

DEPARTMENT OF THE ARMY
HEADQUARTERS III CORPS AND FORT HOOD
Fort Hood, Texas 76544

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Military Publication
STANDARDIZATION OF COMPANY AND BATTALION
MAINTENANCE STANDING OPERATING PROCEDURES

1. **PURPOSE.** To provide a format to III Corps and Fort Hood commanders for preparation of standard company and battalion maintenance standing operating procedures (SOP). The proposed SOPs are for unit maintenance programs but are not designed to address aviation maintenance.
2. **APPLICABILITY.** These procedures are provided as guidelines to all units within III Corps and Fort Hood and should be tailored by the unit commander to meet any special instructions or maintenance procedures he prescribes. These examples are not regulatory in nature. They are designed to serve as an aid in standardization and preparation of maintenance standing operating procedures.
3. **FORMAT.**
 - a. Standing operating procedures follow a standardized format in that they have a heading, a body, and a close (authentication).
 - b. **Heading.** The heading identifies the unit which prepared the SOP, along with its location or mailing address. It gives the date of issue, provides a file or SOP number for reference, and gives the SOP title.
 - c. **Body.** The information contained in the body of the SOP varies to suit the needs of the preparing unit. It provides a general introduction to the SOP as shown in the sample outlines. Subsequent sections give more detailed coverage of one or more specific major operational areas of the unit.
 - d. **Close (Authentication).** The close of the SOP contains the signature of the commander which makes the SOP official and directive in nature. It also includes a list of appendices to the SOP and the distribution. A change of command is an occasion which warrants the review of maintenance policies for possible revision and update with the new commander's authentication.

(AFZF-GD)

FOR THE COMMANDER:



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Brigadier General, USA
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- 2 Annexes
1. Sample Battalion Maintenance Standing Operating Procedures (SOP), with 17 appendices
2. Sample Company Maintenance Standing Operating Procedures (SOP), with 9 appendices

DISTRIBUTION:
IAW FH Form 1853, ATTN: G4, S4, Motor Pools
22(70), 33(2), 35(1), 36(100), 61(150), 62(150)
63(15), 64(30), 68(6), 71(20), 73(7), 74(3)

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b. Battalion Sergeant Major.

(1) Verifies there is adequate maintenance training time incorporated into the battalion training schedule by coordinating with the S3 and the company First Sergeant.

(2) Ensures that the battalion's parking areas and maintenance shops are maintained in a high state of police to provide a safe and clean environment to work in.

c. Staff.

(1) Executive Officer. The battalion executive officer (XO) is assigned primary staff responsibility for the entire maintenance program. He keeps the battalion commander informed of the status of maintenance within the battalion, to include maintenance operations, personnel, and training. The XO serves as the battalion logistics readiness officer.

(2) S1. The S1 is responsible for monitoring the assignment of maintenance personnel. He accounts for personnel by MOS and grade and identifies projected gains and losses. The S1 is the battalion publications manager. He monitors the receipt of publications, placing emphasis on the establishment of pinpoint distribution accounts at unit level. The S1 has staff responsibility for the battalion awards system.

(3) S2. The S2 keeps the commander informed of weather and terrain factors that may affect maintenance operations.

(4) S3. The S3 has staff responsibility for the battalion maintenance training program. In coordination with battalion and unit motor officers, the S3 ensures adequate time is scheduled for maintenance and maintenance training and integrates maintenance activities and training sessions into the battalion training program whenever possible. The S3 requests quotas for attendance at Fort Hood and other maintenance schools.

(5) S4. The S4 is the primary staff officer for supply activities in the battalion. The S4 is responsible for consolidation and preparation of the battalion Materiel Condition Status Report (DA Form 2406) and its submission to higher headquarters. The S4 coordinates all logistics activities in the battalion including supply, maintenance, movements, and services. The S4 monitors units' prescribed load lists (PLL) and submits PLL zero balance reports as required.

(6) Battalion Motor Officer (BMO). The BMO is the principal assistant to the XO in the implementation of the battalion maintenance program. He supervises the battalion automotive maintenance technician and battalion motor sergeant and coordinates maintenance activities within the battalion as specified in this SOP. The BMO keeps the XO informed of the maintenance status of all equipment within the battalion. The BMO oversees maintenance training in coordination with the S3. (See also Appendix B, Duties of Maintenance Personnel.)

(7) Battalion Automotive Maintenance Technician. The maintenance technician is the principal assistant to the BMO. The technician supervises the performance of organizational maintenance within the battalion to include: technical inspections of equipment, dispatch procedures, application of modification work orders (MWO), repair parts operations, and records management. (See also Appendix B.)

** (8) Battalion Motor Sergeant. The battalion motor sergeant supervises shop operations and assigns work by priority to all sections. (See also Appendix B.)

**Pertains to battalions with battalion-level maintenance activities.

d. First-Line Leaders.

(1) Supervise operator maintenance of assigned equipment.

(2) Instruct operators and alternate operators on the proper conduct of PMCS. Verify operators' PMCS by signing block 8a of the completed DA Form 2404.

(3) Ensure operator crew presence and participation in scheduled services for assigned equipment.

(4) Monitor follow-up actions to operator PMCS by the organizational maintenance activity.

e. Operators.

(1) Maintain their equipment in accordance with applicable operator's technical manuals and the unit maintenance SOP.

(2) Perform preventive maintenance checks and services (PMSC) at the following times:

- (a) Whenever the item of equipment is dispatched for operation.
- (b) No less than weekly regardless of operation frequency.
- (3) Check equipment operational status, including correct lube and fuel levels:
 - (a) At the close of motor stables or weekly PMCS sessions.
 - (b) After scheduled maintenance periods.
 - (c) Upon completion of equipment operation.
 - (d) At the termination of field training exercises.

(4) Sign for and maintain accountability and serviceability of Basic Issue Items (BII) and Additional Authorization List (AAL) items for assigned equipment.

3. MAINTENANCE OPERATIONS.

a. Organization. The battalion functional organization for maintenance operations is at Appendix A.

b. Scheduled Maintenance Services. Scheduled maintenance is maintenance of equipment that must be performed at specific intervals.

(1) Maintenance services of tactical vehicles and ground support equipment will be scheduled under the supervision of the motor sergeant (of the supporting organizational maintenance activity) on DD Forms 314, Preventive Maintenance Schedule and Record.

(2) All maintenance services will be scheduled at least one month, or one service, in advance.

(3) Notifications of scheduled services to using sections will be accomplished in writing no later than 14 days prior to date of service.

(4) Unit commanders will schedule services by bumper number on unit training schedules.

(5) The assigned operator, crew members, and first-line leader will deliver the item, complete with operator's manuals, to the maintenance shop as directed. Crew personnel will remain with the equipment until the service is complete or until released by the appropriate authority.

(6) Scheduled services, except lubrications, will be performed by the maintenance activity. Operators and section personnel will assist in the performance of services. Lubrications may be performed by the operator crew under the supervision of the maintenance section.

(7) Defects noted during the performance of scheduled services will be recorded on DA Form 2404 in columns a, b, and c. Corrective actions will be recorded in column d, and initialed in column e. Uncorrected faults will be noted on the deferred maintenance 2404 in accordance with Appendix F, Disposition and Control of DA Forms 2404.

(8) Each maintenance activity will establish a quality control system for scheduled services in accordance with Appendix P of this SOP.

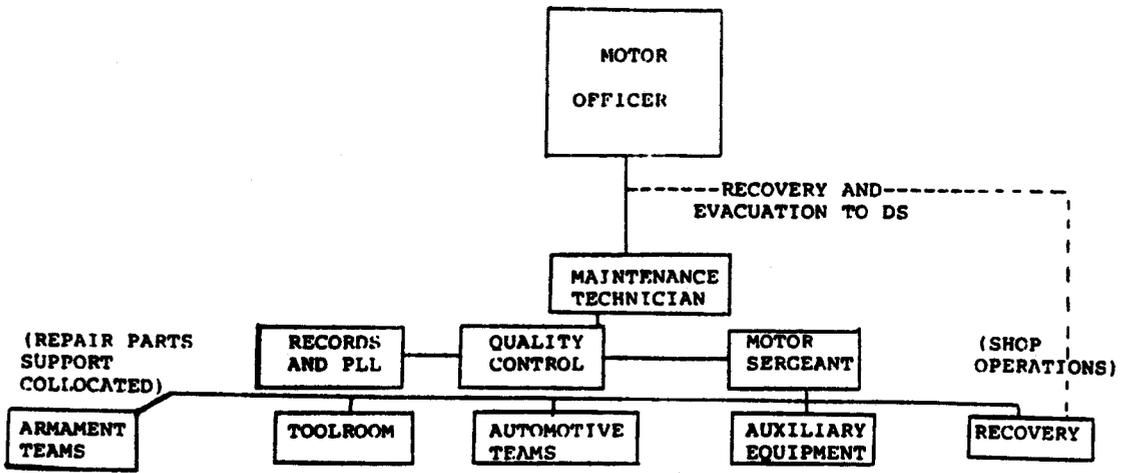
c. Close of maintenance operations. At the end of the duty day, or of maintenance operations, maintenance leaders should inspect the maintenance area for which they are responsible. The inspector should ensure that:

- (1) Shop floors and paved work areas are free of mud, grease, and oil.
- (2) Tools and test equipment are secured.
- (3) Parts are secured in P/L storage or unit bins for installation, or in bins for recoverable or unserviceable parts.
- (4) Vehicle components and ancillary equipment, other than track and removed power packs, are stowed on the vehicle or in other designated stowage areas.
- (5) Each motor sergeant has work assignment sheets for the next day.

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4. TOOLS AND TEST EQUIPMENT. (Appendix E, FH Regulation 750-2)
 - a. Each mechanic will sign for a mechanics tool kit.
 - b. All tools and test equipment from organizational sets are checked out on an individual basis and returned the same day. Overnight sign-out of tools, when authorized, will be done through a temporary hand receipt signed by the issuing individual.
 - c. Inventories of tool sets will be done no less than quarterly.
 - d. Calibration of TMDE will be done according to FH Regulation 750-15.
 - e. Tool marking and security of mechanics tool kits will be done according to FH Regulation 190-3.
 - f. Tool room custodians and alternates will be appointed in writing by the responsible commander.
 - g. Tool shortages will be reported to the battalion property book officer (PBO) for corrective action. Tool room custodians will maintain shortage listings with current status of supply actions on tool shortages.
 - h. The S4 will ensure that all components of sets, kits, and outfits are on hand or on order (if supply constraint has not been reported by this battalion).

APPENDIX A
MAINTENANCE ORGANIZATION



"This Appendix pertains only to battalions with battalions-level organizational maintenance activities."

APPENDIX B
DUTIES OF MAINTENANCE PERSONNEL

1. BATTALION MOTOR OFFICER.

- a. Keeps the commander and staff informed of the operational status of materiel and ancillary equipment.
- b. Plans the battalion annual maintenance program.
- c. Coordinates battalion maintenance operations with DS and all other units.
- d. Supervises supply, recovery, and evacuation of equipment, components, and parts.
- e. Supervises the use of maintenance publications.
- f. Plans scheduled preventive maintenance services.
- g. Supervises licensing of equipment operators.
- h. Monitors and coordinates organizational maintenance operations.
- i. Maintains the maintenance annex to the battalion SOP.
- j. Plans the battalion maintenance training program.
- k. Leads the battalion maintenance platoon.
- l. Not used.
- m. Should be PLL and TAMMS certified.
- n. Follows-up on faults identified during technical inspections conducted during periodic services or turn-in of equipment to DS.

2. AUTOMOTIVE MAINTENANCE TECHNICIAN.

- a. Serves as the principal assistant to the battalion motor officer.
- b. Organizes and supervises the records section, quality control, and organizational maintenance of tank-automotive, engineer, and auxiliary equipment.
- c. Controls the flow of requests, parts, scheduled maintenance, and repairs from the companies to the DSU.
- d. Schedules preventive maintenance services.
- e. Directs quality control inspections of maintenance operations, records, and predispatch inspections.
- f. Recommends driver and mechanic awards as an incentive to good maintenance, in accordance with applicable regulations.
- g. Analyzes equipment deficiencies and failures.
- h. Recommends new maintenance procedures to the battalion motor officer.
- i. Prepares the weekly equipment status report for the battalion motor officer.
- j. Should be PLL and TAMMS certified.
- k. Ensures that mechanics and maintenance leaders are trained on the proper use of TMDE, including STE-ICE and requires the use of TMDE for troubleshooting and repairing system failures.

3. BATTALION MOTOR SERGEANT.

- a. Supervises shop operations.
- b. Prepares a work assignment sheet each day that allocates the next day's work to the turret section, automotive section, toolroom, power generation repairman, welder, and recovery section.

(This Appendix pertains to battalions with battalion-level organizational maintenance activities.)

- c. Supervises scheduled maintenance services, tests, troubleshooting, repair, use of tools and test equipment, replacement of parts, safety, and OJT training.
- d. Drafts the shop operations SOP.
- e. Serves as platoon sergeant of the battalion maintenance platoon.
- f. Supervises crew and operator maintenance of platoon equipment.
- g. Should be PLL and TAMMS certified.

4. RECORDS SECTION.

- a. Chief, Records Section. Supervises all maintenance records and prepares reports as directed. Should be PLL and TAMMS certified.
- b. Repair Parts Specialist.
 - (1) Should be PLL certified.
 - (2) Requests, receives, identifies, stores, and issues repair parts.
 - (3) Maintains all PLL records.
- c. Equipment Records Clerk.
 - (1) Should be TAMMS certified.
 - (2) Prepares weekly Equipment Status Report (reverse side of DA Form 2406).
 - (3) Edits all information placed on forms and records in the Army Maintenance Management System in accordance with DA Pam 738-750.

5. QUALITY CONTROL (QC) INSPECTOR. Inspects all vehicles, including trailers and support equipment:

- a. After scheduled services as directed by the battalion maintenance technician.
- b. At random as directed by the battalion maintenance technician. (Although leaders normally inspect vehicles prior to dispatch, the QC may occasionally spot check to provide information to the chain of command.)
- c. Prior to evacuation to support.
- d. Upon return from direct support.

6. AUTOMOTIVE TEAM LEADER. Directs the teams as they perform scheduled services, tests, troubleshooting, and repair. Supervises the use of TMDE and STE-ICE during scheduled services.

7. ARMAMENT TEAM LEADER. Directs teams as they inspect, service, repair, and adjust vehicular weapons, armament systems, fire control systems, and traversing and elevating systems.

8. CHIEF, RECOVERY SECTION. Supervises recovery operations, and ensures recovery personnel are trained in accordance with appropriate publications.

9. TOOLROOM ATTENDANT. Maintains and controls all common and special tools and test equipment. Ensures that all tools and test equipment are accounted for and returned prior to COB each day.

10. WELDER.

- a. Welds by arc and acetylene as directed by the battalion motor sergeant.
- b. Straightens and aligns fenders, springs, bumpers, brackets, tools, and other equipment as directed by the battalion motor sergeant. Repairs and fabricates parts or recommends fabrication by the DSU.

**APPENDIX C
MAINTENANCE TRAINING**

1. **GENERAL.** Commanders will develop well organized and managed maintenance training programs in conformance with battalion policies. Maintenance training will consist of classroom and practical work. Classroom instruction will include, as a minimum, operator, first line leader, and section maintenance responsibilities, records, and forms, dispatch procedures, maintenance shop operations, and maintenance and safety awards. Normally, classroom instruction will be presented prior to practical maintenance procedures.

2. **OPERATOR TRAINING.**

a. The maximum number of personnel in each unit will be licensed equipment operators. Whenever possible, at least two people should be licensed for each piece of equipment. Unit commanders are responsible for training operators.

(1) Training for operators of Army motor vehicles will be conducted IAW FM 21-305 and FM 55-30. M

(2) Training of operators of track-laying vehicles will be conducted IAW TM 21-306 and FM 21-17.

(3) Training for operators of construction equipment and materiel handling equipment (MHE) will be IAW TB 600-2.

(4) Training for operators of electrical power generating equipment, gas generating equipment, air compressors, and heating and cooling equipment will be IAW TB 600-1.

b. Training of motor vehicle operators will include the following:

- (1) Functions and characteristics of major components of the equipment.
- (2) Operator oriented publications, forms and reports, including operator technical manuals (TM-10), equipment records, and accident reports.
- (3) Operator maintenance, including preventive maintenance checks and services (PMCS) and scheduled maintenance services.
- (4) Safety and accident prevention procedures and requirements.
- (5) Field expedience and recovery techniques.
- (6) Preparation, use and disposition of the DA Form 2404.
- (7) Accountability and maintenance of BII and AAL items.

3. **MAINTENANCE PERSONNEL TRAINING.**

a. Training of mechanics includes classroom and hands-on training exercises which address the following:

- (1) Proper use of TMDF, including STE-ICE.
- (2) Shop operations and quality control.
- (3) DSU policies and procedures.
- (4) Tool room operations.
- (5) TAMMS and PLL operations.
- (6) Recovery operations.
- (7) Contact team support system.
- (8) PMCS follow-up.

b. On-the-Job Training (OJT). OJT will be used to alleviate MOS shortages. Commanders will coordinate the OJT program with the battalion S1.

c. **Cross Training.** Cross training is authorized in lieu of OJT under circumstances where the training period does not exceed 45 days and permanent assignment is not anticipated. Cross training is encouraged for all maintenance personnel; however, it is not a substitute for school attendance or OJT.

d. **Certifications.** Motor sergeants, PLL clerks, and TAMMS clerks will be certified through the III Corps and Fort Hood Troop School).

4. **TRAIN THE TRAINER PROGRAMS.** Noncommissioned officer development programs (NCODP) and junior officer development programs (JODP) will be used to train chain of command members so they are qualified to train their subordinates in maintenance subjects.

5. **SCHEDULING.** Maintenance training classes will be scheduled on unit training schedules with instructor personnel, subject area, reference, duration, and attendees properly identified. Maintenance sessions, such as PMCS or motor stables, will not exceed four hours per session. Scheduling of operator maintenance sessions should be by bumper number to ensure adequate mechanic support and full section participation. Commanders will schedule maintenance training instruction in accordance with the battalion long range maintenance training program. Instructor personnel will submit lesson outlines to unit commanders or motor officers prior to scheduled instruction.

6. **SCHOOLS.** Requests for maintenance school quotas will be submitted by unit commanders to the battalion S1.

APPENDIX D
OPERATOR TESTING AND LICENSING

1. Testing.

a. Fort Hood driver's testing will be administered in accordance with AR 600-55 and FH Reg 600-15.

b. Commanders will ensure that applicants for operator permits have valid, current DA Forms 348 which attest to the full qualification and successful road testing on the items of equipment listed on the SF 46, US Government Motor Vehicles Operator's Identification Card.

c. Commanders will designate road test examiner personnel in writing and provide them special training IAW AR 600-55.

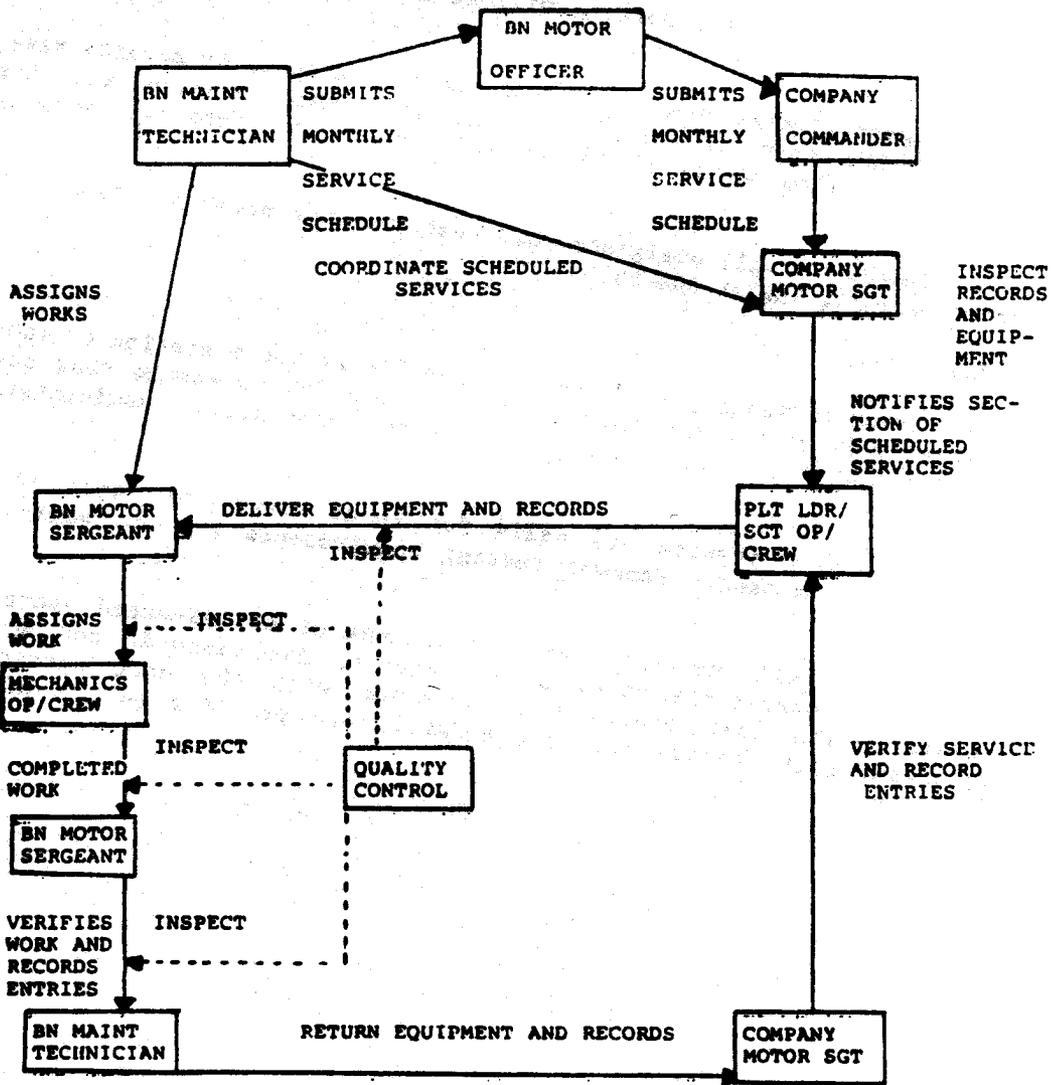
2. Licensing.

a. Prior to issuing an SF 46 to an applicant for operation of tactical equipment, the commander will review the individual's DA Form 348 to ensure that qualification data are in order and that road testing has been successfully administered by a designated examiner.

b. Operator permits are valid for three years from date of issue unless sooner suspended or revoked. Renewal testing requirements are the same as those specified in para 1 above.

c. Units will maintain current listings of all licensed operators. The lists will include the operator's name, permit number, date issued, and equipment authorized to operate. This list should be reconciled with the unit operator-alternate operator assignment list (battle roster), updated, and provided to the dispatcher no less than quarterly.

APPENDIX E
COORDINATION AND WORKFLOW OF SCHEDULED PREVENTIVE MAINTENANCE SERVICES



APPENDIX F
DISPOSITION AND CONTROL OF DA FORMS 2404

(NOTE: The battalion will here in prescribe the procedures for use and control of the DA Form 2404, including the Deferred Maintenance DA Form 2404, in accordance with DA Pam 738-750, TAMMS, and FH Regulation 750-2. The use of a document flow chart, such as the suggested chart below, is recommended.)

OPERATOR CREW	Prepare PMCS 2404; sign block 8a
FIRST-LINE LEADER	Verify PMCS DA Form 2404; sign block 8a
MOTOR SERGEANT	Direct Corrective Actions (including Organizational Repairs and Identification of Repair Parts Required)
TAMMS CLERK	Prepare or Revise Deferred Maintenance DA Form 2404
PLL CLERK	Order Parts; Annotate Deferred Maintenance DA Form 2404 with Document Numbers Where Appropriate
MOTOR SERGEANT (COMMANDER'S DESIGNATED REPRESENTATIVE	*Check Deferred Maintenance DA Form 2404, Verify Reasons for Delay
TAMMS CLERK	Return Completed Documents to Equipment Record Folder

*Commander designates individual in writing to verify entries on deferred Maintenance 2404.

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APPENDIX G
DISPATCH PROCEDURES

1. Dispatching of equipment will be done IAW Appendix M, _____ Battalion Maintenance SOP.
2. Mechanics will not be used to provide routine pre-dispatch technical inspections. The chain of command is responsible for ensuring equipment serviceability. Before dispatch, the first-line leaders will verify the operator's pre-operational checks and services DA Form 2404 by signing block 8a above the operator's signature.
3. Operators will have the following items on hand at all times during equipment operation:
 - a. Operators Manual TM-10.
 - b. Operators Permit (SF 46)
 - c. Lubrication Order (LO)
 - d. Equipment Record Folder containing: DA Form 2404 daily, Deferred Maintenance DA Form 2404 (if vehicle has uncorrected faults), DD Form 518, SF 91.

**APPENDIX H
PUBLICATIONS**

Commanders ensure that needed publications are on hand, or are on requisition and that on hand publications are current. The following is a suggested list of publications which can be used to form the core of a maintenance library:

1. ARMY REGULATIONS.

- a. AR 11-14, Logistic Readiness.
- b. AR 190-51, Security of Army Property at Unit and Installation Level.
- c. AR 220-1, Unit Status Reporting.
- d. AR 310-2, Identification and Distribution of DA Publications and Issue of Agency and Command Administrative Publications.
- e. AR 340-2, Maintenance Disposition of Records TOE Units of the Active Army, The Army Reserve and the National Guard.
- f. AR 350-1, Army Training.
- g. AR 385-10, Army Safety Program.
- h. AR 385-30, Safety Color Code Marking and Signs
- i. AR 385-32, Protective Clothing and Equipment.
- j. AR 385-40, Accident Reporting and Records.
- k. AR 385-55, Prevention of Motor Vehicle Accidents.
- l. Not used.
- m. AR 600-55, Motor Vehicle Driver-Selection, Testing, and Licensing.
- n. AR 672-5-1, Military Awards.
- o. AR 700-4, Logistics Assistance Program.
- p. AR 700-9, Policies of the Army Logistics System.
- q. AR 700-98, Materiel Assistance Designated (MAD) Report.
- r. AR 725-50, Requisitioning, Receipt, and Issue System.
- s. AR 735-5, Basic Policies and Procedures For Property Accounting.
- t. AR 746-1, Packaging of Army Materiel For Shipment and Storage.
- u. AR 750-1, Army Materiel Maintenance Concepts and Policies.
- v. AR 750-22, Army Oil Analysis Program.
- w. AR 750-25, Army Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Repair Support Program.
- x. AR 750-37, Sample Data Collection-The Army Maintenance Management System.
- y. AR 750-43, Test, Measurement, and Diagnostic Equipment.
- z. AR 750-51, Maintenance Assistance and Instruction Team (MAIT) Program.
- aa. AR 750-52, Equipment Operationally Readiness Standards.
- bb. AR 750-58, Printing, Camouflage Painting, and Marking of Army Materiel.

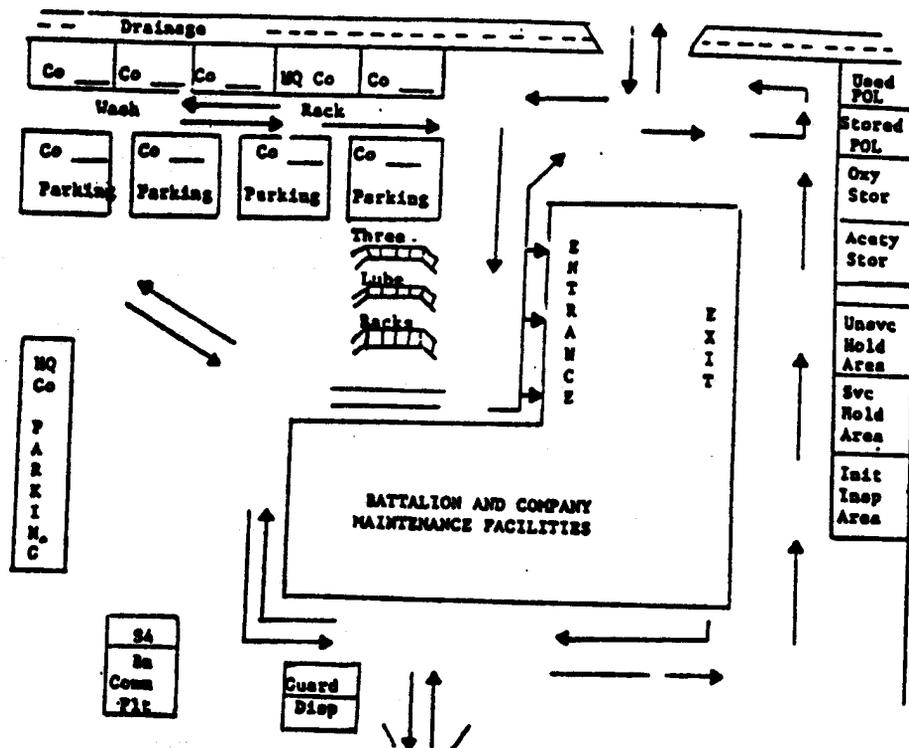
2. DEPARTMENT OF THE ARMY PAMPHLETS.

- a. DA Pam 310-1, Consolidated Index of Army Publications and Blank Forms .
- b. DA Pam 310-10, The Standard Army Publications System (STAR PUBS) Users Guide.

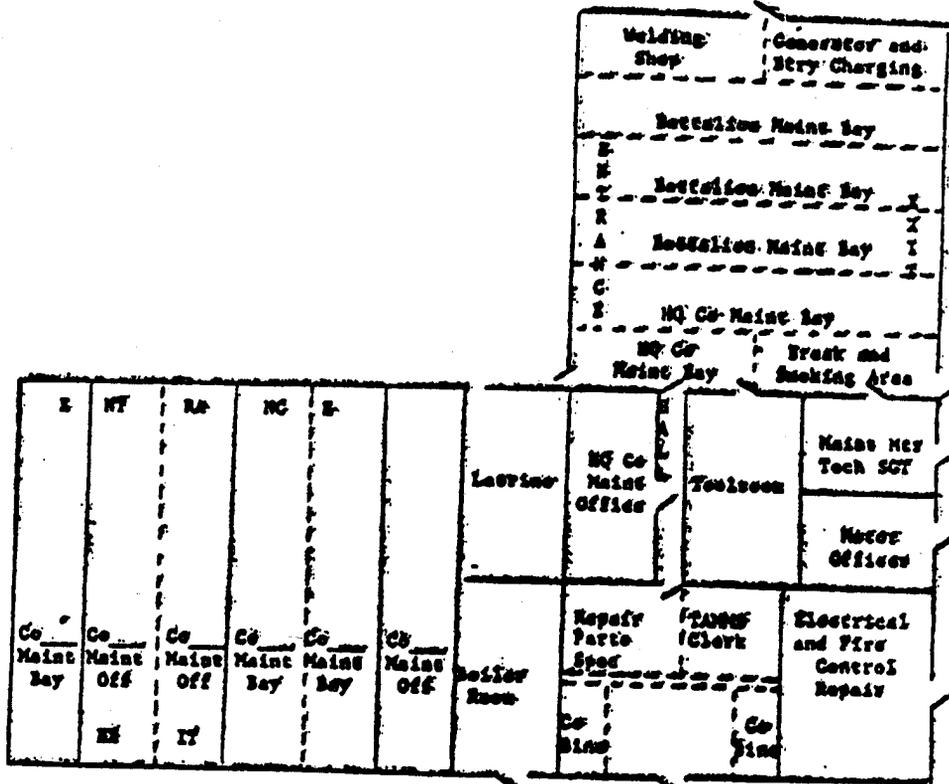
- c. DA Pam 310-13, Posting and Filing Publications.
 - d. DA Pam 738-750, Maintenance Management Update.
 - e. DA Pam 750-1, Organizational Maintenance Guide for Leaders.
 - f. DA Pam 750-5, Army Oil Analysis Program (AOAP): Guide for Leaders.
 - g. DA Pam 750-10, US Army Equipment Index of Modification Work Orders.
 - h. DA Pam 750-19, Quality Management for Direct Support/General Support Maintenance Operations.
 - i. FH Pam 750-21, Logistic Support Modeling.
 - j. DA Pam 750-22, Troubleshooting Equipment in Combat Units.
 - k. DA Pam 750-31, The M561/M792 Gama Goat - Operation and Preventive Maintenance.
 - l. Not used.
 - m. DA Pam 750-33, Charging System Troubleshooting.
3. TECHNICAL MANUALS.
- a. TM 9-237, Operator's Manual for Welding Theory and Application.
 - b. TM 9-243, Use and Care of Handtools and Measuring Tools.
 - c. TM 9-2610-200-20, Organizational Care, Maintenance, and Repair of Pneumatic Tires, Inner Tubes, and Radial Tires.
 - d. TM 9-6140-200-14, Operator's and Organizational Direct Support and General Support Maintenance Manual for Lead-Acid Storage Batteries.
 - e. TM 9-8000, Principles of Automotive Vehicles.
 - f. TM 38-L22-15-2, Functional User's Manual for DLOGS.
 - g. TM 38-L32-11, Functional User's Manual for Direct Support Unit Standard Supply System.
 - h. TM 750-116, Organizational, Direct Support, and General Support Maintenance Procedures for Purging and Charging of Fire Control Instruments.
 - i. Technical Manual (-10, -20, 20P and ESC Manuals) for each type of equipment supported.
 - j. TM 9-4910-571-12 and P, Operator and Organizations Maintenance For STE/ICE.
4. SUPPLY CATALOGS.
- a. Component list (CL) supply catalog for each type toolkit authorized. MCRL 1, 2, 3, and Appendix P, CDA Pam 18-1.
 - b. Unit Supply Update.
5. FIELD MANUALS (FM).
- a. FM 5-36, Route Reconnaissance and Classification.
 - b. FM 10-68, Aircraft Refueling.
 - c. FM 10-69, Petroleum Supply Point Equipment and Operations.
 - d. FM 20-22, Vehicle Recovery Operations.
 - e. FM 21-6, How To Prepare and Conduct Military Training.
 - f. FM 21-17, Driver Selection, Training and Supervision, Tracked Combat Vehicles.

- g. FM 21-305, Manual for the Wheeled Vehicle Driver.
 - h. FM 29-2, Organizational Maintenance Operations.
 - i. FM 43-1 (Test), Organizational Maintenance Manager's Guide.
 - j. FM 43-1-1 (Test), Organizational Maintenance Manager's Guide - Indicator Lists.
 - k. FM 55-30, Unit Motor Transport Units and Operations.
6. Fort Hood Regulations.
- a. FH 190-3, Administration and Management of Physical Security.
 - b. FH 350-1, Active Component Training.
 - c. FH 700-5, Direct Exchange Operating Procedures.
 - d. FH 700-12, Contractor Operated Parts Store (COPARS).
 - e. FH 750-2, Maintenance of Supplies and Equipment.
 - f. FH 750-3, Combat Readiness Inspection Team (CRIT).
 - g. FH 750-9, Operational Readiness Float (ORF).
 - h. FH 750-15, The Installation Calibration Program.
 - i. FH 750-18, Responsibility for Maintenance Support.
 - j. FH 750-19, Fort Hood Warranty Program.
 - k. FH 750-37, Cold Weather Starting System for Track Vehicles.
 - l. Not used.
 - m. FH 750-50, Cleaning of Tactical and Combat Vehicle and Their Components.
7. Technical Bulletins.
- a. TB 600-1, Procedures for Selection, Training, Testing, and Qualifying Operators of Equipment/Systems, Excluding Selected Watercraft and Aircraft, Managed/Supported by Troop Support and Aviation Materiel Readiness Command.
 - b. TB 600-2, Procedures for Selection, Training, Testing, and Licensing Operators of Construction Equipment, Materiel Handling Equipment, and Armor-Vehicle-Launched Bridge (AVLB) Managed/Supported by US Army Tank-Automotive Materiel Readiness Command.

APPENDIX I
MOTOR POOL LAYOUT AND TRAFFIC PATTERN



APPENDIX J
BATTALION MAINTENANCE FACILITIES



APPENDIX K
DEFINITIONS

1. **MAINTENANCE CHAIN OF COMMAND.** Maintenance leaders, i.e., battalion commander, company commander, platoon leader, platoon sergeant, section leader, head of staff section, vehicle commander, or any other leader who has equipment maintenance responsibility, constitute the maintenance chain of command. Drivers should not negotiate directly with mechanics, this is the responsibility of leaders.

2. **MAINTENANCE PROGRAM.** An annual plan developed in conjunction with the annual training program. It should be designed to support all unit activities involving readiness, training, or equipment operations.

3. **MAINTENANCE TRAINING PROGRAM.** An annual plan developed in conjunction with the annual training and maintenance programs. The program provides information, schools, OJT, and unit training at all levels to ensure the presence of qualified maintenance personnel in all functional positions. The use of contract civilian personnel to teach is authorized; however, these personnel should not be permitted to fill duty positions or perform MOS duties. Training with Special Test Equipment/Internal Combustion Engine (STE/ICE) should be incorporated into as many programs as possible to ensure adequate use of this valuable diagnostic tool.

4. **MAINTENANCE PERIODS.** Any period of maintenance (maintenance is training) appearing on battalion, company, platoon, or section training schedules.

a. There are five types of maintenance performed during maintenance periods:

(1) Unit equipment maintenance.

(2) Before, during, and after-operation preventive maintenance checks and services are an integral part of any equipment operation for training, administration, or support.

(3) Individual maintenance skills (including OJT training).

(4) Motor stables.

(5) Care and cleaning of individual weapons and equipment.

NOTE: During unit tactical operations, unscheduled but frequent maintenance operations will be conducted in assembly areas and upon securing objectives. Such maintenance should fit the description of "at-the-halt" maintenance and is an integral part of a unit maintenance program.

b. Maintenance periods are scheduled as:

(1) Motor stables--minimum of 2 hours for tracked vehicles.

(2) Unit and individual maintenance--2-, 3-, or 4-hour blocks. The time should be determined by task.

(3) Part of tactical training or support operations.

5. **MOTOR STABLES.** A period of operational readiness checks scheduled daily, or included within other maintenance periods, devoted to ensuring that all vehicular and auxiliary equipment functions and is ready for combat. When maintenance or training with equipment is scheduled, motor stables need not be scheduled separately.

6. **MOTOR SERGEANT'S WORK ASSIGNMENT SHEET.** An informal document prepared by the motor sergeant before the close of business each working day. It lists the maintenance tasks to be performed in the next 24 hours. The list includes: any special requirements for tools, parts, lube, etc., and the names of the mechanics assigned to perform each task. The work assignment sheet prepared before holidays and weekends should cover tasks through 1700 of the next working day.

7. **COLLOCATED PLL.** The centralization of all repair parts and records under the direct supervision of the battalion maintenance technician. The PLL should be maintained by company so that a company PLL can be loaded on a company vehicle if that company is deployed separately. Company commanders and XO's should inspect the PLL to ensure that records are maintained correctly, including verification of priority requisitions.

8. SYMBOLS.

a. The X symbol signifies the most serious type of equipment fault, a deficiency. It is a materiel defect that has one or more of the following results.

- (1) The equipment is inoperable. Example: Engine will not start.
- (2) A safety hazard exists. Example: Faulty brakes.
- (3) Serious equipment damage may occur if operation continues. Example: Oil leak.

b. The circled X, (X), also indicates a deficiency. However, the equipment may be operated under certain conditions as prescribed by the local or higher commander until corrective action can be done. An example of the use of the (X) symbol is for indicating inoperable headlights on a tactical vehicle. Inoperative headlights are a deficiency (safety). However, if the vehicle is operated only in daylight, the safety hazard would be minimized. (Used to specify administrative deadline).

c. The diagonal (/) symbol indicates a materiel defect other than a deficiency, which must be corrected to increase efficiency or to make the item completely serviceable. Examples--torn seat cushion, bent fenders, tow hooks missing, or fuel gage inoperative. These deficiencies should be recorded on the Deferred Maintenance, DA Form 2404 if parts are not available.

d. The horizontal dash (-) symbol indicates that: a required inspection component replacement, maintenance operational check, or test flight is due, but has not been done, or an overdue MWO has not been done.

APPENDIX L
REPAIR PARTS SUPPLY

1. REPAIR PARTS CONTROL.

- a. All repair parts for the battalion may be collocated under the control of the battalion motor officer.
- b. The battalion repair parts specialist identifies all parts requests by unit.
- c. The battalion repair parts specialist provides the company motor sergeant with the document number when a part is placed on request.
- d. When parts are received, the battalion repair parts specialist places it in the appropriate unit bin and notifies the company motor sergeant of its arrival.
- e. Unit repair parts specialists deliver parts to company parts bins at least daily.
- f. Unit repair parts specialists pick up recoverable unserviceable parts from bins at least daily.

2. PRESCRIBED LOAD LIST.

- a. PLLs are established in accordance with current unit supply update and user manuals such as TM 38-L32-11 (Test) for DS4 or TM 38-L03-19 for SAILS.
- b. Leaders inventory PLLs every 90 days.
- c. Request for issue:
 - (1) Company repair parts specialists:
 - (a) Verify the description, NSN, quantity, and parts manual number on DA Form 2404.
 - (b) Complete DA Form 2765 (if a PLL item, use preprinted DA Form 2765).
 - (c) Maintain PLL records at battalion PLL office.
 - (2) Battalion repair parts specialist submits requisitions to the DSU at least daily.
 - (3) Commanders or their designated representative initial the document register for items requested using IPD (01 through 08) and sign the actual requisition.
- d. Quick Supply Store (QSS).
 - (1) Units submit requests for QSS items to the battalion repair parts specialist NLT-----each-----.
 - (2) The battalion repair parts specialist visits the supporting QSS at least twice a week.
 - (3) The battalion repair parts specialist lists all parts not available at the store on a want slip for subsequent action.
 - (4) QSS items will not be carried on unit PLLs.

3. PARTS BINS.

- a. Companies maintain platoon and section parts bins for parts awaiting installation.
- b. Companies maintain a bin for recoverable unserviceable parts.
- c. All parts will be properly protected and preserved.

(NOTE: This appendix pertains to units which have battalion and company level maintenance activities where PLL's are collocated under the battalion maintenance activity.)

APPENDIX M
DISPATCH PROCEDURES

1. **REQUEST FOR DISPATCH.** Requests for the dispatch of vehicles will be submitted to the approving authority at least 24 hours in advance. Requests will specify vehicle number, date required, destination, and the names of the operator and the first-line leader. Maximum effort will be made to consolidate transportation requirements to eliminate the unnecessary dispatch of vehicles.

2. **VEHICLE INSPECTION.**

Upon approval of a request for dispatch, the operator and first-line leader will perform preoperational checks and services ISW the operator's manual and correct all operator deficiencies noted. The first-line leader will verify the operator's DA Form 2404 by signing block 8a above the operator's signature, and turn in the completed document to the maintenance activity.

b. Defects beyond the scope of operator maintenance will be corrected by the maintenance activity. When all defects have been corrected, the maintenance leader will sign block 9a of the DA Form 2404.

c. When the vehicle is ready for dispatch, the operator will take the completed DA Form 2404 to the dispatcher who will initiate DD Form 1970, Motor Vehicle Utilization Records, after ascertaining that the operator has the following items:

(1) Valid SF 46, US Government Motor Vehicle Operator's Identification Card.

(2) Equipment Record Folder containing the following: SF 91; Operator Report on Motor Vehicle Accidents; DD Form 518; Accident Identification Card; Valid DA Form 2404 daily; Deferred Maintenance DA Form 2404 (if vehicle has uncorrected faults).

(3) Operator's Manual, TM -10.

(4) Lubrication Order (LO).

Dispatch data will then be entered on DA Form 2401, Organizational Control Record for Equipment. The vehicle will then be released to the operator.

APPENDIX N
SAFETY IN MAINTENANCE OPERATIONS

1. SEE THE BATTALION SAFETY SOP.
2. COMMANDERS WILL ENSURE THAT SUBORDINATES:
 - a. Provide posted "No Smoking" areas.
 - b. Do not allow smoking within 50 feet of vehicles or stored flammables.
 - c. Store paint and cleaning solvents in designated areas (Appendix I, Battalion Maintenance Facilities).
 - d. Do not use gasoline as a cleaning solvent.
 - e. Clean up spilled liquids at once.
 - f. Place fire extinguishers in an accessible area in the shop and ensure that they are inspected and weighed as required.
 - g. Stand clear of hoist when it is under stress.
 - h. Place shock blocks against each vehicle (one in front of the left track or wheel and the other to the rear of the right track or wheel).
 - i. Do not traverse turrets in power while in the shop.
 - j. Remove ammunition and combustible chemicals from vehicles before they enter the shop.
 - k. Welding precautions: (Hot work, FH Regulation 420-1)
 - (1) Wear protective clothing and goggles while welding.
 - (2) Store gas cylinders in a cool place.
 - (3) Provide sufficient ventilation when welding.
 - (4) Have serviceable fire extinguishers in welding area.
 - (5) Do not store oxygen and acetylene cylinders together.
 - l. Not used.
 - m. Refueling:
 - (1) Do not refuel vehicles in the maintenance shop.
 - (2) Observe the following procedures while refueling:
 - (a) Turn off engine.
 - (b) Connect ground wire to vehicle.
 - (c) Have a serviceable, portable fire extinguisher available when refueling.
 - (d) Clean refueling tanks and storage containers in strict compliance with appropriate technical and field manuals.
 - n. Tools:
 - (1) Use protective devices as required by regulation.
 - (2) Wrap chisels and other edged tools to prevent injury.
 - (3) Do not use "cheater bars" with handtools.
 - o. Use ground guides when moving vehicles.
 - p. Adhere to posted traffic signs in motor pool.

APPENDIX O
MAINTENANCE INCENTIVE AWARDS

1. DRIVER, MECHANIC, AND SPECIAL EQUIPMENT OPERATOR BADGE AWARD PROGRAM. Badges are awarded IAW AR 672-5-1 to denote the attainment of a high degree of skill in the operation and maintenance of US Army equipment. Eligibility requirements are as follows:

a. Driver. The individual must have:

(1) Qualified for and posses a current US Government Motor Vehicle Operator's Identification Card (SF 46), issued as prescribed by AR 600-55; and

(2) Performed assigned duty as a driver or assistant driver of Army vehicles for a minimum of 12 consecutive months, or during at least 8,000 miles and had no Army motor vehicle accident or traffic violation recorded on his Equipment Operator's Qualification Record (DA Form 348); or

(3) Performed satisfactorily for a minimum period of 1 year as an active qualified driver instructor or motor vehicle driver examiner.

b. Mechanic. The individual must have:

(1) Passed aptitude tests and have completed the standard mechanics' course with a "skilled" rating or have demonstrated possession of sufficient previous experience as an automotive or engineer equipment mechanic to justify such a rating; and

(2) Been assigned to primary duty as an automotive or engineer mechanic at organizational level or higher, or as in an active automotive or engineer mechanic instructor; and

(3) [if required to drive an Army motor vehicle in connection with automotive mechanic or automotive mechanic instructor duties]. Qualified for motor vehicle operators permit as prescribed above, and performed duty which included driving motor vehicles for minimum of 6 consecutive months, and had no Army motor vehicle accident or traffic violation recorded on his Equipment Operator's Qualification Record (DA Form 348).

c. Special Mechanical Equipment Operator. A soldier whose primary duty involves operation of Army materials handling or other mechanical equipment must have completed 12 consecutive months or 500 hours of operation, whichever comes later, without accident or written reprimand as the result of this operation, and his operating performance must have been adequate in all respects.

d. Who May Award. Commanders of brigades, regiments, separate battalions, and any commander in the grade of lieutenant colonel or higher, may award these badges.

2. PROCEDURES.

a. Unit commanders ensure that section leader personnel keep a record of appropriate mileage, hours, and time data in order that individual qualifications are duly recognized.

b. Unit commanders submit recommendations for award on DF to the battalion commander for approval. DF will state the individual's standard name line (SNL) and the type of badge for which recommended.

c. See the battalion awards SOP (S1) for procedures for obtaining orders and badges.

d. Unit commanders award badges during formations or other appropriate ceremonies.

**APPENDIX P
QUALITY CONTROL OF SCHEDULED SERVICES**

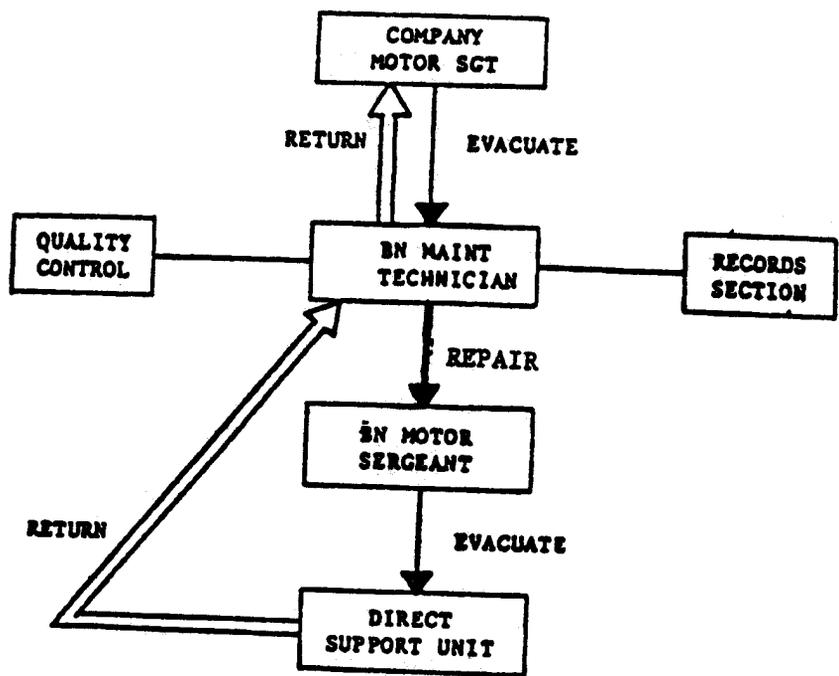
1. **QUALITY CONTROL (QC) SYSTEM.** Commanders will establish quality control systems to ensure that Q and S services are scheduled and conducted on time and according to this SOP and paragraph 3-3, DA Pam 738-750.
2. **SCHEDULING.** The QC section will spot check DD Forms 314, Equipment Record Folder title cards, training schedules, and notifications to sections to ensure continuity of information. QC personnel will also check with repair parts specialists to ensure that adequate quantities of filters, oil, and other repair part items required for services are on hand (or on order in sufficient time prior to the service to ensure availability).
3. **SERVICES CHECKLIST.** The following checklist may be used by QC personnel in checking the preparation and performance of services:

VEHICLE SCHEDULED SERVICES CHECKLIST

	YES	NO
1. Are the operators, crew, and leader present (three or more for each combat vehicle)?	---	---
2. Are adequate maintenance personnel available, with appropriate vehicle to remove engine assembly?	---	---
3. Is the motor sergeant or maintenance warrant available?	---	---
4. Are the NBC, armament, and communications repair personnel available, with appropriate checklists or SOPs?	---	---
5. Are required test equipment, general, and special tools available?	---	---
6. Are required publications on hand, to include unit SOP?	---	---
7. Are the TM and Q-Service SOP being followed?	---	---
8. Are adequate cleaning and lubrication materials on hand?	---	---
9. Are all repair parts required for the service on hand, i.e., filters and general hardware?	---	---
10. If the engine has been pulled, it is being ground-hopped properly and protected from dirt and moisture entering into the engine?	---	---
11. Is the vehicle road tested as part of the Q-Service?	---	---
12. Is the vehicle inspected upon completion of the Q-Service by a senior maintenance NCO?	---	---
13. Are safety procedures adequate (hoist, fire, tracks blocked, noise protection, cleaning fluids, test stands)?	---	---
14. Are crew members using proper clothing coveralls or Class X fatigues?	---	---
15. Is the service being performed within prescribed dates per DD Form 314? If the answer is "NO," a brigade-level commander has to authorize it.	---	---

APPENDIX Q
EVACUATION AND REPAIR, COMPANY TO DSU

(NOTE: The battalion will herein depict the procedures for evacuation of equipment from the company to the direct support unit. This may be accomplished through a flow chart such as the sample chart below.)



16 December 1983

FH Pam 310-3

ANNEX B
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SAMPLE COMPANY MAINTENANCE STANDING OPERATING PROCEDURES (SOP)

DEPARTMENT OF THE ARMY
COMPANY _____, _____ BATTALION
Port Hood, Texas 76544

Office Symbol

Date

SEE DISTRIBUTION

1. GENERAL.

a. These standing operating procedures (SOP) outline maintenance policies for this company.

b. Scope. This SOP is directed to operator and organizational level maintenance operations for all ground equipment in this company.

c. Objectives.

(1) To obtain maximum operational readiness of equipment within the company.

(2) To detect and correct potential or actual equipment failures or faults at the lowest level of maintenance.

(3) To ensure safe and reliable operation of company equipment under all conditions.

d. Revision. The company motor officer is assigned responsibility for continuous review and revision of these procedures.

2. RESPONSIBILITIES.

a. Company Commander. The company commander has overall responsibility for maintenance of all assigned equipment.

b. First Sergeant.

(1) Ensures that noncommissioned officers (NCO) in the company are trained and qualified to teach operator maintenance techniques and responsibilities for all equipment in their sections.

(2) Ensures there is adequate maintenance training (organized instruction, PMCS, etc) time on the unit training schedule.

(3) Checks maintenance training and motor stables sessions to ensure maximum participation and coaching by unit NCO's.

c. Motor Officer. (Normally the executive officer). See Appendix A.

d. Motor Sergeant. See Appendix A.

e. Platoon Leaders.

(1) Ensure that platoon equipment is combat ready at all times or that it is reported as nonavailable.

(2) Ensure that all platoon personnel are trained in operator maintenance responsibilities and procedures in accordance with this SOP and paragraph 2, Appendix C of the _____ Battalion Maintenance SOP.

(3) Assign a licensed primary and alternate operator and first-line leader to each item of equipment that requires an operator.

(4) Ensure that equipment is in a safe operable condition prior to operation.

(5) Ensure operator crew presence at scheduled maintenance periods.

- (6) Conduct informal inspections of platoon equipment at least weekly.
- (7) Supervise platoon sergeants in the performance of their maintenance duties.

f. Platoon Sergeants.

- (1) Assist the platoon leader in the performance of maintenance duties.

PMCS.

- (2) Ensure that all subordinate leaders in the platoon can accomplish and monitor
- (3) Supervise operator-level maintenance of platoon equipment.
- (4) Review TAMMS records entries at the close of each operation.
- (5) Train first-line leaders on maintenance supervision and coaching techniques.

g. First-line Leaders.

- (1) Supervise operator maintenance of assigned equipment.
- (2) Instruct operators and alternate operators on the proper conduct of PMCS. Verify operator PMCS by signing block 8a of the completed DA Form 2404.
- (3) Through on-site supervision, ensure operator crew presence and participation in scheduled services.
- (4) Monitor follow-up actions to operator PMCS by the organizational maintenance activity.
- (5) Monitor safe time and mileage logged by operator personnel to ensure the timely awarding of operator badges to deserving personnel.

h. Operators.

- (1) Operate and maintain assigned equipment according to applicable operators technical manuals and this SOP.
- (2) Perform PMCS on all assigned equipment (prime mover, trailer, communications equipment, generator, etc.) at the following times.
 - (a) Whenever the item is dispatched for operation.
 - (b) No less than weekly regardless of operation frequency.
- (3) Check equipment operational status, including correct lube and fuel levels:
 - (a) At the close of motor stables or PMCS sessions.
 - (b) After scheduled maintenance periods.
 - (c) Upon completion of operation.
 - (d) At the termination of field training exercises.
- (4) Sign for and maintain accountability and serviceability of Basic Issue Items (BII) and Additional Authorization List (AAL) items for assigned equipment.

3. MAINTENANCE OPERATIONS.

a. Scheduled Maintenance and Services.

- (1) Maintenance services of tactical vehicles and ground support equipment will be scheduled under the supervision of the motor sergeant on DD Form 314. Services will be prorated in such a manner as to make full use of available manhours and MOS skills.
- (2) All services will be scheduled at least one month, or one service, in advance.
- (3) Notifications of scheduled services to using sections will be done in writing NLT 14 days before date of service. Training schedules will indicate scheduled services by bumper number.

(4) Operator crew members and first-line leader will deliver the item of equipment to the maintenance shop on the scheduled service date and remain with the equipment until the service is complete or until released by the appropriate authority

(5) The maintenance shop will conduct quality control checks of scheduled services according to Appendix P of the _____ Battalion maintenance SOP.

b. **Unscheduled Maintenance.**

(1) Unscheduled operator-level maintenance will be performed by the operator crew during PMCS sessions or motor stables.

(2) Faults which cannot be corrected by the operator crew will be recorded on DA Form 2404 for corrective action by the maintenance activity. Faults which cannot be immediately corrected by the maintenance activity and which the commander has determined will not cause further deterioration or constitute a safety hazard during equipment use will be recorded on the Deferred Maintenance DA Form 2404. The commanders's designated representative (usually the motor sergeant) will verify all deferred maintenance entries and reasons for delay by initiating column e of the DA Form 2404.

(3) Non-mission-capable (NMC) deficiencies will be recorded by the operator on DA Form 2404, verified by the first-line leader, and furnished to the motor sergeant for corrective action. Upon notification of an NMC piece of equipment, the motor sergeant will assign a mechanic to troubleshoot and determine what level of maintenance is required.

(4) Organizational level repairs of NMC deficiencies on reportable items will be done within _____ hours after notification. If repair parts are required and not on hand, they will be requisitioned within _____ hours after notification. If repairs are required by the direct support unit (DSU), a DA Form 2407 will be initiated and the item of equipment will be evacuated within 72 hours according to _____ Battalion evacuation policies and procedures (Appendix Q, Bn Maint SOP).

4. **READINESS REPORTING.**

a. A vehicle status report (reverse side, DA Form 2406) will be submitted by the maintenance officer to the company commander each working day.

b. A weekly vehicle status report will be approved by the commander and submitted to the battalion maintenance officer IAW Appendix G, _____ Battalion Maintenance SOP.

c. The unit materiel condition status report (DA Form 2406) will be submitted by the maintenance officer to the commander for approval in sufficient time for the completed report to be forwarded to Battalion within 1 day after the end of the report period.

**APPENDIX A
DUTIES OF MAINTENANCE PERSONNEL**

COMPANY MOTOR OFFICER.

- a. Keeps the commander informed on the operational status of equipment.
- b. Coordinates company maintenance operations with battalion maintenance operations.
- c. Develops and organizes the company maintenance training program.
- d. Prepares the company maintenance SOP.
- e. Ensures the company maintenance section complies with this SOP.
- f. Supervises the preparation of the DA Form 2406. (See the battalion maintenance SOP).
- g. Should be TAMMS and PLL certified.
- h. Ensures that calibration coordinator appointment, duties, and responsibilities are outlined in writing.
- i. Ensures that a licensed primary and alternate operator is assigned to each item of equipment requiring an operator. Maintains the unit battle roster which identifies operators by name and equipment by bumper number.

2. COMPANY MOTOR SERGEANT.

- a. Supervises the company maintenance section.
- b. Schedules daily work for the armament, automotive, toolroom, quality control, and recovery personnel to maintain the flow of maintenance and repairs.
- c. At the end of each work day, prepares a work assignment sheet that schedules activities of maintenance personnel for the next workday.
- d. Supervises testing, troubleshooting, repair, use of tools, replacement of parts, and OJT and cross-training of maintenance personnel.
- e. Ensures safety in shop operations.
- f. Drafts the internal shop operations SOP.
- g. Supervises operator crew maintenance of equipment assigned to the maintenance section.
- h. Supervises the scheduling of services.
- i. Should be certified through testing administered by the Fort Hood Troop School.
- j. Supervises the preparation and disposition of TAMMS forms and records.
- k. Ensures the tool room custodian and alternate are appointed in writing. Supervises tool room operations and monitors the conduct of inventories.
- l. Not used.
- m. Supervises company PLL operations in coordination with the battalion maintenance technician.
- n. Ensures that repair parts and POL items required for scheduled services are on hand prior to the scheduled service date.

3. EQUIPMENT RECORDS CLERK.

- a. Prepares the Equipment Status Report (reverse side of DA Form 2406).
- b. Edits all information placed on forms and records in The Army Maintenance Management System in accordance with DA Pam 738-750.

c. Is required to be TAMMS certified.

d. Schedules services on DD Forms 314 per paragraph 3-3, DA Pam 738-750.

e. Ensures that uncorrected faults noted on operators' PMCS DA Forms 2404 are properly recorded on Deferred Maintenance DA Forms 2404 with reasons for delay and verifications by the commander's designated representative.

4. REPAIR PARTS SPECIALIST.

a. Maintains the unit PLL IAW Chapter 8, DA Pam 710-2-1, and the _____ Battalion Maintenance SOP.

b. Is required to be PLL certified.

5. QUALITY CONTROL.

a. Inspects all vehicles, including trailers and auxiliary equipment prior to evacuation of equipment to battalion or higher level maintenance and upon return of equipment from higher level maintenance.

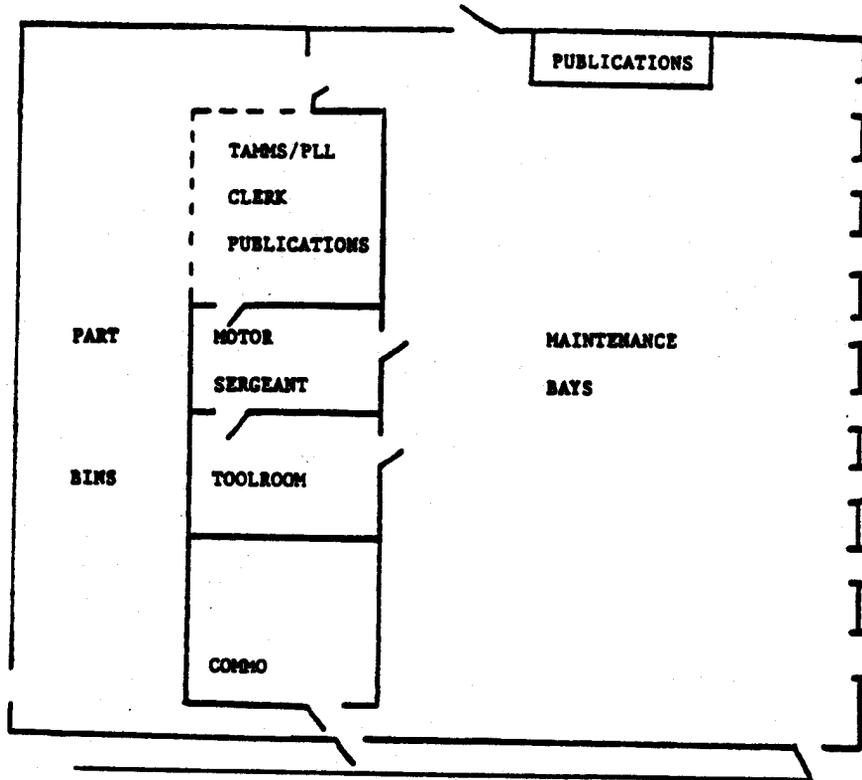
b. Conducts quality control checks of unit maintenance section repairs and scheduled services as directed by the motor sergeant.

6. SENIOR MECHANIC. Leads the mechanics as they inspect, service, test, troubleshoot and repair equipment. Teaches the use of TMDE and STE-ICE.

7. SENIOR RECOVERY OPERATOR. Supports services, repairs, and recovery operations as directed by motor sergeant.

APPENDIX B
MAINTENANCE SHOP LAYOUT

(NOTE: This appendix should depict the actual layout of the unit motor pool, showing the location of each section as in the sample provided below. The motor park layout and traffic pattern may also be illustrated here.)



**APPENDIX C
TOOL AND TEST EQUIPMENT**

1. GENERAL MECHANIC TOOL KITS.

a. Mechanics' tool boxes will be secured IAW Section 6, Chapter 5, FH Regulation 190-3.

b. General mechanic tool kits hand-receipted directly to the mechanics by the unit supply sergeant.

c. Inventories of general mechanics' tool kits are conducted monthly by the motor sergeant and each mechanic. The appropriate supply catalog will guide the inventory. Results of the inventory will be posted on both the mechanic's copy and the motor sergeant's copy of the DA Form 2062. The mechanic has sole possession of one lock and two keys for each toolbox. Each mechanic should have a shadow sheet for the tool box. Tools may be displayed upon it for inventories.

2. TOOL ROOM OPERATIONS.

a. The tool room custodian and alternate will be appointed in writing. Appointment documents will be posted on the tool room door. The primary tool room custodian will sign for the organizational tool sets on component hand receipts.

b. Tool room operating hours will be posted at the service window. Tool issues and receipts will be recorded on FH Form 550. Tools kept beyond normal tool room hours will be hand-receipted to the user. Before tool room closing time, the custodian will review the shadow boards, tool bins, and sign-out register and take action to recover tools prior to closing for the day.

c. The motor sergeant will ensure that tools are secured and stored in an orderly manner. Periodic inspections should be conducted by the motor sergeant to ensure that the tool room custodian:

(1) Checks the condition of tools before issue and upon return.

(2) Requires tools to be cleaned before return.

(3) Replaces tools upon return to their proper locations immediately after the condition check.

(4) Checks for tools not returned by the posted closing time and notifies the motor sergeant of tools not yet returned.

(5) Properly turns in unserviceable tools.

d. Tool room inventories.

(1) Inventories of Common No. 1, Common No. 2, and supplemental tool sets are conducted monthly by the motor sergeant and the custodian or alternate. The appropriate supply catalog should guide the inventory. Results of the inventory are posted on the appropriate supply catalog hand receipt and are annotated on the custodian's visible locator file.

(2) Tool shortages will be reported to the unit supply sergeant who will reconcile component hand receipts with the battalion PBO. The unit supply sergeant will initiate supply action for lost or missing tools within 5 working days after notification. The unit supply sergeant will provide the motor sergeant weekly status of actions to obtain replacement items.

e. Tool room safety.

(1) Flammables, combustibles, and oil cannot be stored in the tool room. Prohibited items include:

Paint
Ether
Spray Carburetor Cleaner
Paint Brushes Soaking in solvent, etc
Spray Paint

Paint Thinner
Diesel Fuel
Battery Acid
Steel Wool
Naptha
Gasoline

Equipment Batteries
Acetylene
Oily Rags (Unless in approved airtight metal container)

(2) These items should be stored in containers specifically designated for this purpose. Like items should be stored together, (i.e., spray paints with spray paints, paint with paint, etc). Storage should be outside in a securable metal container with adequate ventilation.

f. Tool room security.

(1) Except by consent of the unit commander, motor officer, or motor sergeant only the primary or alternate tool room custodian is allowed in the tool room. Staff or other personnel conducting inspections of the tool room will be accompanied by the custodian or alternate, motor sergeant, motor officer, or commander.

(2) Tools will be marked with the following markings IAW Appendix F, FH Regulation 196-3:

(a) US or USA.

(b) Unit identification code (UIC) or other unit identification.

(3) Bolt cutters are a master key to anybody's truck, toolbox, OVM box, or wall locker, and will be controlled. Bolt cutters are locked in the tool room under separate lock and key at all times. Only leaders sign bolt cutters out of the tool room. A separate sign-out book will be used for this purpose.

3. CALIBRATION.

a. The unit calibration coordinator will be appointed in writing. One copy of the appointment will be provided to the battalion calibration coordinator.

b. The calibration coordinator:

(1) Supervises the unit calibration program IAW FH Regulation 750-15.

(2) Ensures that TMDE receives calibration as scheduled.

(3) Updates the unit master listing and forwards one copy to the major subordinate command Calibration Coordinator.

4. INVENTORIES

Inventories of Common No. 1, Common No. 2, and Supplemental tool sets are conducted frequently by the motor sergeant and the tool person or alternate. The appropriate supply catalog should guide the inventory. Results of the inventory are posted on the appropriate supply catalog hand receipt.

b. Inventories of general mechanics tool sets are conducted regularly by the motor sergeant and each mechanic. The appropriate supply catalog will guide the inventory. Results of the inventory will be posted on both the mechanic's copy and motor sergeant's copy of the DA Form 2062. The mechanic has sole possession of one lock and two keys for each toolbox. Each mechanic should have a shadow sheet for the tool box. Tools may be displayed upon it for inventories.

c. The motor sergeant is responsible to take appropriate action based on inventory results.

d. Inventories are completed in accordance with unit and battalion supply accountability SOPs. A report of inventory and completion of supply action should be forwarded through appropriate channels as soon as possible.

e. Supply action for lost or missing tools should be done within 7 working days.

APPENDIX D
MAINTENANCE TRAINING

1. GENERAL.

a. The unit maintenance training program will include classroom instruction and practical work. The motor officer will develop the unit maintenance training program and incorporate maintenance subjects into the long range training plan and unit mission list as a priority. The maintenance training program will be coordinated with the battalion S3 and BMO. Platoon leaders will develop plans for execution of the maintenance training program within their platoons and be prepared to discuss these plans at company training meetings.

b. Training schedules will specifically identify subject areas, attendees, references, and instructor personnel for all maintenance training classes. Instructor personnel will submit lesson outlines to the motor officer prior to scheduled training.

c. The soldiers' principal source of maintenance training is the section chain of command. Junior leader personnel will be trained on maintenance through NCO and Officer Development classes. Techniques for instructing and coaching on maintenance fundamentals and responsibilities will be provided through NCOOP and ODP sessions.

2. OPERATOR TRAINING. The cornerstone of good maintenance is well trained, motivated, supervised equipment operators who know how to operate their equipment safely and skillfully and are proficient in the performance of preventive maintenance checks and services (PMCS) in accordance with their operators'-10 manuals. Operator training will include the following:

a. Training of section NCOs and first-line leaders on operator maintenance responsibilities under the direction of the first sergeant.

b. Operator training classes and hands-on coaching by section NCOs and first-line leaders of subject areas identified in the battalion and unit maintenance training programs and paragraph 2, Appendix C, of the _____ Battalion Maintenance SOP.

c. Weekly PMCS sessions during which operator crew personnel will conduct weekly PMCS under the supervision of first-line leaders. These sessions will not exceed 4 hours in duration, will be scheduled by bumper number, and will be supported by the maintenance section. Unit chain of command personnel will participate in these sessions. Normally, PMCS sessions will be preceded by formal instruction.

3. MAINTENANCE PERSONNEL TRAINING. The motor officer and motor sergeant will develop and execute the program for training of maintenance personnel. This program will cover areas outlined in paragraph 3, Appendix C, _____ Battalion Maintenance SOP. Training of maintenance personnel will include the following:

a. MOS proficiency training. Mechanics will be trained to perform in all sections requiring their MOS. Junior mechanics will be teamed with senior mechanics to increase proficiency and orient new personnel to unit maintenance policies and procedures. The PLL and TAMMS clerks will be trained to perform each other's job.

b. On-the-Job (OJT) training will be used to alleviate MOS shortages.

c. Cross-training will be used to familiarize mechanics, tool room custodians, PLL, and TAMMS clerks, and special duty personnel on the functions and responsibilities of motor pool sections with which they have daily contact.

d. Weekly organizational maintenance classes will be conducted in the motor pool under the direction of the motor sergeant. Class schedules and subject areas will be coordinated with the battalion maintenance technician.

APPENDIX E
OPERATOR TESTING AND LICENSING

1. TESTING.

a. Road test examiner personnel will be appointed in writing. Appointments will identify equipment on which each examiner is qualified to road test. Examiner personnel will be provided special training by the motor sergeant.

b. Applicants for operator permits will have valid, current DA Forms 348 which attest to the full qualification and successful road testing on the equipment items listed on the SF 46, US Government Motor Vehicle Operator's Identification Card.

2. LICENSING.

a. Licensing of equipment operators will be accomplished IAW Appendix D, Battalion Maintenance SOP.

b. The motor officer will maintain the official unit battle roster which will include operator assignments and licensing information. A copy of this roster will be provided to the dispatcher and updated monthly.

APPENDIX F
SAFETY HINTS AND PRECAUTIONS

1. SAFETY HINTS

- a. Ensure POL handlers have a POL handler's certificate.
- b. Never use gasoline as a cleaning agent or solvent.
- c. Never let a radio antenna touch power lines.
- d. Never use, or let others use, grinding machines without safety goggles.
- e. Never weld, or let others weld, without protective clothing, and goggles.
- f. Ensure welder is licensed according to FH Regulation 420-1.
- g. Properly secure work in lathes and drill presses.
- h. Use the correct tool for the job.
- i. Keep the heads of punches, chisels, drifts, etc., properly dressed.
- j. Wear protective headgear when riding in track vehicles.
- k. Secure track vehicle hatches.
- l. Not used.
- m. Ground electrical equipment.
- n. Inspect firefighting, and first aid equipment frequently.
- o. Ensure all lifting devices - hoists, lifts, cranes, booms, etc., are inspected as required, load tested (if needed), marked with their maximum load capacity, and used properly.

2. SHOP CLEANLINESS. Maintenance areas will be clean and orderly. A cleanup period should be scheduled for each working shift. In addition, cleanup after each job should be enforced.

- a. Floors need to be clean and dry - floors need to be swept and all spills (oil, water, etc.) wiped up immediately.
- b. All materials should be stored neatly.
- c. Used cleaning rags must be placed in properly sealed safety containers and laundered frequently.

3. SAFETY COLOR CODE MARKINGS AND SIGNS. The requirements for safety color code marking of vehicles, shop areas, equipment, and signs are found in AR 385-30.

4. VENTILATION. Building exhaust systems should be provided for protection against carbon monoxide (engine fumes), flammable or explosive vapors (paint, solvent), and toxic fumes. If an exhaust system is not available, adequate ventilation must be provided.

- a. Spot check ventilation systems.
- b. Check out undesirable odors or high accumulations of gases in your area.

5. FIRE PROTECTION. Ensure protective measures are provided to fight small fires only.

- a. "No smoking" signs should be posted where fire hazards exist. Smoking areas must be adequately posted.
- b. Flammables (gas, oil, paint, etc) are stored in approved locations/containers.
- c. Oxygen and acetylene bottles are stored separately and away from other flammables. They are secured with a chain or cable so they cannot tip over. Caps are maintained on tanks while in storage.

- d. Use authorized solvents/cleaners, in proper containers, with good ventilation.
6. **FIRE FIGHTING EQUIPMENT.** Fire extinguishers, water containers, etc., are needed in all maintenance areas. Leaders should train maintenance soldiers on operation of all firefighting equipment in the maintenance area.
- a. All personnel need to be familiar with location and operation of firefighting equipment.
 - b. Extinguishers will be checked frequently to ensure that they have not been tampered with and are full. DA Form 253, should be signed indicating the date this check was made.
7. **PROTECTIVE CLOTHING AND EQUIPMENT.** Leaders enforce the use of protective clothing and equipment. Each individual needs to know where it is stored, and how to use, care for, and inspect it.
8. **EQUIPMENT OPERATIONS.** The maximum number of appropriate personnel will be trained to operate the unit's equipment, so that equipment can be operated safely in an emergency.
- a. A formal operator training program should be developed.
 - b. Preoperational safety checks of equipment should be emphasized.
9. **TRAFFIC SAFETY**
- a. Traffic in maintenance areas should be controlled by speed limits and, if possible, one-way traffic flow.
 - b. Equipment larger than 14-ton trucks will not be backed without a ground guide.
10. **CHEMICALS.** Chemicals, such as ammonia and cleaning compounds, are extremely dangerous. They are stored in a separate area and used in a well ventilated area with appropriate safety devices:
11. **ELECTRICAL SAFETY**
- a. Ensure all electrical shop equipment is grounded.
 - b. Ensure only trained personnel do electrical work on shop electrical tools.
 - c. Ensure there are no exposed electrical connections.
12. **HANDTOOL SAFETY**
- a. Inspect power cords for wear, and ensure grounding features are not defeated.
 - b. Ensure all guards on portable handtools are in place and that personnel wear safety glasses when necessary.
 - c. Ensure that the correct tool is used for each job.
13. **WELDING, CUTTING, AND BRAZING.** Be alert to accumulation of toxic gases. Check welding equipment to ensure it is in good working order:
- a. Tanks are in good shape and secured.
 - b. Electrical equipment is in good working order.
 - c. Acetylene equipment is clean and free from oil.
14. **NOISE.** All noise hazard areas should be posted, and personnel should be wearing hearing-protection devices.
15. **RADIATION.** Radiation detecting devices should be used to detect ionizing radiation. Proper identification, storage, and restricted access are mandatory.