities, establishes standards, and forms a basis for construction supply action.

a. The mission commands and the area support command, who are the principal Army users of facilities constructed by the engineer command, submit their respective requirements for construction to TASCOM in terms of size, capacity, purpose, general location, and target dates for availability. TASCOM, in turn insures that stated requirements are consistent with operational plans, construction policy, and availability of resources.

b. TASCOM coordinated requirements are directed to the engineer command where plans are prepared grouping facilities to permit efficient installations support, with consideration given to enemy threat and the functional requirements. These preliminary location layouts require close coordination with the primary users, and with the area support command which administers and supports the facilities, before submission to TASCOM for approval.

c. The approved projects, and appropriate

location plans form the basic Army construction program. From this the TASCOM commander prepares final construction directives to the commander of the engineer command.

d. Air Force, Navy, and other services process their requirements through TASCOM in a similar manner, except that project approval authority is normally retained by the theater commander. The TASCOM examines such requirements from the standpoint of resource availability and conflicts with existing priorities. These are resolved and any necessary adjustments to the construction program are made before construction directives are issued to the engineer command.

5-6. Construction Plans

The engineer command prepares and maintains standard construction plans for all theater facilities involving new construction. These are based to the maximum extent on facilities contained in the Engineer Functional Components System to permit computer assisted supply requisitioning and to reduce the requirement for engineer design effort.

a. In many instances standard plans require modification to adapt the facility to the specific location, adjustment to nonstandard use, or to permit substitution of materials. These final adjustments and corollary modifications to supply requisitions are normally accomplished by the engineer construction group or battalion(s) assigned the specific task.

b. In the course of construction, the using unit may desire changes in layout or design of facilities to meet unforeseen requirements, or to adjust to a change in mission scope. If such changes do not involve significant increases in requirements for engineer effort or construction materiel the project commander may have approval authority. Otherwise a change request is sent through channels by the using unit to TASCOM to bring about a modification of the construction directive.

c. Operating installations, under control of the area support command, generate continuing requirements for major modification to existing facilities, addition of new facilities, or rehabilitation of damaged facilities. These requirements constitute additions to the TASCOM construction program, but are handled differently

than the initial requirements estimates which constitute the basic program. Rather than submission directly to TASCOM by a using unit, these follow-on requirements are submitted through the ASCOM commander as installation support requests. This permits ASCOM to screen the requirement against available facilities, and to program for installations support should additional new facilities be required. The ASCOM commander then coordinates the requirement with the engineer command and submits the request for construction support to TASCOM.

5-7. Construction Requirements

The facilities required in the communications zone reflect the combat service support functions to be performed there. These functions remain essentially the same, by type, regardless of the area of operations, and to a certain extent regardless of the type combat force supported. However, the requirements for construction support are materially affected by the state of development in the area of operations, and the climate.

a. In support of a field army in a well developed area the TASCOM area normally contains many existing routes of communications and logistical facilities which are, or can be made, available to the force. Normally lines of communications are maintained by the public works organization of the host nation. The impact of military traffic may affect this capability; however, it is not anticipated that the engineer command will have to assume the entire responsibility for maintenance and

repair of LOC routes. After some repair and improvement existing airfields may be adequate for Air Force operations, including terminal facilities for intertheater airlift. Major engineer effort is allocated to repair, and conversion to military use, of existing ports, storage areas, maintenance facilities, hospitals, and administration and troop facilities. Existing POL facilities often require extension to serve new and existing installations and installations where accelerated operations create requirements exceeding system capacity. In addition new construction may be required where operations do not permit use of existing facilities, or where the capacity of such facilities is exceeded. The engineer command, designed to satisfy these requirements, contains approximately 70 percent of the strength which would be needed should host nation capabilities fail to meet expectations, and in the event local labor could not be obtained.

b. In underdeveloped areas the proportion of engineer effort required for new construction and for maintenance of poorly constructed existing facilities normally rises sharply by comparison to operations in a developed area. The lack of adequate surface lines of communication, lack of airfields and poor location of existing airfields with respect to combat operations, inadequate port facilities, and lack of indigenous construction capability requires that the engineer command must have assigned or attached to it sufficient engineer forces to undertake the major construction support operations involved.

Section III. THEATER TOPOGRAPHIC SUPPORT

5-8. Theater Mapping Program

The engineer command, in accordance with programs provided by theater army, and policies established by TASCOM, is responsible for implementation of the theater mapping program. The function of production, storage, issue, and control of maps and the provision of survey data to using units in the theater is intersectional in practice with corps, army, and base topographic units and intelligence staffs at all echelons coordinating with each other in its accomplishment. In the develop-

ment of this program, consideration is given to the following:

a. Mapping requirements for all units of the command, including types, classes and quantities of maps, aerial cartographic photography required, and requirements of ground control.

b. Existing map coverage and quality.

c. Maps and mapping support available from the zone of interior, including mapping programs concurrently being undertaken by other services, agencies, and allied forces.

d. Number, type, phasing and capability of topographic troop units.

e. Local facilities available for contract.

f. Requirements of special and auxiliary equipment.

g. Requirements and phasing of topographic supplies.

5-9. Map Production Phases

In breaking down the mapping program, operations officers consider the functional organization of topographic units and the normal sequence of map production. These are—

a. The collection, collation, and evaluation of basic mapping data, including the procurement of aerial mapping photography and procurement or establishment of control.

b. The survey phase, including the establishment of horizontal and vertical ground control, and such plane table operations as may be necessary to fill in detail not covered by aerial photographs.

c. The photomapping phase, including the extension of control by photogrammetric methods, the compilation of map manuscripts, the preparation of final color separation and the editing of maps for publication.

d. The map reproduction phase, including reproduction in one or more colors.

e. Map supply and distribution includes distribution scheduling and stockage planning, requirement computation, stock control and records, initial replacement and replenishment issues, storage or regular and reserve stocks, and other miscellaneous or special distribution operations.

5-10. Procedures

a. Theater map requirements by scale and coverage are established by theater headquarters on the basis of operations plans and in consideration of resources. These requirements placed on TASCOM are assigned to the engineer command for action, and further assigned to the engineer base topographic battalion for production, storage, and distribution to field army. In addition, the base topographic battalion provides direct map support to army elements and designated other services in the communications zone.

b. To decrease response time in filling requisitions and to improve use of resources, the base topographic battalion maintains stock control for theater map supplies. Stock data are programed on the ASCOM computer, the use of which is shared by the engineer command and ASCOM. On an interim basis, computer communications between field army topographic units and the base topographic battalion must use the FASCOM Inventory Control Center to the TASCOM Inventory Control Center to the ASCOM ADP enter.

c. Map production in the theater of operations is accomplished principally, from masters provided by U.S. Army Map Service in CONUS. Map reproduction is accomplished by the base and field topographic units through the use of multicolor electrostatic printers. This permits a reduction in stockage of printed maps and thus significantly reduces waste through overproduction.

d. Distribution of maps to TASCOM users is through map supply points established by the base topographic battalion, in the area support group areas of ASCOM. Distribution of bulk map supply to the field army is by throughput shipment to the army topographic battalion.

CHAPTER 6

OTHER FUNCTIONS

6-1. Automatic Data Processing Support

Engineer construction design, scheduling, and supply requisitioning is accomplished by use of the computer shared by the engineer command and ASCOM. While this capability permits more efficient and rapid performance of these functions, the engineer command retains a capability to accomplish the same functions using manual procedures. The principal loss involved in the latter case, is time; however, not to the point that performance becomes unacceptable.

6-2. Rear Area Security/Area Damage Control

Depending upon the threat, the engineer command may be the best organized and equipped of the five major subordinate mission commands of TASCOM to support ASCOM in the rear damage control and protection mission. Units of the engineer command are prepared to respond to the emergency requirements of the rear area operations center of the area support group responsible for their assigned area of operation, in consonance with overall requirements and priorities for engineer support. However, use of engineer construction units for missions not involving construction work should be avoided to permit maximum use of specialized engineer capabilities.

6-3. Engineer Direct Support Maintenance

Engineer construction units move frequently throughout COMMZ and on occasion into the field army service area. This changing concentration of construction equipment creates an imbalance in engineer maintenance require-

ments which often cannot be satisfied by the area oriented direct support maintenance units assigned to ASCOM. To provide the maintenance capability at the time and place required, direct support maintenance elements are retained as organic to the engineer construction battalion and the engineer construction support company. In the case of the engineer pipeline construction support company, the port construction company, and base topographic units, predictable and rather limited areas of operation permit greater reliance upon area support group direct support maintenance. These units retain only that DS maintenance capability necessary for low density items not normally found in other units.

a. Management. Command management of the organic direct support mission is provided by the unit commander under the supervision of the engineer group commander. Maintenance officers at each engineer headquarters provide staff guidance. Computer machine linkage with the theater maintenance management center and the engineer command is available through area support groups.

b. Equipment Float. Since engineer units must remain mobile, the equipment float is held to a minimum.

c. Repair Parts. Organic direct support level maintenance elements requisition repair parts from general support supply and maintenance companies.

d. Overflow Maintenance. Engineer commanders adjust maintenance workload between units when necessary to level peak requirements.

APPENDIX A

REFERENCES

FM 3-1 (TEST)	CBR Combat Service Support, TASTA-70.
FM 5-142-1 (TEST)	Construction Support to FASCOM.
FM 8-16-1 (TEST)	Medical Service, Field Army.
FM 8-17-1 (TEST)	Medical Service, COMMZ.
FM 9-6-1 (TEST)	Ammunition Service.
FM 10-8-1 (TEST)	Airdrop of Supplies and Equipment in Theaters of Operations.
FM 10-67-1 (TEST)	Supply of Petroleum in Theaters of Operations.
FM 12-2-1 (TEST)	AG Functional Support to FASCOM.
FM 14-3-1 (TEST)	Finance Service, TASTA-70.
FM 16-5-1 (TEST)	Chaplain Support, TASTA-70.
FM 19-2-1 (TEST)	Military Police Service, FASCOM.
FM 19-3-1 (TEST)	Military Police Service, TASCOS.
FM 19-45 (TEST)	Rear Area Protection.
FM 27-4 (TEST)	Judge Advocate Support in Theaters of Operations.
FM 29-3-1 (TEST)	Direct Support Supply and Service Operations.
FM 29-6-1 (TEST)	Personnel Command, TASCOS.
FM 29-10-1 (TEST)	The Field Army Supply Management System.
FM 29-11 (TEST)	Cryptologistics Support, TASTA-70.
FM 29-21 (TEST)	Maintenance Support, FASCOM.
FM 29-45-1 (TEST)	General Support Supply and Service Operations in the Field Army.
FM 41-15 (TEST)	Civil Affairs Support, TASTA-70.
FM 54-5-1 (TEST)	Supply and Maintenance Command, TASCOS.
FM 54-6-1 (TEST)	Area Support Command, TASCOS.
FM 54-8 (TEST)	The Administrative Support, Theater Army (TASTA-70).
FM 55-4-1 (TEST)	Transportation Movements in a Theater of Operations.
FM 55-6-1 (TEST)	Transportation Service, TASTA-70.
FM 55-21-1 (TEST)	Transportation Railway Operations.
FM 55-35-1 (TEST)	Motor Transport Operations and Units.
FM 55-46-1 (TEST)	Army Aircraft Transportation Service.
FM 55-50-1 (TEST)	Transportation Amphibious Operations.
FM 55-55-1 (TEST)	Transportation Terminal Operations.

APPENDIX B

AUTOMATIC DATA PROCESSING SYSTEM, ENGINEER COMMAND

B-1. General

This appendix describes the application of current automatic data processing systems (ADPS) to engineer command operations and describes the procedures to be employed during operations where ADPS is not available, damaged, or otherwise inoperable. The current ADPS used by the engineer command in a theater of operations is adaptable to and will be eventually incorporated into the Combat Service Support (ADP) System (CS₂) planned for TASTA-70. Expansion of the current system, to increase operational efficiency of the engineer command, will be included in the CS₂ program.

B-2. Application of ADP Support to Engineer Operations

a. Engineer construction planning and supply data for a theater of operations are contained in the Engineer Functional Components System (EFCS), TM 5-301, TM 5-302, and TM 5-303. (See para 5-4 for a discussion of these TM's.) This system, designed for use with ADPS, is based on standardized construction materials, and estimating procedures. The EFCS provides summarized logistical data necessary in the planning of engineer projects; standardized bills of material tabulated by federal stock number, and standardized construction drawings to be followed in constructing facilities in a theater of operations. The EFCS can be used at any echelon for engineer planning, operations, and requisition of construction materials with or without ADP assistance.

b. *Application of ADP to the EFCS.* The EFCS, with the exception of drawings, is recorded on magnetic tapes, in the Honeywell 400 computer at the Engineer Data Processing Center, U.S. Army Map Service, OCE. This

EFCS data bank is updated quarterly by the Engineer Strategic Studies Group, OCE, in response to changing requirements reported from the field and by new data received from supply and research and development agencies. Additionally, selected components of EFCS, appropriate to the various theaters, have been provided to the U.S. Army Mobility Equipment Command and the U.S. Army Materiel Command in CONUS and to U.S. Army, Pacific, and U.S. Army, Vietnam. These components were provided on tapes and card decks converted in the case of the U.S. Army Mobility Equipment Command for use on that agency's IBM computer. As developed, construction material can be requisitioned by a using unit in a theater of operations equipped with, and employing the EFCS code. This procedure, fully automated, interfaces computers between logistical commands in the field with U.S. Army, Pacific, in turn, and between U.S. Army, Pacific, and U.S. Army Mobility Equipment Command, so that at any echelon the EFCS coded requisition can be exploded and be either filled or forwarded. An example of this procedure is shown in figure B-1.

B-3. Limitation of Current System

As now used, automated processing of EFCS data, in the theater of operations and CONUS, simplifies supply requisitioning and expedites delivery of construction material to the theater. However, the system has limitations which prevent fully automated support of construction operations as follows:

a. The EFCS, with standard design and bills of material, does not permit automated substitution of design or material. This must be done manually at using unit level and can only be done effectively when the using unit can query

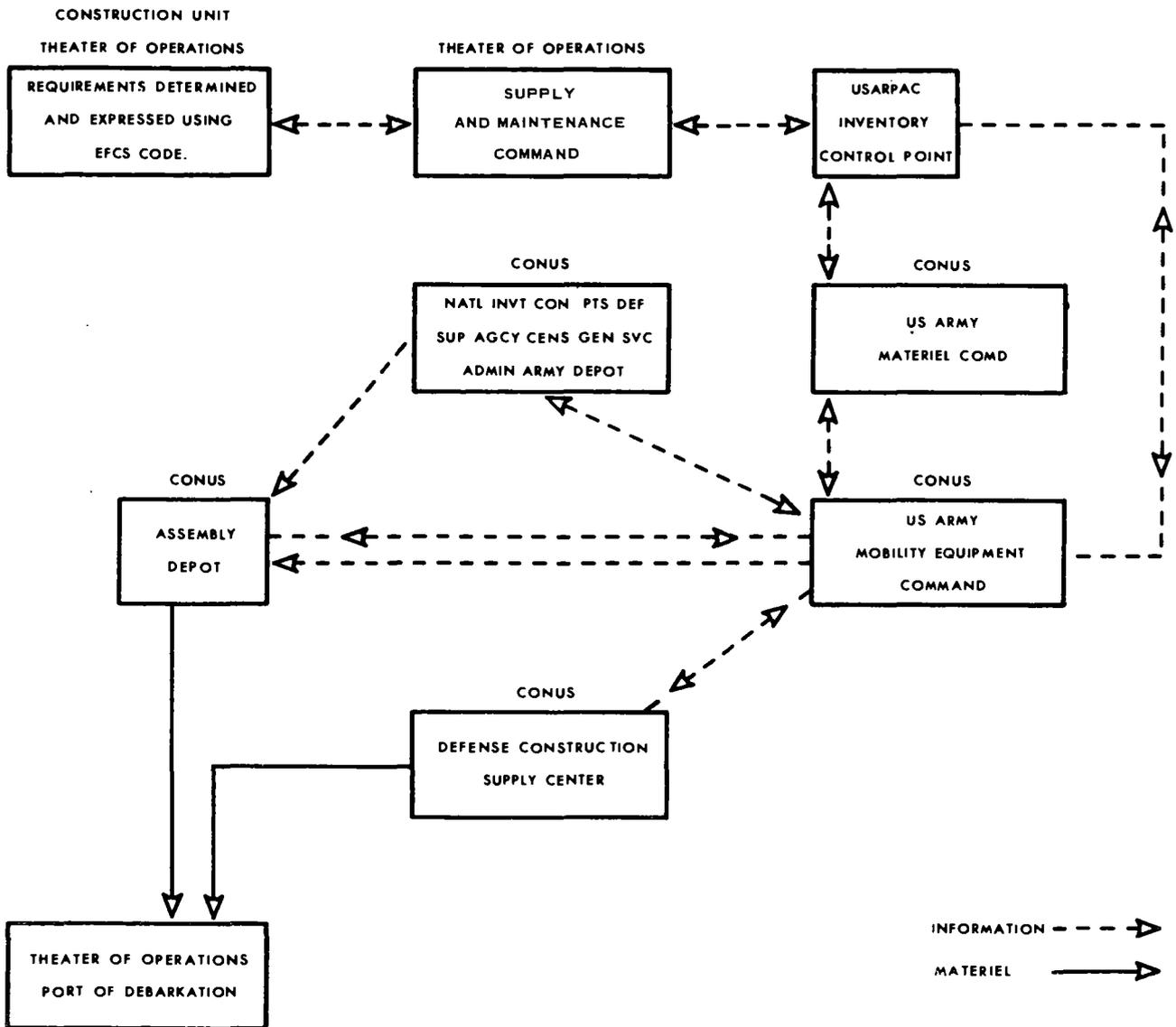


Figure B-1. Engineer supply procedures for army troop construction in Southeast Asia.

the Inventory Control Center as to the availability of suitable substitutions. The current ADPS in theater is normally not available to engineer construction organizations for such queries, and those organizations do not have the capability to maintain their own inventory data except in manually posted hard copy.

b. Engineers in the field must perform repetitive and sometimes complex engineering calculations manually. Although many civil engineering computer programs are now available for these computations, current ADPS in theaters of operations do not use the formula translation (FORTRAN) language common to these programs.

c. Construction management data processing, including program evaluation; progress and completion reports, and troop status reports, is performed manually. Eventually expansion of the theater ADPS under the TASTA-70 program may allow for computerization of these tasks using computers of the ASCOM.

B-4. Current ADP Support for Topographic Operations

a. General. Topographic support in and to the theaters of operation makes use of ADPS in two major functions as follows:

- (1) Survey computations necessary to provide geodetic control and cartographic

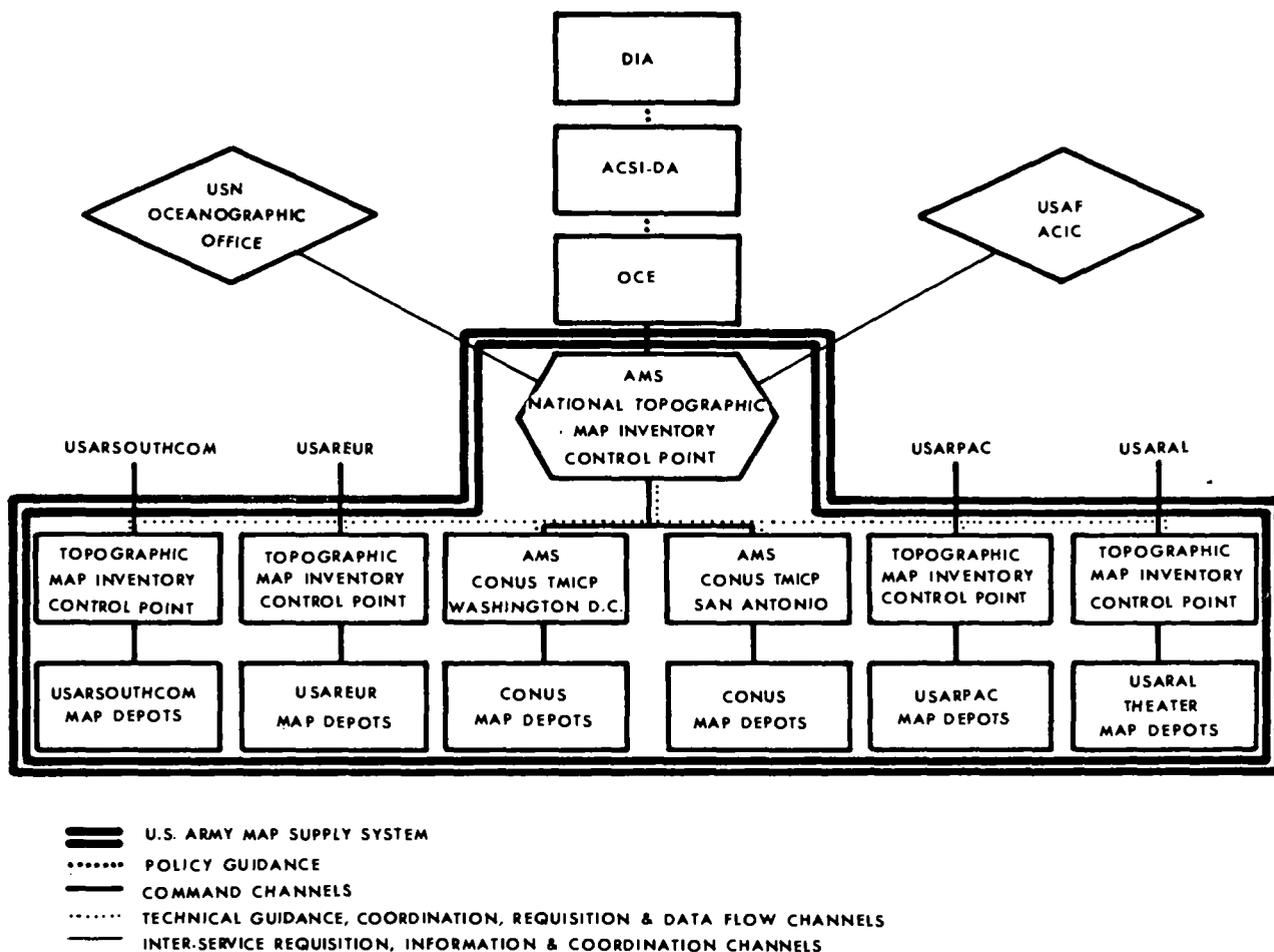


Figure B-2. U.S. Army map supply organization.

data. These computations are performed on the Field Artillery Digital Automatic Computer (FADAC) organic to the engineer base survey company, (TOE 5-348).

- (2) Map supply, including requisition and inventory control. Map supply is partially automated with a computer at U.S. Army Map Service (USAMS) and with ADP equipment available to topographic map inventory control points (TMICP) in all theaters. USAMS is designated as the National Topographic Inventory Control Point and interfaces with theaters of operations topographic map inventory control points, worldwide, tying together the U.S. Army Map Supply Organiza-

tion. Figure B-2 shows this organization.

b. *ADP Applications to U.S. Army Map Supply.* Theaters of operation TMICP's operated by engineer base topographic battalions, or their equivalents, have access to automatic data processing equipment to perform their functions at the present time but do not have organic or sole user capability. An example of the type data processed in each such TMICP is shown in figure B-3. Map depots and other in-theater topographic units rely upon manual data processing.

B-5. Future Uses of ADPS for the Engineer Command

a. Upon attainment of full CS₃ (ADPS for TASTA-70) capability, the engineer command,

NTMICP MAP INVENTORY-DATA TO BE COLLECTED

TYPE REPORT	DOC IDENTIFIER	ROUTING IDENTIFIER	STOCK NUMBER	EDITION	QUANTITY	VOUCHER NUMBER	COUNTRY	SECURITY CODE	RELEASE CODE	AMINO	PRIORITY AREA	REPORT ACTY	REGD RESHIPED TO	SCHEDULED DATE	REPROMAT AGENCY	TYPE REPROMAT	AS OF DATE	REPORT NUMBER	FILE CHANGE CODE	
1 LOADING CARD	BR1	AO2	1301XND49	02	01500	00700	CCC	M	RR									5075	00491	
2 STOCK RECEIPT	BB2	AO2	1201XND49	02	00300	ATS98142400122				G		WM2	WM1					5075	00492	
2 STOCK ISSUE	BB3	AO2	1201XND49	02	01000							WM3						5075	00492	
4 STOCK TRANSFER	BB6	AO2	1201XND49	02	01000	ATS98150410024						WM1	WM3					5075	00494	
5 ITEM ON ORDER	BD1	AO2	1201XND49	02	01000							WM1	AO2					5075	00495	
6 ITEM DUE IN	BD2	AO2	1201XND49	02	01000							WM1	AO2	5137				5075	00496	
7 ITEM DUE OUT	BD2	AO2	1201XND49	02	00400							WM3		5137				5075	00497	
8 DUE OUT CANCELLATION	BD4	AO2	1301XND49	02	00400							WM2						5075	00498	
9 COMMITTED STOCK	BE1	AO2	1201XND49	02	00500							WM2						5075	00499	
10 FILE CHANGE-DELETE	BF1	AO2	1201XNF17	02		SRD						A32						5047	00500	01
11 FILE CHANGE-ADD	BF1	AO2	1201XNF17	02	00150							A32						5152	00501	02
12 FILE CHANGE-OVERLAY	RF1	AO2	1201XNF17	02		012 01000						A32						5152	00502	04
12. EXCESS STOCK	BH1	AO2	M743XL2528	02	00900							C57						5152	00511	
14 REORDER POINT	BM1	AO2	1301XNF17	02	00400							WM3						5152	00503	
15 PRINTING COMPLETION-REPRINT	RPI	AO2	1201XNF17	02	08500	51301127A						A32						5152	00504	
16 PRINTING COMPLETION-REVISION	BP2	AO2	1201XNF17	03	14000	51301142C						AO2						5180	00505	
17 PRINTING COMPLETION-NEW MAP	BPS	AO2	ED34X597311	01	19760	05024017C						AO2						5180	00506	
18 REPROMAT ON HAND	BR1	AO2	ED34X597311	01								A32	AMS		N			5180	00507	
19 SCHEDULED REPRINTING	BS1	AO2	ED34X597311	02	08500	05024008A						A22		5210				5180	00507	
20 CHANGE TO SCHEDULED REPRINTS	BS7	AO2	ED24X597311	02								A32		5290				5202	00601	
21. SCHEDULED REVISION	BS2	AO2	1201XNF17	02	13300	51201142C						AO2		5175				5172	00508	
22 CHANGE TO SCHEDULED REVISION	BS4	AO2	1201XNF17	02								AO2		5224				5172	00602	
22 SCHEDULED NEW MAP	BS3	AO2	ED24X597311	01	18000	05024017C						AO2		5175				5152	00509	
24 CHANGE TO SCHEDULED NEW MAP	BS6	AO2	ED34X597311	01	22000							AO2						5168	00603	
25 IN-TRANSIT CARD	BT1	AO2	ED34X597311	01	02000	A43FYD51520001				G		A32	AO2					5152	00510	

Figure B-3. Data processing requirement, TMICP.

using an area support command/engineer command computer will have the capability to perform:

- (1) Troop operations planning.
- (2) Construction design.
- (3) Modification design.
- (4) Construction supply requisitioning.
- (5) Map supply requisitioning and inventorying.
- (6) Construction management.

b. Implementation of the CS₃ system will also require the employment of ADPS input/output devices at engineer construction group and battalion level.

B-6. Procedures When ADPS Is Inoperable

In the event of destruction or damage to ADP support, construction and topographic support would continue using manual procedures. To insure a smooth transition to a manual from an automated system, the engineer command will establish standing operating procedures detailing format and frequency for reports, and other administrative actions in the area of construction and topographic support. For design and construction materials requisitioning, engineer units will continue to rely on the EFCS and normal engineer planning techniques.

By Order of the Secretary of the Army :

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Chief of Staff.

Official :

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The Adjutant General.

Distribution:

To be distributed in accordance with DA Form 12-11 requirements for Engineer Construction Units.

☆U.S. Government Printing Office: 1967—250-509/7146A

3000015613



FM 5-162-1 (TEST) ENGINEER COMMAND, TASCOM-1967

