try ambulance, command and reconnaissance truck, and a 2½-ton cargo truck for transporting personnel, equipment, and supplies. Functions and duties of the squadron surgeon and of the detachment as a whole are explained in chapter 2.

- 95. Duties.—The duties of the engineer squadron are generally similar to those of the engineer combat battalion. Because of the mobility of the cavalry division and the rapidity with which the situation changes in distant operations the squadron—
- a. Keeps routes of communication and supply open for movement of the entire column.
 - b. Erects and overcomes obstacles.
- c. Makes maximum use of demolitions and engineer expedients.
- d. Disrupts or destroys hostile routes of enemy withdrawal, by flank operations.
- e. Engages in combat whenever necessary to accomplish its mission.
 - f. Performs continuous engineer reconnaissance.

SECTION IV

ARMORED ENGINEER BATTALION

■ 96. Mission.—a. The armored engineer battalion facilitates the rapid movement of the armored division and impedes hostile ground forces by means of general engineer work.

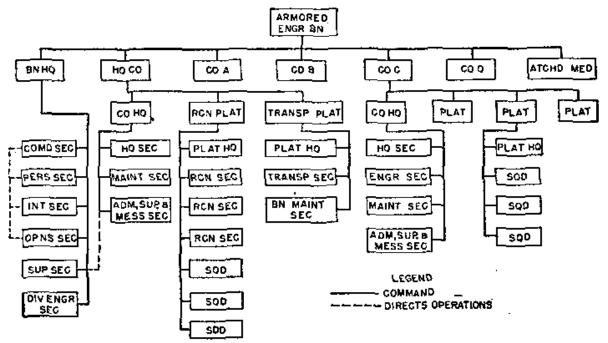


FIGURE 10.—Armored engineer battalion (T/O 5-215).

- b. In facilitating movement of the division, a treadway bridge company, when required, is attached to the battalion to provide crossings by either ferries or floating bridges.
- 97. Organization.—The battalion consists of headquarters, headquarters company, four lettered companies, and a medical detachment. Organization of the battalion is shown in figure 10. (For details see T/O 5-215.)
- 98. EQUIPMENT.—a. Basic engineer tool sets are the same as those issued to engineer combat battalions. This battalion is equipped with air compressors, trailed angledozers, portable engineer water-supply equipment sets, a motorized general purpose repair shop, and trailer-mounted welding equipment.
- b. Stream-crossing equipment includes pneumatic reconnaissance boats and pneumatic floats.
- 99. TRANSPORTATION.—There is sufficient transportation for the simultaneous movement of all personnel and equipment. For details see current Tables of Organization, Tables of Equipment, and Tables of Basic Allowances for engineers.
- 100. ARMAMENT.—Individual weapons include the bayonet, carbine, pistol, rifle, and caliber .45 submachine gun. Supporting weapons are sufficient for the defense of engineer working groups against small hostile mechanized or infantry parties. For details see current Tables of Organization.
- 101. RADIO COMMUNICATION.—The armored engineer battalion is equipped with radios, the detailed distribution of which is shown in current Tables of Basic Allowances and Tables of Equipment.
- 102. Training.—a. Basic and unit training outlined in chapter 4 are applicable to troops of the armored engineer battalion.
- b. Technical training of radio operators is covered in FM 24-5. Radio operators should be permanently assigned to the same sets and to the same stations. They are required to inform their leaders promptly of any messages received or intercepted, and to report when outgoing messages have been cleared.
- c. Combined training emphasizes coordination of engineer operations with tactics and technique of armored force units. Engineer troops must be familiar with the capabilities, limita-

ENGINEER FIELD MANUAL

tions, and general employment of tanks. During combined operations the staff must adjust the performance of its functions to those developed for the special staff of the armored division.

- 103. Lettered Company.—The lettered company consists of company headquarters and three platoons. (For details see T/O 5-217.)
- a. Company headquarters.—Company headquarters is divided into a headquarters section, an engineer section, a maintenance section, and an administrative, supply, and mess section (trains).
- (1) Headquarters section.—This section consists of a captain as company commander, a lieutenant as reconnaissance and communication officer, and enlisted personnel for operation of the section.
- (2) Engineer section.—This section is supervised and controlled by a staff sergeant. Its personnel performs special engineer tasks for the whole company, including operation of a portable water-purification unit, provision of a medium tractor and a motorized air compressor with operators, and execution of drafting and carpenter work.
- (3) The maintenance section.—This section is supervised by a maintenance sergeant. Its personnel performs normal maintenance and repair of all company motor vehicles.
- (4) Administrative, supply, and mess section.—This section is charged with routine duties of company administration, mess, and supply. It is supervised by a first sergeant, and includes necessary operating personnel.
- b. Platoon of the lettered company.—This platoon consists of platoon headquarters and three squads.
- (1) Platoon headquarters.—Headquarters includes a lieutenant and enlisted personnel necessary for operations. Platoon headquarters has radio equipment for use when acting on detached missions. It can reinforce the squads with platoon tool sets including carpenter, demolition, and pioneer.
- (2) Squad.—The squad is organized to perform the basic engineer tasks normally encountered in armored force operations. For details of composition see T/O 5-217.
- (3) Training.—The platoon is trained in combat principles which parallel those of attached infantry units of the armored division. Engineer training is similar to that of the platoon of the engineer combat battalion, infantry division. Special emphasis is given in training the platoon for—

- (a) Overcoming enemy obstacles, including passage of enemy mine fields.
 - (b) Hasty repair of roads and detours.
- (c) Hasty repair, improvisation, and reinforcement of bridges and culverts.
- (d) Use of pneumatic floats for ferrying; preparation of fords, and use of other expedients for crossing armored vehicles and attached troops over streams on a broad front.
- (e) Rapid construction of obstacles, and preparation of antitank mine fields, including their defense when required.
 - (f) Engineer reconnaissance.
- c. Company training.—Company training is designed to develop the unit to a high degree of proficiency in the orderly and rapid execution of engineer work as a member of the various armored combat teams.
- 104. Battalion Headquarters.—Battalion headquarters is divided into a command section, a personnel section, an intelligence section, an operations section, a supply section, and a division engineer section. (For details see T/O 5-216).
- a. Command section.—This section consists of the battalion commander (division engineer) and his staff. Duties and functions of the staff are explained in chapter 2.
- b. Personnel section.—A first lieutenant, personnel officer, assisted by a warrant officer, clerical, is in charge of the personnel section. Enlisted personnel are designated for specific personnel record tasks such as morning report, pay roll, and service records.
- c. Intelligence section.—This section furnishes personnel for the activities of the battalion S-2. In addition to performing the normal duties of a unit S-2 as explained in chapter 2, the intelligence officer coordinates all engineer reconnaissance activities.
- d. Operations section.—This section has personnel for maintaining and operating engineer equipment not assigned to the companies. This mechanical equipment may be used for a special task, to assist in operations of the reconnaissance platoon, or for reinforcement of the lettered companies. A chemical sergeant, under S-3, supervises all matters involving the use of gas and smoke, and defense against chemicals.
- e. Supply section.—The officer in charge of the supply section is assistant to the battalion supply and transportation officer. Enlisted personnel have routine supply duties.
 - f. Division engineer section.—This section is under the

supervision of the assistant division engineer. This section does drafting and operates duplicating equipment. It is assigned a radio which operates in the division command net. A staff sergeant, camoufleur, assists the assistant division engineer in formulating and directing camouflage activities.

- 105. Headquarters Company.—Headquarters company is divided into a company headquarters, a reconnaissance platoon, and a transportation platoon, as detailed in T/O 5-216.
- a. Company headquarters.—Company headquarters consists of a headquarters section, a maintenance section, and an administrative, supply, and mess section.
- (1) Headquarters section.—The headquarters section is the battalion as well as the company communications section. The officer commanding headquarters company is also battalion supply (S-4) and transportation officer. He is a member of the battalion staff. His chief assistant commands the supply section of battalion headquarters. Enlisted personnel give routine assistance. His noncommissioned assistant is a technical sergeant, communications, who assists in the training, instruction, and supervision of work of the battalion communication personnel.
- (2) Maintenance 'section,—Maintenance section personnel includes a staff sergeant and other necessary enlisted personnel. This section handles maintenance and repair of motor vehicles assigned to battalion headquarters and headquarters company.
- (3) Administrative, supply, and mess section.—A first sergeant supervises activities of this section. Personnel, equipment, and routine duties are generally the same as those of similar sections in lettered companies.
- b. Reconnaissance platoon.—This section consists of platoon headquarters, three reconnaissance sections, and three squads.
- (1) Platoon headquarters.—The platoon commander controls and supervises work of the three reconnaissance sections and squads, and coordinates their activities with operations of divisional reconnaissance groups. Platoon headquarters can reinforce the sections and squads with basic engineer tool sets. It is equipped with a radio for keeping the battalion command post informed of its movements, and for transmission of reconnaissance information.
- (2) Reconnaissance section.—This section works in conjunction with the advanced reconnaissance groups of the armored division. Forms for engineer reconnaissance reports shown in FM 5-6 are used.

- (3) Squad.—Organization, functions, and duties are the same as those of the squad of the lettered company.
- (4) Duties.—In operations the reconnaissance platoon of the armored engineer battalion normally is attached to the reconnaissance battalion of the armored division. The platoon performs the following duties:
- (a) Assists advance of the battalion by removing obstacles and road blocks, and by providing passage of enemy mine fields which cannot be detoured.
- (b) Obtains engineer information, and transmits to the engineer command post information necessary for the engineer battalion to make timely preparation for repair of roads and bridges to be used by the armored division.
- (c) Prepares road blocks and demolitions to delay or halt hostile forces.
- c. Transportation platoon.—The transportation platoon is divided into platoon headquarters, a transport section, and a battalion maintenance section.
- (1) Platoon headquarters.—The transportation platoon is commanded by a lieutenant as assistant transportation officer. Functions and duties of this headquarters are in accordance with the duties of a unit transportation officer described in chapter 2.
- (2) Transport section.—This section is under supervision of a sergeant as truckmaster. The section cares for and transports the battalion supply of ammunition, antitank mines, explosives, division engineer supplies, and fuel and lubricants.
- (3) Battalion maintenance section.—This section is responsible for second-echelon maintenance and repair of all transportation and motorized equipment for which the battalion is responsible. It is equipped with a general-purpose motorized repair shop and trailer-mounted and portable welding equipment.
- d. Personnel.—Personnel are trained in the use of organic weapons, particularly automatic weapons, so as to be capable of fighting in small groups.
- 106. Attached Medical.—The medical detachment is commanded by the unit surgeon. He is assisted by two lieutenants, one medical and one dental, and necessary enlisted personnel. Transportation is shown in current Tables of Organization. The duties of the unit surgeon and of the detachment as a whole are explained in chapter 2.

ENGINEER FIELD MANUAL

- 107. Duties.—The armored engineer battalion must—
 - (1) Reconnoiter and mark roads, trails, and other routes.
 - (2) Reconnoiter bridges, defiles, obstacles, and areas.
- (3) Construct, improve, or reinforce fords, bridges, and culverts.
 - (4) Construct floating bridges and ferries.
- (5) Transport infantry elements across streams, using pneumatic equipment.
- (6) Construct, defend, and remove obstacles, including mine fields.
 - (7) Fight as infantry when required.
 - (8) Execute demolitions.
 - (9) Establish and operate water points.
- (10) Locate and, if necessary, prepare advance landing fields.
 - (11) Provide emergency road repair and maintenance.
 - (12) Supply maps, including reproduction of maps.
 - (13) Provide engineer supply.
 - (14) Provide local security for its own working parties.
 - (15) Supervise and inspect camouflage.
 - (16) Engage in tank hunting.

SECTION V

ENGINEER MOTORIZED BATTALION

- 108. Mission.—a. The mission of the engineer motorized battalion is to increase combat effectiveness of the infantry motorized division by performing all engineer work required to facilitate its movement in the advance, and to impede hostile forces interfering with its operations.
- b. Operations of the motorized division are conducted with a maximum of speed. Components of the engineer battalion must be well forward to insure expeditious advance of leading elements in difficult areas.
- c. The battalion is reinforced by attachment of additional motorized engineer troops as required when the division is operating either independently or with larger units.
- 109. Organization.—The battalion consists of battalion headquarters, a headquarters and service company, three lettered companies, a reconnaissance company, and a medical detachment. Its organization is shown in figure 11. (For details see T/O 5-75.)