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DEPARTMENT OF THE ARMY FIELD MANUAL

**TRANSPORTATION AIRCRAFT
MAINTENANCE UNITS**



HEADQUARTERS, DEPARTMENT OF THE ARMY
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TRANSPORTATION AIRCRAFT MAINTENANCE UNITS

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SECTION I INTRODUCTION

1. Purpose

This manual is a guide for personnel assigned to transportation aircraft maintenance and supply support units in the current field army and provides basic information required to assure accomplishment of the aircraft maintenance technical mission in the field. It also provides guidance to commanders, staff officers, and others, concerning organization and procedures for field maintenance support and maintenance supply support of U.S. Army aircraft in the field army.

2. Scope

a. This manual discusses transportation aircraft maintenance support units, other than in the division, which are currently employed in the active Army pending approval and implementation of support concepts contained in Combat Support to the Army (COSTAR). Dis-

cussion includes specific information concerning the organization, mission, control, capabilities and limitations, operational methods, and principles of employment of the units.

b. Users of this manual are encouraged to submit recommended changes or comments for its improvement. Comments should be keyed to the specific page, paragraph, and line of the text in which change is recommended. Reasons should be provided for each comment to insure understanding and complete evaluation. Comments should be forwarded directly to Commanding Officer, U.S. Army Combat Developments Command, Combat Service Support Group, Fort Lee, Va.

3. Application

This manual is applicable to both nuclear and nonnuclear warfare.

SECTION II

ORGANIZATION FOR SUPPORT OF ARMY AIRCRAFT

4. Command Supervisory Responsibilities

a. Each major commander and major subordinate commander is responsible for the command supervision of maintenance and supply activities in support of Army aircraft within his command.

b. The senior transportation staff officer serves as the transportation officer of the command and, in the name of the commander, exercises operational control of the transportation field maintenance and supply units not assigned or attached to subordinate commands.

c. The transportation officer exercises technical supervision over all aircraft maintenance and supply activities within the command.

5. Support Requirements

a. Field maintenance support of aircraft in the field army includes third and fourth echelon repair, also referred to as direct and backup maintenance. The nature and extent of repairs authorized at each echelon are prescribed in the appropriate maintenance allocation chart (MAC), which is found in the -20 of the TM 55- series manual published for the aircraft concerned. In addition to assigned functions, an echelon may also perform all functions allocated to a lower echelon. In the Continental United States (CONUS), Army aircraft are normally supported by fixed installation repair activities organized under an approved table of distribution (TD), and tailored to meet the specific mission requirements. In the field support is furnished by specialized transportation units, organized under appropriate TOE and staffed and equipped to perform the functions appropriate to their echelon of responsibility.

b. Best available information indicates that approximately 80 percent of total field maintenance requirements for aircraft consists of third echelon repairs, with fourth echelon comprising the remaining 20 percent. The direct support unit is organized and equipped to per-

form approximately 80 percent of its prescribed maintenance responsibilities. The maintenance backup support unit, in addition to performing its assigned fourth echelon functions, normally absorbs the overflow of 20 percent from the direct support unit. By way of clarification, and purely as illustration, of 100 field maintenance man-hours, approximately 80 hours will be devoted to direct support repairs of which the direct support unit will perform about 64 hours. Of the 100 field maintenance man-hours, 20 will be devoted to fourth echelon functions to be performed by the backup field maintenance unit. In addition, the backup unit will absorb the 16 hours of maintenance overflow from the direct support unit.

c. Organization of aircraft field maintenance support in the field army disposes support units both laterally and in depth (fig. 1). Normally, two transportation direct support companies are employed to support a four division corps. They, provide backup third echelon maintenance, supply, and recovery support to divisional aircraft, and furnish direct third echelon maintenance, supply, and recovery to nondivisional aircraft other than transport aircraft. Transport aircraft are supported by units designed specifically for that mission. Two transportation Army aircraft heavy maintenance and supply companies provide fourth echelon backup support to the direct support companies and, in addition, furnish third echelon backup for all direct support units, including transport aircraft direct support maintenance companies.

6. Duties and Responsibilities of Personnel

The nature of the duties and responsibilities of key field maintenance personnel are discussed in *a* through *j* below. Specific qualifications, skill levels, and duties of personnel are discussed in detail in AR 611-101, AR 611-112, and AR 611-201.

a. *Aircraft Maintenance Unit Commander.*

(1) The commander of a transportation

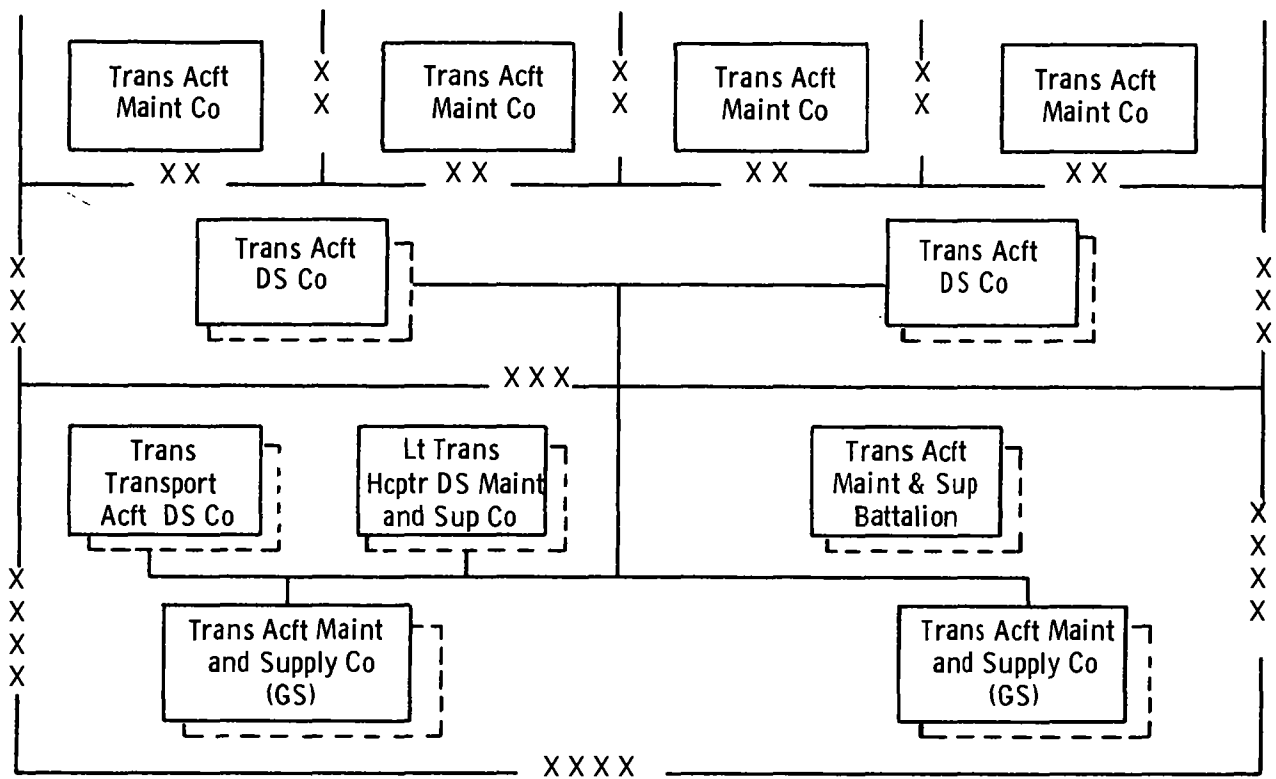


Figure 1. Organization for transportation aircraft maintenance and supply support for a four division force.

aircraft maintenance company or battalion commands his organization and any attached units. He actively supervises all phases of the technical, administrative, and military functions and training conducted within the unit. Although he cannot delegate the responsibility for his technical service mission to a subordinate, he may, and should, charge subordinates with supervisory responsibilities for elements of the technical service mission.

- (2) It is a primary responsibility of the transportation maintenance unit commander to plan, direct, and supervise the training of his command. The objective of training is to develop a coordinated team which can do the following:
 - (a) Perform a technical service mission in the field.
 - (b) Accomplish its administration.
 - (c) Meet high standards of military discipline.
 - (d) Defend its installation against enemy attack.
- (3) After attaining satisfactory standards of training, the commander continues

to develop subordinates so that routine technical, administrative, and military tasks are accomplished as a matter of standing operating procedure. He continues to train individuals to accept and discharge increasing responsibilities in their career fields and in related areas. The chain of command within the organization is utilized to develop individual initiative, resourcefulness, and sense of responsibility.

- (4) When the command is assigned its mission, the commander is responsible for: establishing liaison with the supported unit(s); preparing a plan of operation; issuing necessary orders; and supervising execution of the plan of operations. He avoids detailed involvement in routine administrative and operational matters and devotes his major effort to informal inspection, observation, and verification of the overall effectiveness of unit operations. He enforces the observance of correct procedures and seeks more efficient methods of mission accomplishment and means of improving troop welfare and morale. He pre-

prepares plans for defense and security of the operations. He insures the practice of supply economy and the economical use of transportation.

b. Staff Organization. Staff organization, responsibilities, and functions parallel those discussed in FM 101-5.

c. Production Control Officer. The production control officer is responsible to the company commander for planning and managing the company maintenance mission, and for assuring that the quality of work meets standards established by applicable technical publications. The production control officer must, at all times, be fully informed concerning the equipment readiness status of the aircraft supported by the company; the maintenance shop workload, and status of repair jobs within the shop; the status of maintenance supply support as it affects or will affect the maintenance effort; programmed major inspections and replacement of time compliance components; the plans of the supported tactical command; and any special requirements which may be placed upon the maintenance company because of the tactical mission or for any other reason. After considering these factors the production control officer is able to schedule maintenance into the shop; establish work priorities within guidelines provided by the commander; coordinate with the aircraft supply officer to assure availability of components for scheduled replacement, and to eliminate work stoppages resulting from nonavailability of maintenance supplies; to reinforce direct support sections when required; and to make other adjustments of maintenance resources as necessary. The production control officer also maintains forms and records, compiles statistical data, and submits reports as prescribed in TM 38-750, and as directed locally. He maintains a master chart or board which visually portrays the current status of maintenance within the company. The production control officer utilizes assigned technical inspectors to maintain a library of applicable technical publications and to perform the functions of maintenance quality control.

d. Aircraft Supply Officer. The aircraft supply officer is responsible for the maintenance supply support portion of the company technical mission, and directs and controls all technical supply functions. Technical supply in-

cludes all operations required to obtain, account for, store, and issue repair parts and other maintenance supplies required in performing maintenance for assigned or attached aircraft and ancillary equipment. Assisted by enlisted supply specialists, the aircraft supply officer is responsible to the unit command for—

- (1) Preparing the repair parts supply portion of the maintenance company standard operating procedures.
- (2) Requisitioning, receiving, storing, accounting for, and issuing maintenance repair parts.
- (3) Coordinating with the platoon leader of the repair platoons and sections as required to assure adequate repair parts support of the user units and of company maintenance operations.
- (4) Participating as appropriate in maintenance planning conferences at company and battalion level.
- (5) Maintaining liaison with and making supply visits to supported units.

e. Aircraft Maintenance Technician.

- (1) The aircraft maintenance technician who is assigned to a field maintenance organization (or who is serving on the staff of a command controlling field maintenance activities) is qualified in the following matters:
 - (a) Characteristics and capabilities of Army aircraft.
 - (b) Diagnosis of malfunctions of transportation air items of equipment; use of testing equipment; identification of transportation major items, components, assemblies, and parts; performance of technical inspections; and estimation of job man-hours and costs.
 - (c) Safety regulations applicable to the maintenance and employment of aircraft and allied equipment.
 - (d) Organization, responsibilities, and management of organizational maintenance of aircraft.
 - (e) Organization, responsibilities, and management of field level of aircraft maintenance and supply.
 - (f) Applicable technical publications.
 - (g) Maintenance of records and preparation of reports.

- (h) Personnel training methods and supervisory procedures.
- (2) The aircraft maintenance technician is responsible to the commander for the following:
 - (a) Making recommendations concerning shop procedures, anticipated problem areas, determination of job priorities, and any other matter which may affect the maintenance mission.
 - (b) Inspecting air items to insure proper maintenance, storage, and preservation.
 - (c) Assuring that necessary reference publications are used by shop personnel in making repairs.
 - (d) Advising and assisting supported and attached units concerning aircraft maintenance matters.
 - (e) As required, providing technical assistance to aircraft accident investigating boards.
 - (f) Organizing and supervising shop safety programs, conducting safety inspections, enforcing regulations pertaining to safety, and recommending corrective safety measures.
 - (g) When occupying a rated position, performing test flights of aircraft as required.

f. Platoon Leader. Platoons and sections of transportation aircraft maintenance companies are organized to accomplish technical service missions. The platoon leader commands the personnel assigned to his platoon and is responsible to the commander for their military and technical training. As an aid in developing the platoon into an efficient team, the platoon leader becomes thoroughly acquainted with the personality, skill, and capability of each member of his command. The platoon leader is responsible for the quantity and quality of repair performed by his platoon and constantly seeks ways to improve the operation.

g. Shop Supervisor. The supervisor of a repair shop is responsible to the platoon leader. He remains familiar with the operation and current status of work in the shop; plans future requirements for personnel, equipment, and material; and makes scheduled and unscheduled

inspections as required to insure that all shop sections function efficiently.

h. Section Chief. The section chief is responsible to the shop supervisor for the operation of his section, for condition and completeness of equipment, for training of section personnel, and for the section's readiness for operation in the field. He knows the personality, skill, and capability of each member of his section. The section chief is qualified as a technical inspector and is capable of personally making any repairs for which his section is responsible. His skill is developed by schooling, experience in actual repair and inspection, observance of section specialists at work, and by a working association with supported units.

i. Repairman. The repairman is a trained technician qualified in one or more specialized areas of aircraft or allied equipment maintenance. A list of the military occupational specialties for enlisted personnel and a description of the job qualifications for each MOS are contained in AR 611-201. In carrying out his MOS functions, the repairman has the following related responsibilities:

- (1) Within the limits of his training and skill, he makes repairs and adjustments in accordance with procedures specified in appropriate technical manuals and standing operating procedures.
- (2) When in doubt concerning procedures and lacking specific guidance, he consults the section chief on any proposed action and obtains his approval before starting repairs.
- (3) Through the medium of technical publications, he remains current in approved maintenance procedures.
- (4) He suggests improved methods to simplify and expedite routine repairs.
- (5) He accepts, by written receipt, the responsibility for tools and machines assigned specifically for his use.
- (6) He cleans, maintains, preserves, and otherwise cares for tools, machines, and equipment with which or upon which he is working.
- (7) He reports unserviceable shop equipment and unsafe practices to his section chief.

- (8) As appropriate, he makes entries on and maintains aircraft and related forms and records (TM 38-750).
- (9) He remains constantly aware of the safety-of-flight implications inherent in the equipment upon which he works and in the nature of the work he performs.
- (10) As required, he participates in test flights to identify in-flight maintenance defects and mechanical difficulties.

j. Technical Inspector.

- (1) When an aircraft is placed in the field maintenance shop, and before the start of repairs, the technical inspector makes an initial inspection to determine its cleanliness, overall appearance, and general condition. Using the applicable -20 technical manual as a guide, he then inspects areas and functions of the aircraft as required by the nature of the repairs which have been requested. In addition, he performs any other inspections that may be required by shop standing operating procedures, or any additional inspections which he may consider desirable. He determines degree of serviceability and recommends disposition of damaged or grounded aircraft. He determines if all required modifications have been accomplished

and properly entered in (DA Form 2408-5 (Equipment Modification Record)).

- (2) As a maintenance job progresses the technical inspector performs in-process inspections to insure that proper maintenance procedures are followed and to determine whether or not repairs meet the specifications established by applicable technical publications. Subject to approval of the commanding officer, the technical inspector is the final authority for interpretation of technical publications.
- (3) The technical inspector makes a final inspection of the aircraft after the repairs are completed. His inspection is sufficiently thorough to insure safe and proper operation of all controls, assemblies, attachments, and accessories. He determines from the general condition of the aircraft whether or not it is airworthy. He is the final maintenance approving authority in this matter, being responsible only to the unit commander or his designated representative. Before the repaired aircraft is tested the technical inspector briefs the test aviator on the nature of the repairs and the overall conditions and airworthiness of the aircraft.

SECTION III

AIRCRAFT MAINTENANCE

7. Principles of Aircraft Maintenance

The principles and policies discussed below are specific to the conduct of an effective and efficient program of aircraft maintenance support.

a. The aircraft repairman must be so assigned and used as to exploit his particular technical training and skills. Concepts of warfare, current and projected, place increasing emphasis upon employment of Army aircraft in both tactical and logistical roles. There has never been a surplus of qualified aircraft maintenance personnel and, in view of the expanding use of aircraft and correspondingly increased maintenance requirements, the situation may become extremely critical. Hence, good personnel management practices become vital to the maintenance commander and, consequently, to the tactical commander.

b. Aircraft maintenance is performed at the lowest echelon possible. Responsibility for maintenance begins with the using organization, which is responsible for first and second (organizational) echelon repairs. Organizational maintenance is the keystone of an effective overall maintenance effort and, when properly conducted, results in fewer premature equipment failures and fewer demands upon the direct support activity. Organizational maintenance of Army aircraft is discussed in detail in FM 1-10.

c. Within the limitations of time and the tactical situation, field maintenance of aircraft is performed as far forward as possible. Within this concept, the direct support unit provides mobile repair teams staffed and equipped to perform on-site maintenance. When on-site repair is impossible or impracticable, the aircraft is flown or evacuated to the maintenance company base of operations.

d. Direct support maintenance units are completely mobile to permit rapid displacement be-

hind the supported units. To be effective, direct support maintenance organizations must be sufficiently close to the using units to permit easy access.

e. The tactical commander must be assured of the continuing availability of operational aircraft in sufficient numbers to support his mission requirements. No matter how favorable other factors, the objective can be achieved only when there is complete coordination, cooperation, and mutual assistance between user and support level.

f. Under certain unfavorable weather conditions many types of repair cannot be completed without shelter. Further, unless some provision is made for protection from rain, snow, high wind, and extreme heat or cold, a reduction in output and/or quality of repairs may result. In turn, this lowered performance may be reflected in increased aircraft downtime rate and premature equipment failure. Trailer-mounted shop vans provide shelter protection for the type of repairs performed by allied shops. However, the repair of large, bulky items (airframes, engines, and major components) also requires shelter when adverse weather conditions exist. For this reason, advantage is taken of available hangars, warehouses, barns, sheds, and other suitable buildings. Tents and tarpaulins are used as expedients, and available hardstand is utilized. Portable heaters are employed to raise the temperature enough so that personnel can work without gloves and heavy clothing. If repairs are made during the hours of darkness, provision must be made for blackout of work areas.

8. Maintenance Support Responsibilities

a. *Direct Support Responsibilities.* Service provided by aircraft direct support activities includes the following:

- (1) Performing third echelon repairs as

authorized in the applicable maintenance allocation chart (MAC).

- (2) Providing maintenance assistance to supported units, including acceptance of organizational maintenance overflow (AR 750-214).
- (3) Providing direct-exchange service for unserviceable items as coded in the appropriate parts manuals.
- (4) Repairing selected assemblies and returning to user.
- (5) Providing maintenance and supply assistance visits.
- (6) Providing limited recovery and evacuation of unserviceable equipment.
- (7) Providing initial issue of repair parts, issue of air items of special and emergency nature, and normal stock replenishment.
- (8) Conducting inspections of aircraft and ancillary equipment as directed.

b. General Support Responsibilities. Service provided by aircraft general support activities includes the following:

- (1) Requisitioning, receiving, storing, maintaining in storage, and issuing transportation air items in support of direct support units.
- (2) Providing fourth echelon backup repairs within limits established by applicable maintenance allocation charts.
- (3) Performing maintenance which is beyond the capabilities of the direct support unit.
- (4) Evacuating unserviceable equipment if required repair exceeds the capability or the repair echelon responsibility of the direct support unit.
- (5) Repairing accessories, components, and assemblies for return to user or to supply.
- (6) In emergency, providing limited on-site repairs.
- (7) Providing maintenance and supply assistance visits to supported units.
- (8) Performing determination inspections of aircraft for repair under the Inspect and Repair Only as Necessary (IROAN) program.

9. Maintenance Planning

a. Operations in support of aircraft are planned and conducted with the same care and detail as is employed by the tactical commander in planning and conducting tactical operations; adequate and timely planning is vital to effective maintenance and supply support of Army aircraft in the field. This is true at all levels of command.

b. In developing the aircraft maintenance support plan, the maintenance commander must be aware of all predictable requirements that will be placed against him during the particular operation or over a specific period of time, and must know the capabilities of the user level maintenance activities as well as those of his own organization. Hence, he maintains close liaison and coordination with the tactical elements which his unit supports, and with aircraft maintenance activities which provide him with backup support. He develops the maintenance support plan based upon data provided by the various supporting and supported elements concerned. Although the maintenance commander is responsible for obtaining data necessary for maintenance planning, commanders of supported units also have a responsibility to take the initiative in providing current information concerning matters which will affect their support requirements.

c. The maintenance commander schedules conferences as he considers necessary to assure complete interchange of essential aircraft maintenance and supply information between affected agencies. Supported units may request a conference when there are problems which cannot be satisfactorily resolved through normal liaison action, or by technical assistance activities. When there are problems concerning maintenance and supply backup support by higher echelon, there should be appropriate representation of the backup support activity. Situations in which a maintenance planning conference may be appropriate include the following:

- (1) Planning for aircraft maintenance support of a tactical or combat service support operation.
- (2) Planning for support of unusual demands for operational aircraft, such as in quantity of aircraft, or for sus-

tained periods of aircraft operation, or for special missions.

- (3) Resolving aircraft maintenance and supply problems, the nature of which requires the coordinated efforts of several agencies.

10. Maintenance Operational Site

The following factors are considered in selecting and organizing an aircraft maintenance operational site:

- a.* The area accommodates the operations and, so far as possible, meets requirements for dispersion, concealment, and internal security.
- b.* The area can be defended and, where possible, permits coordination of defense perimeters with adjacent units.
- c.* Proximity of supported units facilitates accomplishment of the support mission.
- d.* The dispersal of functions within the area does not exceed an acceptable span of control.
- e.* Related internal activities are located as conveniently to each other as possible.
- f.* Road nets permit reasonable access for unit vehicles, including heavy equipment such as shop vans, supply vans, and wreckers.
- g.* Available hardstand is used for maintenance, parking, and open storage areas.
- h.* Advantage is taken of buildings which may be used for maintenance shelter, covered storage, and blackout maintenance areas.
- i.* Aircraft inspection areas provide access to both the landing strip and the shop area.
- j.* The inspection area is convenient to both production control and quality control.
- k.* Shop supply and tool cribs are convenient to the shop area.
- l.* Storage areas are readily accessible from the road net.
- m.* Repairs are performed in an area which is free from propeller blast and blowing dust and sand.

11. Maintenance Management

a. Webster defines management as "the art of controlling and giving direction; the judicious means to accomplish an end." The desired

end product of aircraft field maintenance support is the earliest repair, and return to user, of aircraft and ancillary equipment. It is attained only by controlling and directing the maintenance effort, and by making the best possible use of all available maintenance resources.

b. Management of the aircraft field maintenance activity is a composite of a number of interrelated functions. The overall plan of maintenance support, as discussed in paragraph 9, provides the basis for all subsequent planning. From this is developed a detailed shop management plan which will result in an efficient and effective maintenance unit operation. Factors considered in organizing and controlling maintenance operations include the following:

- (1) Providing facilities suitable for landing and takeoff of all types of aircraft to be supported.
- (2) Providing parking areas convenient to the airstrip and to the aircraft inspection area. Parking and inspection site may be the same.
- (3) Organizing the maintenance area in a manner that locates related activities in proximity to each other, and that permits a logical and orderly flow of work through the shop.
- (4) Programming scheduled maintenance into the shop in a manner that best meets the needs of the supported unit and, at the same time, assures efficient utilization of maintenance personnel by maintaining the workload at a consistent level. This matter requires the very closest coordination with the aircraft user.
- (5) Establishing realistic work standards to be used as a measure of efficiency of personnel and individual activities, and as a factor in weighing unit capability against actual accomplishment.
- (6) Assigning job priorities in accordance with guidance of higher headquarters.
- (7) Controlling workflow.
- (8) Determining requirements for repair parts, special tools, and equipment, and assuring that these items are on

hand and available to repairmen when needed.

- (9) Anticipating bottlenecks and slow-downs in the maintenance operation, and taking the earliest corrective action.
- (10) Compiling necessary statistical data; maintaining necessary charts, forms and records; and preparing reports as required.

c. As an aid to management, the maintenance officer maintains a visual type control board which shows pertinent data concerning the

status of jobs undergoing repair. The board, to be effective, should also provide a visual forecast of known maintenance requirements as they are programed over a specified future period of time. The board may be as simple or as elaborate as the maintenance officer desires, as long as it serves its purpose. TM 55-401 may be consulted for guidance concerning the maintenance control board.

12. Forms and Records

Aircraft maintenance forms and records are maintained as prescribed in TM 38-750.

SECTION IV

SUPPLY OPERATIONS

13. Types of Supply Operations

Transportation organizations for support of Army aircraft contain three distinctly separate types of supply operations: organizational (unit) supply; shop supply; and technical (maintenance) supply.

a. The functions of organizational supply include requisitioning, storing, maintaining in storage, issuing, and accounting for equipment authorized by applicable tables of organization and equipment and by appropriate tables of allowances. Items of equipment for which organizational supply is responsible include individual clothing and equipment; organizational supplies and equipment such as desks, organizational tool sets, and individual weapons; and items of similar nature. Transaction files and property books, together with appropriate documents to support property book entries, are maintained by the property book officer at the maintenance and supply battalion headquarters. When the maintenance company is located too far from its battalion headquarters for this arrangement to be practical, the property book is maintained by the company. A detailed discussion of organizational supply procedures is contained in AR 735-35.

b. Shop supply serves as an expediting function between the maintenance company supply platoon and the repairmen in the shop. The organizational structure of the aircraft maintenance company does not provide a shop supply section. However, the shop platoon does contain a toolroom keeper, and in some instances, a repair parts specialist(s). If these specialists are authorized, they are used to perform the functions of shop supply; if not, aircraft repairmen may be cross-trained to perform these duties. In either event, shop supply is organized as necessary to meet the requirements of the maintenance company. Chief functions of shop supply include maintaining a

small, readily available, stock of fast-moving repair parts, common hardware, and other material normally used in the maintenance operation; obtaining (from technical supply) other repair parts needed in the shop operations; and maintaining a tool check system for special tools issued to shop personnel.

c. Technical supply includes those operations required to obtain, store, maintain in storage, and issue repair parts and other maintenance supplies required by supported aircraft units and by the company maintenance support operations. Each transportation aircraft maintenance company contains a supply platoon or section which provides the supply specialists necessary to perform the technical supply mission. Maintenance supply includes repair parts; expendable supplies needed in the performance of maintenance such as electrodes, brazing rods, gasket material, cleaning and preserving supplies, CBR decontaminants, and similar type items; and maintenance float aircraft. Because of the critical and direct relationship of maintenance supplies to the accomplishment of maintenance tasks, repair parts and other maintenance supplies flow through maintenance channels. Rigid command control of repair parts for aircraft systems is required to obtain maximum utilization.

14. Supply Procedures

a. Stock control is maintained at the field army stock control center, with the aircraft direct support company and the aircraft maintenance and supply general support company responsible for informal accountability at their respective levels. The aircraft maintenance and supply battalion headquarters monitors the repair parts supply activities of its attached companies, establishing control procedures, effecting lateral transfer and cross-leveling of maintenance supplies, assuring the prompt return

of reparable parts and of controlled or critical items, and assuring compliance by attached companies with applicable supply directives.

b. The supported aircraft using unit maintains on hand, or on order, an authorized prescribed load of repair parts, based on demand frequency. The supported unit submits a request for issue to the supporting transportation direct support company. Normally, DA Form 1546 is used to request issue; however, when the urgency of the situation justifies, any intelligible written or oral request is acceptable, in which case the request should provide the information which is normally contained on DA Form 1546. See AR 711-16 and AR 735-35.

c. The aircraft direct support company requisitions upon its supporting aircraft maintenance and supply company (general support), utilizing DD Form 1348 (manual) or DD Form 1348m (mechanical), following procedures prescribed in AR 725-50. When the item is available for issue, the general support company

ships the item and notifies army stock control center of the action taken. When the general support company does not have the item, it forwards the requisition to army stock control center. If the item is available in depot, stock control center directs the appropriate maintenance depot to make shipment. If not, stock control center then requisitions on CONUS sources.

15. Maintenance Float

A number of maintenance float aircraft are maintained by the aircraft maintenance general support company. A maintenance float aircraft may be issued to an aircraft unit as a replacement for an inoperable aircraft which cannot be repaired and returned to user within prescribed time limits. Maintenance float stock is extremely limited, and a float aircraft is not issued in lieu of normal supply of the end item. Normally, a maintenance float aircraft is issued only when an unserviceable reparable aircraft is turned in by the unit to which issue is made.

SECTION V

TRANSPORTATION AIRCRAFT MAINTENANCE AND SUPPLY BATTALION

16. Mission, Organization, and Assignment

a. Mission. The mission of the headquarters and headquarters detachment of the transportation aircraft maintenance and supply battalion is to provide command, control, staff planning, and administrative and technical supervision of attached transportation aircraft direct support companies, transportation aircraft general support companies, and aircraft maintenance teams.

b. Organization. Headquarters and headquarters detachment (fig. 2) contains a battalion headquarters and a headquarters detachment. The headquarters detachment consists of

a detachment headquarters, an administration and personnel section, an operations section, a communications section, and a maintenance and supply section.

c. Assignment. The aircraft maintenance and supply battalion is normally assigned to a field army.

17. Capabilities, Functions, and Locations

a. Capabilities. At full strength, this unit is capable of the following:

- (1) Providing command, control, staff planning, and technical and administrative supervision for three to

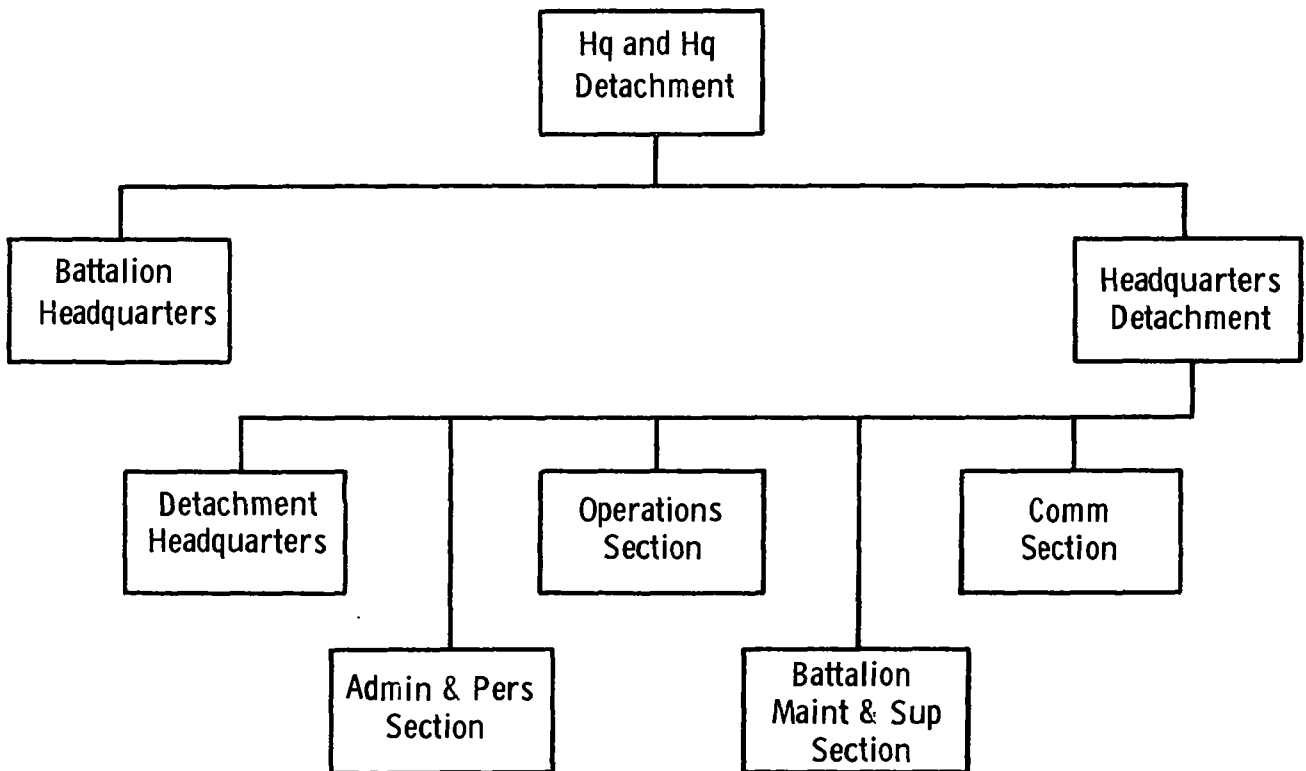


Figure 2. Headquarters and headquarters detachment transportation aircraft maintenance and supply battalion (TOE 55-456D).

seven aircraft maintenance and supply companies.

- (2) Establishing operating procedures for the guidance of attached aircraft maintenance companies.
- (3) Being used as the headquarters of any combination of direct support and general support transportation aircraft maintenance and supply units.
- (4) Directing, supervising, and controlling the operational assignments of subordinate units.
- (5) Supervising, coordinating, and assisting subordinate units in matters of administration, supply, maintenance, communications, and training.
- (6) Operating the battalion communications system, including both wire and radio, to subordinate and superior echelons.
- (7) Defending itself and its installation against hostile ground attack. Individuals of the unit fight as infantrymen when required to do so.
- (8) Operating at reduced strength for prolonged noncombat periods, or for limited periods of combat.

b. Functions.

- (1) *Battalion headquarters.* The headquarters provides command and staff supervision necessary to insure timely and effective accomplishment of the technical mission of the battalion, furnishing the structure and capacity to assist and advise the commander in all phases of command of the battalion. Staff members assist in administration and control, and in the direction of the technical effort. The staff includes an executive officer, an operations officer (who is a rated maintenance officer, and who also serves as the S-2), adjutant (S-1), and a communications officer.
- (2) *Detachment headquarters.* Commanded by the battalion adjutant, the detachment headquarters provides command and control for assigned enlisted personnel and, except for provision of messing facilities, performs normal housekeeping functions for the

headquarters. The headquarters is dependent upon an attached maintenance company for feeding of personnel, and makes its one authorized cook available for assistance to the unit upon which satellited.

- (3) *Administrative and personnel section.* This section consolidates and supervises the functions of maintenance company personnel clerks, and performs normal administrative functions for the battalion. It initiates personnel actions, orders, morning reports, and other correspondence as required, and maintains all individual records. The unit personnel technician has additional duties as assistant adjutant and as information officer.
- (4) *Operations section.* The operations section provides overall guidance, supervision, control, and quality surveillance of maintenance activities of attached aircraft maintenance companies. Likewise, the section monitors the repair parts supply activities within attached units, establishing control procedures, effecting lateral transfer of repair parts, insuring the prompt return of reparable parts and of controlled or critical items, and assuring compliance by subordinate units with applicable supply directives.
- (5) *Communications section.* This section establishes, operates, and maintains the battalion radio net and switchboard. Battalion communications equipment includes radio-teletypewriter facilities which permit rapid and accurate transmission and retransmission of requisitions, and of messages, instructions, and reports pertaining to aircraft maintenance and supply operations.
- (6) *Battalion maintenance and supply section.* The battalion maintenance and supply section provides the general supply support (excludes maintenance supply support other than for wheeled vehicles) for the battalion headquarters; supervision and control of general supply support activities for bat-

talion operating units; and supervision, control, and inspection of all wheeled vehicle maintenance and related activity within the battalion.

c. Limitations.

- (1) Since the battalion is only eighty percent mobile, it requires some augmentation to displace in one move.
- (2) The headquarters has no provisions for feeding its personnel, and is satelited upon an attached maintenance company for messing facilities.
- (3) Headquarters and headquarters detachment is not adaptable to the Type B organization.

18. Duties and Responsibilities of Personnel

Normal command and staff duties performed by battalion headquarters personnel are generally as outlined in FM 101-5. The discussion which follows is intended to expand upon certain of those duties in relating them to aircraft maintenance and supply support activities, and to consider the duties of certain key personnel not discussed in FM 101-5.

a. Battalion Commander. The battalion commander commands and directs the battalion and attached units; prescribes the duties of staff officers; establishes aircraft maintenance and maintenance supply policies and guidelines; assures necessary liaison and coordination between supporting and supported units, particularly in maintenance planning; and, as directed, exercises technical supervision over all maintenance of aircraft for whose support his battalion is responsible. The battalion commander keeps the army transportation officer fully informed concerning all aspects of the aircraft maintenance situation, and advises him concerning utilization of available aircraft maintenance resources.

b. Operations Officer. The battalion operations officer exercises staff planning, supervision, and control of battalion training and of maintenance operations. His assistants include a maintenance officer, an aircraft supply officer, an assistant operations officer, a repair control supervisor, and necessary technical inspectors. Staff responsibilities of the operations officer include the following:

- (1) Keeping the battalion commander fully informed concerning the equipment readiness status of aircraft within the command.
- (2) Advising the commander concerning existing or anticipated problems which bear upon the technical mission, and recommending appropriate actions.
- (3) Establishing and publishing the maintenance portion of battalion standing operating procedures.
- (4) Recommending plans and policies for accomplishment of the technical mission.
- (5) Recommending the assignment of support missions to units of the battalion.
- (6) Recommending the reinforcement of mobile repair teams; augmentation of shop operations; and balancing of workloads between supporting units.
- (7) Monitoring quality control and technical inspection activities.
- (8) Providing battalion control and coordination of aircraft cannibalization.
- (9) Directing and supervising the battalion technical assistance program.
- (10) Scheduling and conducting battalion level aircraft maintenance planning conferences. This includes arranging for representation from both the supported and supporting units concerned and, when appropriate, from other agencies such as the depot support organization.
- (11) Maintaining appropriate maintenance records and charts, and developing statistical data as required.
- (12) Assuring submission of data and reports as prescribed in TM 38-750 and other applicable directives.

c. Aircraft Supply Officer. The aircraft supply officer provides staff planning, supervision, and control of general supply and maintenance supply activities of the battalion. Because of the interrelationship between maintenance and maintenance supply, it is essential that the supply officer maintain the closest coordination with the operations officer and the

maintenance officer. Staff responsibilities of the supply officer include—

- (1) Advising the commander concerning supply matters, existing and anticipated supply problems, and recommended supply actions.
- (2) Establishing and publishing the supply portion of battalion standing operating procedures.
- (3) In coordination with the maintenance officer, directing and coordinating lateral supply of repair parts within the battalion by arranging for transfer of parts from one maintenance unit to another.
- (4) Assuring that excess serviceable items are promptly returned to supply channels, and that unserviceable reparable items are promptly returned for repair and return to user or to supply. Controlled items and items in critically short supply are of particular concern.
- (5) Conducting supply assistance visits to subordinate units.
- (6) Maintaining necessary supply records, and compiling statistical data as directed.

d. Operations Sergeant. The operations sergeant, principal enlisted assistant to the assistant operations officer, plans and organizes work schedules within the section and assists in the overall supervision of battalion operations functions. He supervises other enlisted members of the section, coordinating their activities to provide maximum assistance to attached units; insure equitable and effective distribution of workloads among units; assure maximum utilization of maintenance resources; and eliminate work stoppages.

e. Repair Control Supervisor. The repair control supervisor assists the maintenance officer in monitoring production control activities. A major responsibility of the repair control supervisor is that of maintaining a record of the current status of aircraft maintenance within the command. He receives from each subordinate maintenance unit a daily report of the status of maintenance within its area of responsibility. Should there be significant changes following submission of the daily report, the unit provides supplementary informa-

tion by the most expeditious means. From this information the operations sergeant maintains charts or status boards, as directed by the maintenance officer, which visually depict the significant features of the aircraft maintenance and supply situation. In addition to providing a basis for maintenance planning, this graphic portrayal of information quickly alerts the maintenance officer to existing or developing problem areas and permits early corrective action.

f. Technical Inspector. The technical inspector is responsible directly to the commander and, as directed, assists in establishing and monitoring quality control procedures for repair of end items, components, and parts; performs random inspections of repairs to assure adherence to quality standards; assists and advises inspection and maintenance personnel of operating units; inspects aircraft and equipment records, and technical publication libraries; and assures compliance with current maintenance directives.

19. Employment

a. General. The aircraft maintenance and supply battalion headquarters is not an operating unit. It has no capability for performing maintenance, other than user level maintenance upon its own equipment, nor does it have the capability of providing stock control over repair parts supply. As indicated by discussion in preceding paragraphs of the headquarters functions and of the responsibilities of assigned personnel, the battalion headquarters provides the command, planning, and supervising required to coordinate and control the division aircraft maintenance effort, and to assure the maximum effective utilization of all available aircraft maintenance resources.

b. Operations. Operations of the aircraft maintenance and supply battalion are planned and controlled to insure that essential tasks are performed, that the priorities in which they are performed are appropriate to the tactical situation, that aircraft maintenance support is immediately responsive to the requirements of the tactical commander, and that all available maintenance resources are efficiently used. Operations are conducted in consonance with section functions and responsibilities as discussed in other parts of this text.

20. Communications

The aircraft maintenance and supply battalion headquarters is authorized one radio set, the radio teletypewriter set AN/GRC-46. It is used as the battalion radio net control station, and provides voice communications with higher and subordinate headquarters, as well as fur-

nishing a means of transmitting and receiving maintenance supply requisitions, instructions, reports, and data concerning maintenance and supply and other matters. The battalion wire net provides a means of communications between sections of the headquarters, and supplements radio communications with higher and subordinate headquarters.

SECTION VI

TRANSPORTATION AIRCRAFT DIRECT SUPPORT COMPANY

21. Mission, Organization, and Assignment

a. Mission. The transportation aircraft direct support company provides backup third echelon aircraft maintenance, supply and recovery support service to divisional aviation units and, excepting for transport aircraft units, direct third echelon maintenance and supply support service to nondivisional aircraft in corps and army.

b. Organization. The company (fig. 3) contains a company headquarters, a supply platoon, a recovery, delivery, and mobile repair platoon, and a shop platoon. The supply platoon comprises a platoon headquarters and supply records section. Organization of the shop platoon includes a platoon headquarters, a fixed wing maintenance section, a rotary wing maintenance section, and a component repair section.

c. Assignment. The transportation aircraft direct support company may be assigned to a corps or field army, and is normally attached to a headquarters and headquarters detachment, transportation aircraft maintenance and supply battalion. Two direct support companies are considered adequate to support a four division force.

22. Capabilities, Functions, and Limitations

a. Capabilities. At full strength, the transportation aircraft direct support company is capable of the following:

- (1) Providing 14,600 man-hours per month of third echelon repair support. Direct support maintenance man-hours, by type of aircraft are computed as follows:

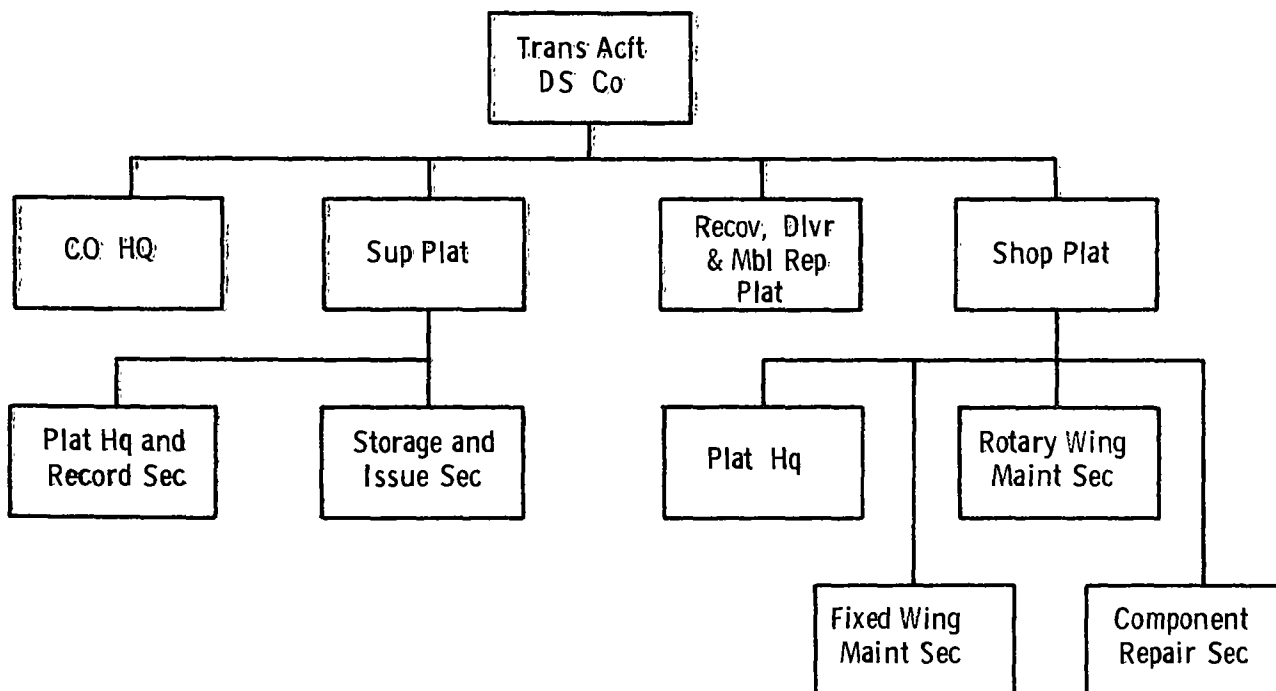


Figure 3. Transportation aircraft direct support company (TOE 55-457D).

<i>Type of aircraft</i>	<i>Maintenance man-hours required per month</i>
Airplane, observation light-----	102
Airplane, utility -----	153
Airplane, command -----	205
Airplane, observation, medium-----	205
Helicopter, observation -----	128
Helicopter, utility -----	190
Helicopter, transport, light -----	461
Helicopter, transport, medium -----	614

(2) Furnishing third echelon aircraft repair and supply support to include the provision of—

(a) Aircraft repair, maintenance supply, and evacuation and recovery service for Army aircraft organic or attached to nondivisional units, other than transport aircraft units, in corps and Army.

(b) On-site repair of aircraft performed on call by mobile maintenance teams.

(c) Backup third echelon repair, maintenance supply, and recovery support to the division field maintenance aircraft direct support unit.

(3) Maintaining a 15 day stockage of aircraft repair parts for all types of aircraft supported by the company.

(4) Operating two 10-hour shifts in support of aircraft during an around-the-clock operation.

(5) Displacing by organic transportation.

b. Functions.

(1) *Company headquarters.* The company headquarters contains the personnel necessary to provide command and administration of the unit, and to furnish the technical control and supervision necessary to assure mission accomplishment. In addition to the usual functions performed by a headquarters, this section contains the functions of production and quality control.

(2) *Supply platoon.* The supply platoon performs all functions required to provide maintenance supply support of the company maintenance operations, and of the support unit(s) or-

ganizational maintenance and supply operations. Functions of the supply platoon include requisitioning, receiving, storing, maintaining in storage, and making issue to support units and to the support company maintenance operation. The platoon also maintains informal accountability, with such records as are required for the determination of demand data, and the adjustment of stockage lists.

(3) *Recovery, delivery, and mobile repair platoon.* This platoon is staffed and equipped to retrieve an aircraft and return it to the company base of operations when the aircraft cannot be repaired on-site, or when it cannot be repaired sufficiently for evacuation under its own power; and, to deliver to the supported unit repaired aircraft, emergency supplies, or repair teams. The platoon is authorized a utility airplane and a utility helicopter which may be used in making aerial deliveries to supported units and in transporting personnel, tools, and necessary parts and equipment for performing on-site maintenance. When circumstances indicate, personnel and equipment of this platoon may be used to assist the shop platoon.

(4) *Shop platoon.* The shop platoon operates at the direct support company base of operations. This platoon contains the specially equipped semi-trailer-mounted shop vans which are necessary to accomplish the more complex repairs authorized by the applicable maintenance allocation chart to be performed at third echelon level. In addition to a platoon headquarters, which contains the platoon production and quality control personnel and the necessary repair parts and records specialists, the platoon contains a fixed wing maintenance section, a rotary wing section, and a component repair section. Each section is staffed and equipped to perform specialized repairs. Personnel and equipment of the shop platoon may be used to rein-

force the recovery, delivery, and mobile repair team.

c. Limitations.

- (1) Although the direct support company is organized to conduct around-the-clock operations, there are no suitable provisions for blackout of the maintenance operational area. Although it is true that the mobile shop vans can be blacked out, the vans accommodate only those items which can be repaired in a comparatively restricted area.
- (2) The size and weight of certain essential equipment, such as the mobile shop vans, severely limit the off-road capability of the direct support company.

23. Duties and Responsibilities of Personnel

Duties and responsibilities of key personnel of the transportation aircraft maintenance and supply battalion are discussed in some detail in paragraphs 16 through 20. More detailed information is contained in ARs 611-101, 611-112, and 611-201. This paragraph is concerned with the responsibilities of selected personnel of the transportation aircraft direct support company.

a. Company Commander. In addition to unit command and administration, the company commander is responsible for accomplishment of all phases of the aircraft maintenance and supply mission assigned to his command. Responsibilities of the commander include—

- (1) Organizing, managing, and controlling the maintenance operations.
- (2) Publishing maintenance and supply standing operating procedures.
- (3) Providing maintenance and supply backup to the direct support sections.
- (4) Maintaining liaison with supported tactical elements to provide early recognition of each developing problem area, and to permit effective maintenance programing.
- (5) Participating in battalion level maintenance planning conferences and recommending employment of the maintenance company.

- (6) Conducting company level maintenance planning conferences involving key members of his command and appropriate representatives from supported units.
- (7) Keeping the battalion commander fully informed concerning the company maintenance capabilities, current workload, programed workload, and work backlog.
- (8) Advising the battalion commander, and recommending solutions to special problems.
- (9) Providing technical assistance to supported units.
- (10) Conducting inspection of aircraft and allied equipment as directed.
- (11) Preparing and maintaining records and charts, and compiling and submitting statistical data and reports as required.

b. Production Control Officer. The production control officer is responsible to the company commander for planning and managing the company maintenance tasks, and for assuring that the quality of work meets established standards. The production control officer must, at all times, be fully informed concerning the equipment readiness status of aircraft supported by the company, the maintenance shop workload and status of repair jobs within the shop; the status of maintenance supply support as it affects or will affect the maintenance effort, programed major inspections and replacement of time compliance components, and any special requirements which may be placed upon the maintenance company because of tactical operations or for any other reason. After considering these factors, the production control officer is able to schedule maintenance into the shop, establish work priorities within guide lines provided by the aircraft maintenance and supply battalion commander, coordinate with the aircraft supply officer to assure availability of components for scheduled replacement and to eliminate work stoppages resulting from nonavailability of maintenance supplies, and make other adjustments of maintenance resources as necessary. The production control officer also maintains forms and records, compiles statistical data, and submits reports as

prescribed in TM 38-750 and TM 38-750-1, and as directed locally. He maintains a master chart or board which visually portrays the current status of maintenance within the company. The production control officer has two assigned technical inspectors. He also maintains a library of applicable technical publications and monitors maintenance quality control.

c. Aircraft Supply Officer. The aircraft supply officer is responsible for the maintenance supply support portion of the company technical mission, and directs and controls all technical supply functions. Technical supply includes all operations required to obtain, account for, store, and issue repair parts and other maintenance supplies required by supported units, direct support sections and shop operations in performing maintenance on assigned or attached aircraft and ancillary equipment. The aircraft supply officer is responsible to the company commander for—

- (1) Preparing the repair parts supply portion of the maintenance company standard operating procedures.
- (2) Requisitioning, receiving, storing, accounting for, and issuing maintenance repair parts.
- (3) Coordinating with the platoon leader of the shop platoon and of the recovery, delivery, and mobile repair platoon as required to assure adequate repair parts support of the user units and of company maintenance operations.
- (4) Maintaining informal stock accountability.
- (5) Participating as appropriate in maintenance planning conferences at company and battalion level.
- (6) Maintaining liaison with and making supply assistance visits to supported units.

d. Platoon Leader—Shop Platoon. The leader of the shop platoon supervises the company maintenance shop operations. Repair includes aircraft, assemblies, and parts thereof, and may be for return to user or return to stock. The platoon leader is assisted by an aircraft maintenance technician and noncommissioned officer aircraft repair specialists. He is re-

sponsible to the company commander for the following:

- (1) Laying out the shop area, to include provision for camouflage and local security.
- (2) Preparing the shop operations portion of company standing operating procedures.
- (3) Planning and managing the intrashop procedures, methods, and operations.
- (4) In coordination with the production control officer, establishing intrashop work priorities.
- (5) Coordinating with the production control officer in scheduling work into the shop.
- (6) Coordinating with the production control officer in establishing and maintaining quality standards for repairs performed by the shop and direct support section.
- (7) Maintaining liaison with the recovery, delivery, and mobile platoon and reinforcing its effort as necessary.
- (8) Coordinating with the aircraft officer to assure timely availability of parts required to make repairs, and to advise the repair parts officer of repaired items which will be available to the repair parts section for stock.
- (9) Maintaining intrashop production control and necessary statistical data, and knowing the status of equipment and parts undergoing repair.
- (10) Maintaining a library of required technical publications.
- (11) Providing for continuity of shop maintenance support during unit displacement.
- (12) Participating in maintenance planning conferences at company and battalion level, and as otherwise directed.
- (13) Test flying of aircraft as required.

e. Platoon Leader—Recovery, Delivery, and Mobile Repair Platoon. The leader of this platoon is a qualified maintenance officer, rated in rotary and fixed wing aircraft. He is assisted by a rated warrant officer aircraft maintenance technician. As appropriate to the mission, the platoon leader forms teams from among the

specialists included in his platoon, and provides the control and supervision necessary to assure that these teams accomplish their technical mission. The teams are designed to accomplish such missions as on-site repair of fixed wing or rotary wing aircraft; on-site repair of engines, major components, and similar items of equipment; recovery of disabled aircraft; provision of technical assistance and advice; or any other aircraft maintenance or supply mission which will further the maintenance effort. The platoon leader may request the assistance of the shop platoon leader, with whom he maintains close liaison.

24. Employment

The transportation aircraft direct support company is organized and equipped to perform as much maintenance on-site as is possible within the limitations of available tools and equipment, available time, and the tactical situation. Equipment for which maintenance cannot be performed is removed to the company base of operations or, when appropriate, evacuated to the general support (backup) company. Maintenance support of nondivisional aircraft is on an area basis.

a. Deployment. Normally, two transportation aircraft direct support companies support a four division force. These companies are located in the corps area, well back toward the corps rear boundary, and each company is positioned best to support the area for which it is responsible. The maintenance site should be readily accessible by road, and should have an airstrip that accommodates all types of aircraft supported by the company. The number and types of heavy vehicles organic to this unit limit the types of terrain over which the company can operate. Advantage should be taken of any available hardstand, existing shelter, and cover or concealment. The company location should permit the coordination of defense perimeters with those of other units.

b. Displacement. The company displaces on

battalion order. If at all possible, the movement warning order should be issued sufficiently in advance to permit completing maintenance on aircraft which cannot otherwise be moved. When establishing a new position, the maintenance company maintains the old site in a limited operational status until the new site becomes operational. It is essential that this maintenance company at all times keep the maintenance battalion commander and the commanders, or appropriate staff representatives of all supported elements advised of the company location and operational status.

c. Operations. The operation of maintenance and supply activities of this company are in consonance with functions of platoons and sections, and with duties and responsibilities of personnel, as discussed in other portions of this chapter. It is reemphasized that mobile repair teams, tailored to fit the specific requirements, perform as much repair as possible on-site. However, the bulk of repair is accomplished at the company base of operations, where the situation is normally more stable and there are more complete maintenance facilities.

d. Command Relationships. Command and administrative matters are resolved through normal channels. Matters of a technical nature are resolved through direct coordination and liaison between the supporting and supported units.

25. Communications

The transportation aircraft direct support company is authorized a radio teletypewriter set AN/GRC-46 for transmission of requisitions and other written messages, and for normal communications with higher headquarters. It is also authorized an AN/GRC-19 to operate in the command net. Radio set AN/GRR-5 provides for air warning service. Two AN/PRC-10 sets and two AN/PRC-6 sets provide a mobile means of short-range communications for use in expediting internal maintenance and supply activities.

SECTION VII

TRANSPORTATION AIRCRAFT MAINTENANCE AND SUPPLY COMPANY (GENERAL SUPPORT)

26. Mission, Organization, and Assignment

a. Mission. The mission of the transportation aircraft maintenance and supply general support company is to provide supply support to fourth echelon and backup third echelon maintenance support for aircraft organic to, or attached to, divisional and nondivisional units in the field army, and for transportation transport and light helicopter units in the field army.

b. Organization. This company (fig. 4) contains a company headquarters, a supply platoon, a shop platoon, and a field maintenance platoon. The supply platoon is comprised of a platoon headquarters and records section and a storage and issue section. The field maintenance

platoon contains a platoon headquarters, a fixed wing section, and a rotary wing section.

c. Assignment. The general support company is assigned to a field army. Normally, it is attached to a headquarters and headquarters detachment, transportation aircraft maintenance and supply battalion.

27. Capabilities, Functions, and Limitations

a. Capabilities. Two general support companies provide the necessary maintenance and supply support for a four division force. At full strength, the general support company is capable of the following:

- (1) Providing 25,800 man-hours of fourth

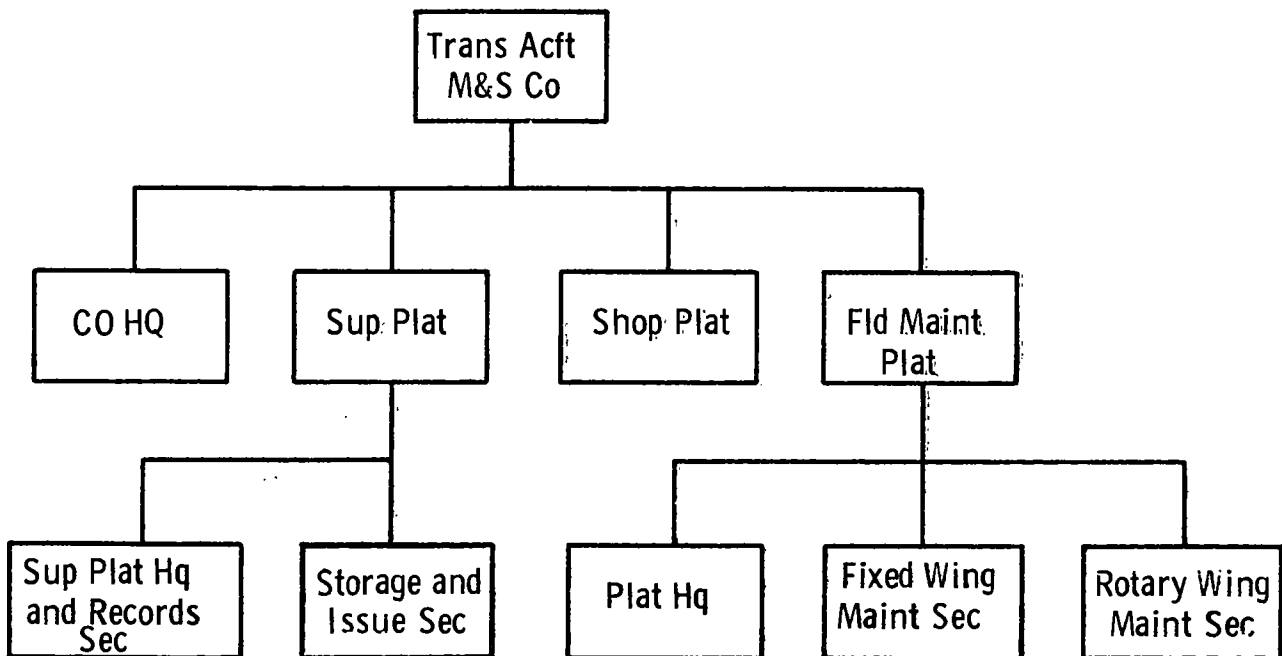


Figure 4. Transportation aircraft maintenance and supply company (general support) (TOE 55-458D).

echelon and third echelon backup maintenance support per month.

- (2) Requisitioning on the field army stock control center and receiving, storing, maintaining in storage, and issuing the aircraft maintenance supplies required in support of a two division force.
- (3) Maintaining a 30-day level of maintenance supplies for the types of equipment supported.
- (4) Providing direct supply support to its own unit shop and field maintenance platoon.
- (5) Locally repairing or manufacturing selected items of maintenance supply which are not included in supply channels.
- (6) Defending its installation against hostile ground attack. When necessary, individuals of the unit fight as infantrymen.

b. Functions.

- (1) *Company headquarters.* Functions of the company headquarters parallel those described for the company headquarters of the transportation aircraft direct support company (par. 21b).
- (2) *Supply platoon.* The supply platoon receives requisitions from direct support companies and, when the requisitioned item is on hand, ships the item and notifies the field army stock control center of the action taken. When requisitioned items are not in stock, the supply platoon forwards the requisition to the field army stock control center for supply action. The supply platoon maintains informal accountability on supplies and equipment received on requisition, evacuated, and issued to supported units.
- (3) *Shop platoon.* Functions of the shop platoon include the repair of engines, airframes and structures, airframe components and assemblies, and aircraft systems. The platoon is staffed and equipped to repair all types of rotary wing and fixed wing aircraft in the field army. Equipment of the

platoon includes the family of "C" set mobile aircraft maintenance shops, and authorized repairmen include specialists in all areas of aircraft maintenance.

- (4) *Field maintenance platoon.* The field maintenance platoon removes, reinstalls, and adjusts assemblies, subassemblies, and components of all types of aircraft organic to the field army, both fixed wing and rotary wing. Although the general support company has no specific mission of providing on-site repair, teams may be made up from personnel within the field maintenance platoon and shop platoon and flown by organic aircraft to units requiring maintenance assistance. Repairmen may also be used in technical assistance teams.

c. Limitations.

- (1) The general support company is only 50 percent mobile. Hence, without transportation augmentation, it must displace by shuttling.
- (2) The nature of repairs performed by this unit, and the attendant extent of disassembly or tear-down of equipment, make it imperative that displacement be planned sufficiently in advance to permit completion of work currently under way, and to divert a portion or all of incoming maintenance to another unit until the displacement is completed.
- (3) The nature and quantity of wheeled vehicles, such as supply vans and mobile maintenance shops, limits the off-road mobility of this unit.
- (4) The company requires assistance when making aerial recovery or evacuation of disabled aircraft, since it is not authorized aircraft of the type or capacity to accomplish this mission.

28. Duties and Responsibilities of Personnel

The duties and responsibilities of personnel assigned to the transportation aircraft maintenance and supply general support company are generally the same with respect to fourth echelon maintenance, as are their counterparts in

the transportation aircraft direct support company with respect to third echelon maintenance. For example, the general support company commander is charged with the same responsibilities for planning and administration and for command and control of the maintenance effort as is the commander of the direct support company. This relationship also holds true of key supervisory personnel and of enlisted maintenance specialists who are school-trained to the same level of proficiency as are those in the direct support company. The extent of repairs authorized to be performed by assigned repairmen are prescribed in the appropriate maintenance allocation chart, and are accomplished in accordance with the TM 55-series pertaining to the equipment.

29. Employment

Normally, two transportation aircraft maintenance and supply general support maintenance companies support a four division force, with one general support company providing the backup third echelon maintenance support, the fourth echelon maintenance support, and the maintenance supply support required by a transportation aircraft direct support company. In addition, the general support company provides fourth echelon maintenance support and maintenance supply support to the two transport aircraft units normally located in the field army.

a. Deployment. The general support company operates from a maintenance base established relatively well forward in the field army area and displaced best to provide general support. A major factor to consider in selecting the maintenance site is the possibility of having to displace because of enemy activity or other urgent reasons. Rapid evacuation of a site will normally necessitate the abandonment or de-

struction of aircraft on which maintenance is underway but can neither be completed in the time available nor moved without completion.

b. Displacement. The general support company displaces upon battalion order. Sufficient warning is required to permit cleaning up all possible maintenance work prior to displacing. The old maintenance site is maintained in a limited operational status until the new site becomes operational. Higher headquarters, adjacent maintenance units, supported direct support companies, and supported transport aircraft maintenance units are kept advised as to the location and the operational status of the general support company.

c. Operations. The general support company completes overflow third echelon repairs which the direct support unit is unable to accommodate, and accomplishes all fourth echelon repair of aircraft. It provides maintenance supply support within the capabilities of its stockage, advising the field army stock control center for purposes of stock control. Requisitions for items out of stock are forwarded to the field army stock control center for supply action, and the requisitioning agency is advised accordingly. The general support company provides maintenance and supply support on an area basis which includes its allocated portion of the field army rear area and the aircraft located therein.

30. Communications

The transportation aircraft maintenance and supply general support company has wire communication for intra-company communications. It is also authorized a teletypewriter set AN/GGC-3 for receipt and transmission of requisitions. Voice communication is available through the area communications system.

SECTION VIII

TRANSPORTATION TRANSPORT AIRCRAFT DIRECT SUPPORT COMPANY

31. Mission, Organization, and Assignment

a. Mission. The mission of the transportation transport aircraft direct support company is to provide third echelon maintenance, supply, and recovery support for light transport airplanes, and for medium transport helicopters assigned to a transport aircraft battalion.

b. Organization. This unit (fig. 5) contains a company headquarters, a supply section, a service and recovery platoon, a medium helicopter direct support platoon, and an airplane direct support platoon.

c. Assignment. The transportation transport aircraft direct support company is assigned to a field army. It is normally attached to a headquarters and headquarters detachment, transportation aircraft maintenance and supply battalion.

32. Capabilities, Functions, and Limitations

a. Capabilities. At full strength, this unit is capable of the following:

(1) Providing in excess of 13,104 direct labor man-hours per month of third echelon aircraft maintenance and recovery support for approximately 16 medium transport helicopters and 16 light transport airplanes. These figures are based on the following factors:

- | <i>(a) Type aircraft</i> | <i>Manhours of direct maintenance required per month</i> |
|--------------------------------|--|
| Light Transport Airplane----- | 205 |
| Medium Transport Helicopter .. | 614 |
- (b) The medium helicopter direct support platoon provides 7,360 direct labor man-hours per month of on-site direct support maintenance for approximately 16 medium transport helicopters.

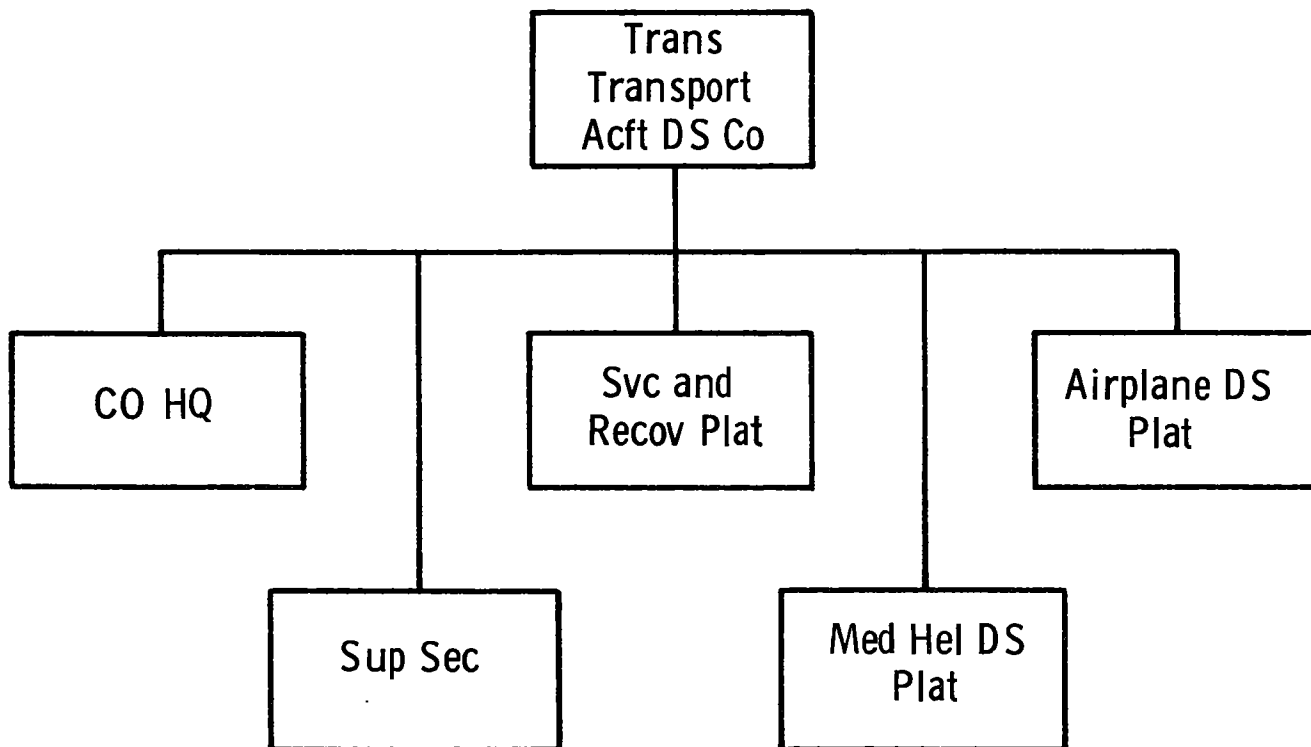


Figure 5. Transportation aircraft direct support company (TOE 55-468D).

- (c) The airplane direct support platoon provides 2,464 direct labor man-hours per month of on-site direct support maintenance for approximately 16 light transport airplanes.
 - (d) The service and recovery platoon provides in excess of 3,280 direct labor man-hours per month of back-up support to the direct support platoon, to include ground evacuation of aircraft or emergency on-site repair of disabled aircraft. These figures allow for nonproductive time in effecting these operations.
- (2) Maintaining a 15-day stock level of parts in support of organizational maintenance supply requirements of supported unit and in support of its own maintenance operations.
 - (3) Processing maintenance supply requisitions submitted by supported units.
 - (4) Providing limited on-site repairs for temporarily unflyable aircraft.
 - (5) Providing recovery and evacuation of disabled aircraft.
 - (6) Defending its installation against hostile ground attack. When necessary, unit personnel fight as infantrymen.

b. Functions.

- (1) *Company headquarters.* Functions of the company headquarters parallel those described for the company headquarters of the transportation aircraft direct support company (par. 21b).
- (2) *Supply section.* The supply section requisitions, receives, and stores transportation air items of supply to meet the requirements generated by one transport aircraft maintenance company and organizational maintenance requirements of one medium transport helicopter company and one light transport airplane company. It has personnel who are responsible for receiving supply requirements and in turn making further supply requests

to the supporting transportation general support supply sources. It maintains records to reflect the items required, on hand, due in, and due out. The aircraft supply officer directs the requisitioning and issuance of, and accounting for supply items required.

- (3) *Service and recovery platoon.* The service and recovery platoon absorbs the maintenance overload of the direct support platoons and undertakes more complex third echelon requirements involving extended tear down time. It provides mobile contact teams for affecting field repairs on flyable aircraft temporarily forced down in areas away from their base of operation. It accomplishes field evacuation of wrecked aircraft and delivers them to appropriate maintenance installations as dictated by the extent of damage. The service and recovery platoon is not designed to operate separately but normally functions at the same location as company headquarters.
- (4) *Medium helicopter direct support platoon.* This platoon makes third echelon repair of medium transport helicopters assigned to the transport aircraft battalion. The platoon is capable of operating on-site as a platoon, or of providing mobile teams of specialists, tailored to a specific maintenance mission. Within its capabilities, this platoon provides emergency supply support to the supported helicopter company.
- (5) *Airplane direct support platoon.* This platoon makes third echelon repair of transport airplanes assigned to the transport aircraft battalion. The platoon is capable of operating on-site as a platoon, or of providing mobile specialist teams tailored for specific maintenance missions. Within its capabilities, this platoon provides emergency supply support to the supported transport aircraft company.

c. Limitations.

- (1) When the direct support maintenance

platoons are performing on-site maintenance support, they are dependent upon the supported units for messing, and for assistance in local security.

- (2) The semitrailer-mounted shop sets organic to this company adversely affects its off-road mobility.
- (3) The company is dependent upon supported units for aerial transportation.

33. Duties and Responsibilities of Personnel

The duties and responsibilities of personnel assigned to the transportation transport aircraft direct support company are generally the same with regard to this unit as are their counterparts in the transportation aircraft direct support company discussed in paragraphs 21 through 25. The commander and platoon leaders perform the same functions with relation to their individual positions, as do those in other types of aircraft field maintenance and supply support organizations. The three platoons which perform maintenance are each authorized an aircraft maintenance technician in lieu of a production control officer. In addition to the duties of the maintenance technician as described elsewhere in this manual, he functions as production control officer for the platoon.

34. Employment

The transportation transport aircraft direct support company provides field maintenance and supply support to the fixed wing company

and the medium helicopter company of the transport aircraft battalion. If this support is to be effective it must of necessity be available in the relatively immediate vicinity of the transport aircraft battalion. The transport aircraft battalion is normally based in the corps rear area or in the field army forward area. The field maintenance base is established in the same general area and normally operates as a unit. It may dispatch repair teams, or a complete platoon if appropriate, to work with the supported unit as required by the tactical situation or the status of maintenance within the supported unit. Repairs requiring extensive disassembly are performed at the company base of operations. The maintenance support company displaces as required to assure continued and effective support for the transport unit. Displacement of the maintenance support unit is only upon order of the transportation aircraft maintenance and supply battalion, which effects necessary coordination with the transport aircraft battalion.

35. Communications

A wire net is provided for intracompany communications. Company headquarters is authorized radio teletypewriter set AN/GRC-46 for command purposes, and for transmitting and receiving requisitions and other data. The service and recovery platoon has a radio set AN/GRC-19 which permits the platoon to communicate with company headquarters during aircraft evacuation and recovery missions.

1

SECTION IX

TRANSPORTATION LIGHT TRANSPORT HELICOPTER DIRECT SUPPORT MAINTENANCE AND SUPPLY COMPANY

36. Mission, Organization, and Assignment

a. Mission. The mission of this company is to provide third echelon field maintenance, supply, and recovery support for light transport helicopters assigned to a transport aircraft battalion.

b. Organization. This company (fig. 6) contains a company headquarters, a supply section, a service and recovery platoon, and three direct support platoons.

c. Assignment. The transportation light transport helicopter direct support maintenance and supply company is assigned to a field army. Normally it is attached to a head-

quarters and headquarters detachment, transportation aircraft maintenance and supply battalion. However, it may operate separately to provide third echelon maintenance support for three light transport helicopter companies (or equivalent), in which case it is under the control of the transportation staff officer of the command.

37. Capabilities, Functions, and Limitations

a. Capabilities. At full strength, this unit is capable of the following:

- (1) Providing a minimum of 27,660 direct labor man-hours per month of direct support third echelon aircraft main-

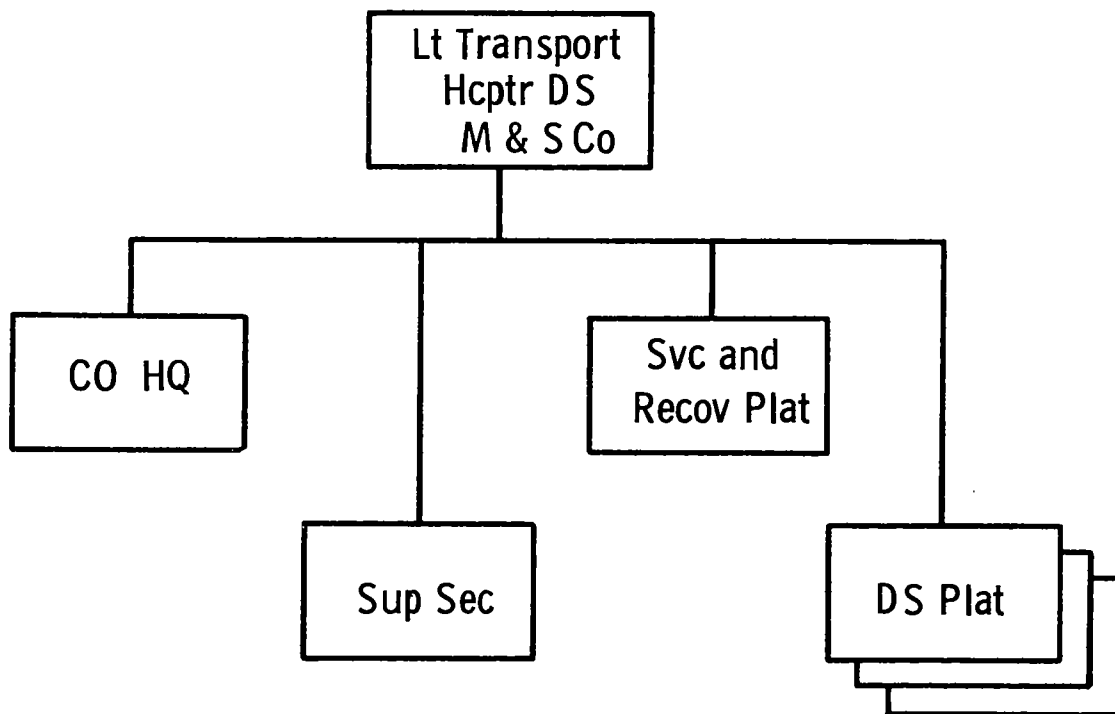


Figure 6. Transportation light transport helicopter direct support maintenance and supply company (TOE 469D).

tenance and recovery support for 60 light transport helicopters (three helicopter companies). This is based upon a requirement of 461 direct support maintenance man-hours per helicopter per month.

- (a) Providing 7,000 direct support maintenance man-hours per month per each direct support platoon for 20 light transport helicopters (one company) on-site at the unit location.
- (b) Providing a minimum of 6,660 maintenance man-hours of direct backup support to the direct support maintenance platoons, to include ground evacuation of aircraft and on-site of downed aircraft. This allows for nonproductive man-hours, such as travel time, which are attendant to this type of operation.
- (2) Maintaining a 10-day stock level of maintenance supplies.
- (3) Supporting its own maintenance operations and providing emergency backup supply to support helicopter companies.
- (4) Providing requisitioning facilities for supported units.
- (5) Defending itself against ground attack. Personnel of the unit fight as infantrymen when required to do so.

b. Functions.

- (1) *Company headquarters.* Functions of the company headquarters are generally the same as those of company headquarters of the transportation aircraft direct support company (par. 21b). The principal difference is in the location of production control which, in the light helicopter direct support company, is in the service and recovery platoon.
- (2) *Supply section.* The supply section provides maintenance supply support for the company maintenance operations and for the organizational maintenance operations of three light helicopter companies. Functions of this

section also include placing supply requirements on the supporting transportation general support supply sources; receiving, storing, and issuing items of maintenance supply; and maintaining informal records to reflect supply requirements, items on hand, due in, and due out, and issues to shop operations and to supported units.

- (3) *Service and recovery platoon.* The service and recovery platoon absorbs the maintenance overflow of direct support platoons, and completes complex third echelon maintenance which involves extended disassembly and down time. This platoon provides mobile contact teams from specialized personnel assigned to the platoon. The teams repair flyable aircraft which may be temporarily forced down in areas away from their base of operations. It accomplishes field evacuation of helicopters which cannot otherwise be made flyable, and delivers them to the appropriate maintenance activity as determined by the extent and nature of damage and malfunction. Since the service and recovery platoon is not designed to operate separately, it is normally located with the maintenance company headquarters.
- (4) *Direct support platoon.* The light helicopter direct support company contains three direct support platoons, each of which supports one light helicopter operating company and is capable of operating at the transport helicopter's main base of operations. The platoon is capable of performing all third echelon repairs that are authorized by the applicable maintenance chart. However, the extent of repairs performed by the direct support platoon is influenced by the amount of disassembly or tear down permitted by available time or by the tactical situation. The direct support platoon also provides emergency maintenance supply support to its supported helicopter company.

c. Limitations.

- (1) The size and weight of certain essential equipment, such as the mobile, semitrailer-mounted shop vans, severely limit the off-road mobility of this company.
- (2) When operating from a helicopter company base of operations, the direct support platoon is dependent upon the supported unit for messing and for assistance in local security. The maintenance company provides one cook to the direct support platoon when the platoon is operating separately.

38. Duties and Responsibilities of Personnel

The duties and responsibilities of personnel assigned to the transportation light transport helicopter direct support maintenance and supply company are generally the same with regard to this unit and to the operational units it supports, as are their counterparts in the transportation aircraft direct support company with regard to its supported units (pars. 21-25). The commander and supervisory personnel perform the same functions with relation to their individual positions, as do those in other types of aircraft field maintenance and supply support organizations. However, in the transport helicopter direct support company, overall production control is a task of the service and recovery platoon. In addition, each direct support platoon has a production control officer who exercises control responsibilities within his platoon.

39. Employment

a. The transportation light transport helicopter direct support maintenance and supply company provides third echelon field maintenance support for three light transport helicopter companies normally assigned to the transport aircraft battalion. Third echelon repairs beyond the support company's capabilities, and fourth echelon maintenance, are performed by the transportation aircraft maintenance and supply company (general support). The light helicopter direct support company also receives backup maintenance supply support from the general support company.

b. The base of operations of the light transport helicopter direct support company is normally located in the vicinity of the transport aircraft battalion base. The support company may operate as a unit and dispatch mobile maintenance and technical assistance teams as required, or it may maintain at its base a shop operation only and dispatch the direct support teams to the operating bases of the supported helicopter companies.

c. The direct support platoon is the normal contact for the supported company. Repairable and unserviceable items are turned in to the direct support platoon. Requests for issues of emergency parts are filled by the direct support platoon. Other requests for issue submitted by supported units are forwarded by the platoon to the company base. If the item is not available in company supply the company submits a requisition to the supporting general support company.

d. Evacuation of aircraft is held to a minimum. If aerial lift is required to recover an aircraft the direct support company requests the support unit to provide the necessary assistance.

e. Repairs requiring extensive disassembly are normally performed at the company base of operations. Since much of this type of repair cannot be readily moved, efficient displacement of the maintenance unit requires as much advance notice as possible. Displacement is upon order of the aircraft maintenance and supply battalion commander, who effects necessary coordination with interested agencies.

40. Communications

a. The three direct support platoons and the company headquarters are each equipped with an AN/GRC-46, FSK, (radio teletype and voice service) with vehicular installation. The rapid and frequent displacements of the supported units prevent reliance on wire communications. A readily operable communication system must be provided to assure transmission of recurring supply requirements and maintenance data to the supporting transport aircraft supply unit. This requirement is in consonance with the supply concept of limited

supply stockage and streamlined requisition and delivery. A reliable method of transmitting supply requirements must be available at each point where requirements are generated. The radioteletype messages provide a record source for ready reference as the requisitions are processed. This method of transmitting requirements also reduces time on the air, eliminates errors in receiving and interpreting broadcast data, and greatly reduces man-hour requirements for processing. Since the company will normally be widely dispersed when in operation, the voice service provides a control element essential for command integrity.

b. Radio set AN/GRC-19 is used in the service and recovery platoon to net with the

AN/GRC-46 in connection with the evacuation and recovery support mission and by contact teams which may be formed for other repair assistance missions.

c. Seven telephone sets TA 312/PT are provided for general intracompany communication when operating with all elements in a centralized area. When the company is dispersed, the direct support platoons use their assigned sets for communication with the supported units. These telephones are distributed in the company as follows:

Company headquarters	1
Supply section	2
Service and recovery platoon.....	1
Direct support platoons	3 (1 ea.)

APPENDIX REFERENCES

AR 320-5	Dictionary of United States Army Terms
AR 320-50	Authorized Abbreviations and Brevity Codes
AR 711-16	Installation Stock Control and Supply Procedures
AR 725-50	Requisitioning, Receipt, and Issue System
AR 735-35	Supply Procedures for TOE Units, Organizations, and Non-TOE Activities
FM 1-10	Army Aviation Organizational Aircraft Maintenance and Supply
FM 3-12	Operational Aspects of Radiological Defense
FM 9-30	Maintenance Battalion: Division Support Command
FM 21-40	Small Unit Procedures in Nuclear, Biological, and Chemical Warfare
FM 101-5	Staff Officers' Field Manual: Staff Organization and Procedure
FM 101-10	Staff Officers' Field Manual: Organization, Technical, and Logistical Data
TM 3-210	Fallout Prediction
TM 3-220	Chemical, Biological and Radiological (CBR) Decontamination
TM 38-750	The Army Equipment Records System and Procedures
TM 38-750-1	Maintenance Management, Field Command Procedures

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NG: State AG (3); units—same as active Army except allowance is one copy to each unit.

USAR: Same as active Army.

For explanation of abbreviations used, see AR 320-50.

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