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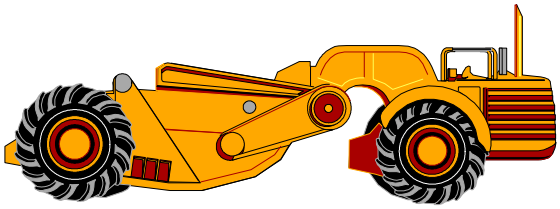

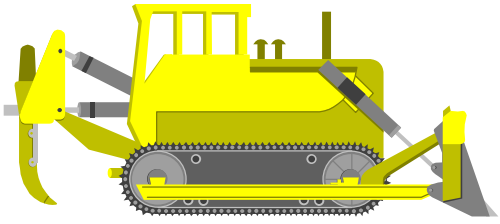

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MANAGEMENT OF

CIVIL ENGINEERING

SUPPORT EQUIPMENT

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
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FOREWORD

This publication has been prepared by the Commander, Naval Facilities Engineering Command. The policies set forth herein implement the requirements of the Chief of Naval Operations as prescribed in the DoD 4500.36-R applicable to motor vehicle management. These policies and procedures are applicable for all personnel concerned with the management of transportation equipment throughout the Navy.

The purpose of this publication is to assist management at all levels in properly discharging their responsibilities in the efficient management of the transportation program. The instructions, guides, procedures, and criteria are provided for exercising both technical and management controls to attain full and cost effective utilization of funds, personnel, and equipment.

General and detailed procedures for the administration, operation, and maintenance of transportation equipment are covered. These areas include administration, procurement, rental, charter, assignment, loan, utilization, registration and technical record control, disposition, and operational procedures for automotive, construction, and railroad equipment. Procedures are also included for maintenance planning, scheduling, maintenance control, material support, vehicle and equipment modification, painting, identification and markings, protective coatings, and for selection and application of fuels and lubricants.

This manual incorporates the NAVFAC P-404, Naval Construction Force Equipment Manual, with the exception of Weight Handling Equipment (WHE). Guidance on WHE has been combined with the NAVFAC P-307, Management of Weight Handling Equipment.

This manual is certified as an official publication of the Command, and, in accordance with the SECNAVINST 5600.16, has been reviewed and approved.

Captain, CEC, U.S.Navy
Director of Public Works Support

ABSTRACT

This publication provides instructions for the management of transportation equipment. Procedures for administration, operation, and maintenance are detailed. These include procurement, technical record control, disposition, and procedures for the operation of automotive, construction, and railroad equipment. Maintenance functions such as scheduling, shop control, material support, equipment modification, painting, protective coatings, markings, and guidelines for fuels and lubricants are included.

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MANAGEMENT OF
CIVIL ENGINEERING SUPPORT EQUIPMENT

CHAPTER 1. GENERAL

1.1 ***Purpose***. This publication is a compilation of directives issued by the Secretary of the Navy (SECNAV), the Chief of Naval Operations (CNO), and the Commander, Naval Facilities Engineering Command (COMNAVFACENGCOM). It provides administrative and technical instructions and procedures to be used, in conjunction with locally developed transportation instructions, by all personnel concerned with the administration, operation, and maintenance of automotive vehicles, construction, and railway equipment collectively referred to as Civil Engineering Support Equipment (CESE).

1.2 ***Scope***. These procedures apply to responsibilities of COMNAVFACENGCOM for the inventory objectives (allowances for NCFs/SOUs), requirements, procurement, assignment, registration, technical record control, inventory reporting, disposition, operation and maintenance of automotive vehicles, construction, and railway equipment. Policies and responsibilities of other commands and offices are presented insofar as they affect COMNAVFACENGCOM in performance of its responsibilities. A glossary of frequently used transportation equipment terms and a list of abbreviations are included in Appendices A and B, respectively. A list of related publications is included in the reference section.

1.3 ***Cancellation***. This publication supersedes and cancels the NAVFAC P-300, September 1995, entitled "Management of Transportation Equipment" and NAVFAC P-404, July 1988, entitled “Naval Construction Force Equipment Management Manual” and all supplements and changes thereto.

1.4 ***Authority***. By authority of SECNAV and CNO, COMNAVFACENGCOM is assigned responsibility for administration and procurement of CESE for the Navy, except that of the Marine Corps and as otherwise provided by higher authority. COMNAVFACENGCOM also has responsibility for programs related to maintenance, alteration, repair, and upkeep of transportation equipment and of the operating standards and procedures pertaining thereto. This publication also establishes standards and procedures for testing and licensing of all Navy transportation equipment drivers and operators. Procedures specific to the Naval Construction Forces (NCF), Naval Construction Training Centers (NCTCs), and Special Operating Units (SOUs) are either noted in the applicable subparagraph or in appendices. Procedures for Weight Handling Equipment (WHE), Aircraft Ground Support Equipment (GSE) and Material Handling Equipment (MHE) are addressed by other applicable publications/instructions.

1.5 ***Department of Defense Vehicle Policy***. The Department of Defense (DoD) policy for the management, acquisition, and use of motor vehicles (DoD 4500.36-R) is further

augmented in depth and detail for Navy use by this publication and related COMNAVFACENGCOM instructions.

1.6 ***DoD Occupational Safety and Health (OSH) Program Requirements and Procedures***. The operation of an effective on-the-job occupational safety and health program is a line management responsibility at all echelons and shall, to the extent of their authority, comply with OSH program guidance and regulations and provide DoD personnel safe and healthful working conditions. This guidance is provided in the DoDINST 6055.1 "DoD Occupational Safety and Health Program." DoD personnel shall comply with all applicable OSH program rules and regulations. Specifically, this shall include compliance with work safety and health standards, proper use of personal protective equipment and clothing, and proper reporting to DoD management of unsafe conditions, hazardous exposure, or occupational injury or illness.

1.7 ***Program Responsibilities for Automotive Vehicles, Construction, and Railway Equipment***

1.7.1 ***Naval Facilities Engineering Command***. By authority of SECNAV and CNO, the technical responsibility of COMNAVFACENGCOM for transportation equipment described in the procurement budgeting area as Civil Engineering Support Equipment (CESE) includes:

a. Procure and administer the assignment and utilization of transportation equipment in accordance with the mission requirements established by CNO and the operational requirements of offices and commands. Develop short and long range CESE program objectives and funding requirements.

b. Establish and promulgate standards for operation and general utilization.

c. Prepare and promulgate maintenance standards.

d. Administer public laws relating to:

(1) Vehicle acquisition.
(2) Official use of Government-owned and operated vehicles.
(3) Mass transportation and school bus operations.
(4) The sale, replacement, and retirement of assigned equipment in accordance with the DoD Disposal Manual, DoD 4160.21M as amended.

e. Establish procedures for hire/lease/rental of CESE.

f. Maintain current and complete inventory files and records for all commands/activities, ashore and afloat.

g. Promulgate criteria for replacement and retirement in compliance with DoD guidance and establish such criteria where specific DoD guidance is not available.

h. Develop specifications, initiate their coordination with other commands/activities, and expedite their adoption as coordinated specifications in either the federal or military series.

i. Through command channels and in coordination with other offices and commands, determine Navy-wide requirements in support of programs authorized by CNO.

j. Through command channels verify, determine the degree of, and assist in the compliance with technical standards and safety regulations.

k. Coordinate transportation cost accounting and cost reporting procedures with the Comptroller of the Navy (NAVCOMPT) and other offices and commands.

l. Review/approve all requests for local procurement of CESE.

m. Approve, in a staff capacity to CNO, transportation equipment inventory objectives.

1.7.2 ***CBC Port Hueneme, CA (CESO Code 15)***

a. Process the CESE procurement program.

b. Provide data processing support for transportation equipment inventory, inventory objectives, requirements, procurement, assignment, and data processing support areas in accordance with the policies and procedures prescribed by COMNAVFACENGCOM.

c. Prepare and forward guidance to Defense Business Operations Fund (DBOF) activities for requirements submission. Additionally, CESO provides similar services to the NCF and SOUs. Definitions of the units involved are found in Appendix B of this publication.

d. Assign U. S. Navy registration numbers and issue license plates.

e. Effect standardization of equipment as practicable in conformity with procedures established for the DoD Standardization Program.

1.7.3 ***Transportation Equipment Management Centers (TEMCs)***

a. Staff Technical Assistance. To facilitate execution of the policies and procedures set forth in this publication and to accomplish assigned centralized technical and management responsibilities for the transportation equipment program, Transportation Equipment Management Centers (TEMCs) were established within designated COMNAVFACENGCOM Engineering Field Divisions (EFDs). For the purpose of this publication, CESO (Code 157) and the Equipment offices of

COMSECONDNCB and COMTHIRDNCB perform many of the same functions as LANT/PAC TEMCs and are considered TEMCs for the NCF and SOUs. COMSECONDNCB and COMTHIRDNCB exercise administrative and operational control of all NCF Units' CESE management matters. A list of the Commands/Major Claimants holding CESE inventory objectives is identified in Figure 1-1. The TEMCs support the Commands and provide direct support of field activities on a geographical basis as follows:

(1) The PACDIV TEMC supports all field activities in the geographic area covered by the PACDIV and SOUTHWESTDIV EFDs, including EFAs WESTDIV and NORTHWESTDIV. This area includes the States of California, Nevada, Arizona, New Mexico, Utah, Idaho, Oregon, Washington, Montana, Alaska, and Hawaii, as well as the entire Pacific Ocean, Indian Ocean and Antarctica. PACDIV also provides major claimant support for transportation matters to CINCPACFLT.

(2) The LANTDIV TEMC supports all field activities in the geographic area covered by the SOUTHDIV, NORTHDIV, and LANTDIV EFDs, including EFAs CHESDIV, MED, and GREAT LAKES. This area includes everything not covered by PACDIV, as described above. In addition, LANTDIV provides major claimant support for transportation matters to all of the major claimants listed in Figure 1-1 **except** CINCPACFLT (N00070). The LANTDIV TEMC shall coordinate with the PACDIV TEMC all claimant issues affecting activities in the PACDIV geographic area

(3) The Civil Engineering Support Office (CESO) (Code 157) supports all Special Operating Units (SOUs) and the Naval Construction Training Centers (NCTCs) and their Detachments. CESO provides major claimant support for transportation matters for the NCF and SOUs. CESO also will act as the focal point for SOUs desiring to input changes or improvements to this publication.

(4) The Second Naval Construction Brigade Detachment, Gulfport MS (N46) supports Naval Construction Forces, including NCRs, NMCBs, NCFSUs, CBMUs, CBUs, and UCTs homeported or deployed within the CINCLANT geographic area.

(5) Third Naval Construction Brigade Detachment, Port Hueneme Ca (N46) supports Naval Construction Forces, including NCRs, NMCBs, NCFSUs, CBMUs, CBUs, and UCTs homeported or deployed within the CINCPAC geographic area.

b. TEMC Responsibilities. The TEMCs promulgate the program and administer the assignment, replacement, and disposal of transportation, and construction equipment and provide technical advice and assistance for operation and maintenance of transportation department functions which include:

(1) Provide technical assistance to the activities/claimants.

(2) Coordinate resources when assistance is needed requiring reassignments, disposals, or inventory objective transfers between activities/claimants.

(3) Develop transportation equipment inventory objective analysis and interim approvals.

(4) Maintain Construction, Automotive and Specialized Equipment Management Information System (CASEMIS) activity inventory objectives in current status.

(5) Review all transportation equipment requirements for the submission year in accordance with the detailed guidance in paragraph 2.8.

(6) Maintain a program to remove equipment excess to inventory objective from inventory. Reassign excess usable transportation equipment to best fill approved inventory objectives. If excess is in usable condition but not economical to ship or transfer any distance, the TEMC is authorized to provide disposal instructions to the activity.

(7) Maximize standardization of transportation equipment. Emphasize use of the standard family equipment items listed in the CASEMIS Descriptive Reference Table. The TEMCs may further limit the available family of equipment items for activities under their cognizance. The Federal Acquisition Regulation (FAR) delineates the criteria for standardization.

(8) Ensure that continual review of activity requirements accomplishes these objectives:

(a) Eliminates requests for vehicle replacements that do not meet the established life expectancy replacement criteria.

(b) Minimizes changes.

(c) Ensures adequate justification for replacements and provides consistent information to satisfy requirements.

(d) Minimizes changes in shipping destinations.

(9) Act as a central clearing agency for the Navy in exchanging and disposing of assigned equipment.

1.7.4 ***Claimant***

a. Budget for operation and maintenance of equipment.

b. Process and forward for approval all requests for Class "A" assignments, (Command and Control vehicles and midsize/large Sedans), Home-to-Work assignments, Mass transportation, and requests for vehicle marking exemptions.

1.7.5 ***Shore Activities***

a. Review and submit CESE procurement requirements in accordance with detailed guidance in paragraph 2.8.

b. Manage transportation equipment in accordance with this publication.

c. Review and revise inventory objectives on a continual basis.

1.7.6 ***Deployable Units***

a. Manage transportation equipment in accordance with this publication and appropriate subordinate instructions.

b. Review Required Operational Capabilities and Projected Operational Environment statements (ROC and POE) on a continual basis and provide Allowance Change Requests (ACRs) as outlined in NAVFACINST 11200.35 series.

1.8 ***Support of Marine Corps Forces***. The Navy is responsible for providing official-use transportation support to Marine Corps security forces assigned to naval activities to the extent necessary to accomplish on-station security services. This does not include vehicles for administrative, training or other USMC support functions.

1.9 ***Naval Supply Systems Command***. The Naval Supply Systems Command (NAVSUPSYSCOM) has the responsibility to procure and administer the assignment and utilization of all materials handling equipment (MHE) in accordance with requirements established by CNO and commands. MHE is usually maintained in transportation equipment shops. Inventory objectives and excess materials handling equipment shall be processed in accordance with SPCCINST 10490.2.

1.10 ***Transportation Management Assistance Visits (TMAVs)***. On-site activity analysis of the administration, operation, and maintenance of transportation equipment is made by TEMC representatives. The objective of the assistance visit and analysis is to assist the activity in technical and management procedures that will improve the efficiency and effectiveness of their overall transportation equipment operation. In general, these assistance visits should include review and validation of transportation equipment inventory objectives, utilization, requirements, operations, and maintenance. SOU/NCTC TMAVs are coordinated with CESO (Code 1575). NCF units will receive TMAVs (MAV, TAV, or DMI) in accordance with current NCB directives. The following items/data, as a minimum, shall be available to the assistance visit team.

a. Inventory records.

b. Preventive maintenance schedules.

c. Accident reports.

d. Current “B” assignment justifications.

e. Utilization data, including mileage targets and criteria for each assignment (i.e., mileage, economic analysis, hours in use, etc.).

f. Approval letters for leases, command and control, and non-standard security vehicles.

g. Vehicle/Equipment history record files/jackets.

h. Current TEMES/TCR report.

i. Dispatcher logs and Trip Tickets.

j. Bus/Taxi logs and schedules.

k. Copies of latest I.G., TMAV, and Fire Marshal reports.

l. Copies of all intraservice support agreements citing transportation support.

m. Approval letters to retain CESE when in excess of inventory objective.

1.10.1 ***Coordination with Fire Department***. As part of the transportation assistance visit, a meeting with the Transportation Director and the Fire Department Chief should be arranged to discuss items of mutual interest. At Naval Air Stations (NAS), particular attention should be given to the status and condition of Aircraft Rescue and Fire Fighting (ARFF) equipment, crash cranes, and other related runway support equipment.

1.10.2 ***Frequency and Reporting***. Transportation Management Assistance Visits (TMAVs) should be conducted at 18-month intervals for activities operating 50 or more units of transportation equipment unless otherwise directed by the Claimant. A briefing of the visit analysis and findings shall be offered to the Commanding Officer of the activity visited prior to departure, and shall include items of major concern. A written report will be forwarded to the activity. Priority shall be given to activities where the potential for cost savings is the greatest. At activities operating fewer than 50 units of transportation equipment, the analysis may be conducted every 3 years, as a minimum, or when assistance is specifically requested.

Commands/Major Claimants Holding CESE Inventory Objectives

UIC	CLAIMANT
N00011	Chief of Naval Operations
N00012	Assistant for Administration to the Under Secretary of the Navy
N00014	Chief of Naval Research
N00018	Bureau of Medicine and Surgery
N00019	Naval Air Systems Command
N00022	Chief of Naval Personnel
N00023	Naval Supply Systems Command
N00024	Naval Sea Systems Command
N00025	Naval Facilities Engineering Command
N00030	Strategic Systems Programs
N00033	Military Sealift Command
N00039	Space and Naval Warfare System Command
N00060	Commander in Chief, U.S. Atlantic Fleet
N00061	Commander in Chief, U.S. Naval Forces, Europe
N00062	Chief of Naval Education and Training
N00063	Naval Telecommunications Command
N00065	Naval Meteorology and Oceanography Command
N00069	Naval Security Group Command
N00070	Commander in Chief, U.S. Pacific Fleet
N00072	Commander, Naval Reserve Force
N00074	Naval Special Warfare Command

Figure 1-1

1.11 ***Intra-Service Support Agreements***. Navy policy, in accordance with OPNAVINST 11000.16, is to combine full transportation support services in a geographic area under one main PWC/PWD wherever feasible. Intra-Service Support Agreements or Memorandums of Agreement provide in detail the arrangements made between the host and tenant. Where an activity has an authorized inventory objective, and desires to receive support from the major geographical Public Works Center (PWC) or Public Works Department (PWD), the host activity should request assistance from its TEMC to coordinate the transfer. The TEMC shall obtain the concurrence of all concerned parties, and establish a time frame for the transfer based on budgeting/programming requirements for both activities. The TEMC may establish a recommended list (commonly called a Unit Authorized List or UAL), showing the most economical and efficient equipment items a tenant activity should obtain on “B” assignment from the PWC/PWD.

1.12 ***Official Use***. The use of all Navy-owned and controlled motor vehicles shall be restricted to official purposes only. The term "official purposes" means that travel must be performed by a person in their official capacity. This precludes the use of Government vehicles for personal use. The purpose of the trip must be related to the performance of official duties or in connection with activities conducted under official authorization.

1.12.1 ***Legislative Constraint***. In accordance with Section 1344 of Title 31, U.S. Code, "official purposes" shall not include transporting officers or employees of the Government between their residences and places of duty/employment. The same statute exempts from this limitation any motor vehicle for the official use of the President, the heads of executive departments enumerated in Section 101 of Title 5, U.S. Code or principal diplomatic and consular officials.

a. **Exemptions**

(1) Officials listed in Appendix A of the DoD 4500.36-R are specifically authorized by law to receive transportation between residence and place of employment.

(2) Field Work. Home-to-work (H-T-W) transportation may be authorized for those employees performing field work when approved, in writing, by SECNAV (nondelegable). Field work is official work performed by an employee whose job requires attendance at several locations that are at a significant distance from the person's place of employment. Some examples of field work are recruiters, auditors, and medical officers on out-patient service. The assignment of an individual to a position that is determined to be field work does not, of itself, entitle that individual to receive daily home-to-work transportation. When authorized, such transportation should be provided only on days when the individual actually performs field work, and then only to the extent that such transportation will substantially increase the efficiency and economy of the Government. Individuals are considered "in field work" when they do not report regularly to the same post before proceeding to perform their official

duties. Persons who report to a regular office before embarking on their daily work are not engaged in field work within the definition; they may be entitled to Government transportation from their post to places in the field where their duties may require their presence, but they would not be entitled to transportation between their residence and post.

(3) Personnel may be authorized home-to-work transportation when it is considered essential for the safe and efficient performance of intelligence, counterintelligence, protective services, or criminal law enforcement duties, when approved, in writing, by SECNAV (nondelegable).

(4) Other personnel may be authorized home-to-work transportation by SECNAV (nondelegable) when highly unusual circumstances present a clear and present danger, an emergency exists, or other compelling operational considerations make such transportation essential to the conduct of official business.

1.12.2 ***Operation of Motor Vehicles by Personnel on Official Travel (TDY/TAD).*** Civilian and military personnel while in an official travel status (TDY/TAD) can operate government owned or leased vehicles for official business without an OF-346 provided they possess a valid state license for the type and class of vehicle they are to operate and their travel orders authorize the use of a vehicle. All travelers are reminded that government owned or commercial lease/rental vehicles are to be used for "Official Business" only. The Joint Travel Regulations (JTR) (Volume 2, Chapter 2, paragraph C2030) states:

"*When a government-owned or leased automobile or other transportation equipment is used by an employee for official travel, its use shall be limited to official purposes which include transportation between places where the employee's presence is required incident to official business, between such places and places of temporary lodging when public transportation is unavailable or its use is impractical, and between either of the foregoing places and to places necessary to obtain suitable meals, drugstores, barber shops, places of worship, cleaning establishments, and similar places required for the sustenance, comfort, or health of the employee in order to foster the continued efficient performance of Government business."*

1.12.3 ***Deployed Forces***. The JTR (Volume 2, paragraph U3200) states that *"When scheduled government bus service operated by host activity or public bus service is not available or its use is impractical, deployed personnel may use vehicles to attend to uniform needs, to obtain suitable meals, to obtain hair cuts, and for transportation to similar places required for the sustenance, comfort, and health of deployed personnel."*

1.13 ***Individual Home-to-Work Transportation Approval Procedures***

1.13.1 Requests for authority to provide Government-owned vehicles to officers or government employees engaged in intelligence work or field work shall be submitted with full justification to SECNAV via the chain of command. These authorizations shall be updated and approved annually.

1.13.2 Requests for individual home-to-work (H-T-W) transportation (domicile to duty) for highly unusual circumstances (a clear and present danger, an emergency, or other compelling operational consideration) are to be approved by SECNAV (nondelegable), in writing, and are to be reviewed/renewed by SECNAV every 90 days.

1.13.3 In areas outside of the United States, Unified Combatant Commanders may, in accordance with 10 U.S.C. 2637, provide government transportation for certain members of the Uniformed Services, other Federal employees, and the dependents of such employees, provided that local transportation is unsafe or unavailable for whatever reason (e.g., terrorist activity, strikes, natural disasters, etc.)

a. The initial transportation authorization will not exceed 90 days.

b. If the conditions for the transportation authorization persist, the Unified Commanders may extend the authorization for vehicle use for additional specific time periods.

c. All approvals and the reasons for such authorization shall be in writing.

d. The approving commander will ensure that records are maintained on the transportation provided under this authority.

1.13.4 ***Logs for Individual H-T-W Assignments***. Logs/records shall be maintained locally for a minimum of three years to establish that all H-T-W transportation was used for official purposes.

a. The logs or records should be easily accessible for audit and contain the following information:

- Name and/or Position Title
- When and where transportation was provided
- Duration
- Circumstances
- Passenger carrier identification (USN Registration No.)
- Name of person who authorized transportation

b. The requirement for logs to record H-T-W transportation applies equally to all categories of individual exceptions.

1.13.5 **Transportation Between Residence and Place of Employment**. This shall not be provided solely because of the applicant's being on call constantly, or because they must be prepared to leave at any moment in the event of an emergency.

1.13.6 **Temporary Duty (TDY) Related to H-T-W Transportation**. **TDY** is governed by the Federal Travel Regulations. Personnel proceeding on TDY directly from their residence may be authorized the use of a government-owned vehicle if the head of the installation/activity determines it would be impractical, or more costly to have the DoD member proceed first to the normal duty station to obtain the vehicle before leaving on the directed TDY assignment. If a traveler is being allowed to take a Government-owned or leased vehicle home and to proceed on TDY travel directly from his or her residence, the approval shall be included in the official travel authorization.

1.13.7 ***Command and Control Vehicle Assignments***. Command and control vehicles do not come under the H-T-W reporting requirements of U.S. Code 31, Section 1344 (as amended by PL 99-550). This type assignment is discussed in Chapter 2.

1.13.8 ***Group H-T-W Transportation***. Group H-T-W transportation services also do not come under the H-T-W reporting requirements of U.S. Code 31, Section 1344 (as amended by PL 99-550). This service is discussed in Chapter 3.

1.14 ***Illegal Use Penalty***. Penalties for willfully using, or authorizing the use of a Government-owned or leased motor vehicle, for other than official purposes, are stipulated in U.S. Code 31, Section 1349. In extreme cases, U.S. Code 18, Section 641 may apply. U.S. Code 31, Section 1349 (b), Adverse personnel actions, (Public Law 97-258, Sep 13, 1982) states: ***"An officer or employee who willfully uses or authorizes the use of a passenger motor vehicle or aircraft owned or leased by the United States Government (except for an official purpose authorized by Section 1344 of this title) or otherwise violates Section 1344 shall be suspended without pay by the head of the agency. The officer or employee shall be suspended for at least one month, and when circumstances warrant, for a longer period or summarily removed from office."*** ("Passenger motor vehicle", relative to illegal use, has been interpreted to mean all types of automotive vehicles.)

1.15 ***Use of Government Vehicles in the National Capital Region***. Special instructions describe the policy and procedures for use of Government vehicles in the greater metropolitan area of Washington, D.C., generally referred to as the National Capital Region. Included in the National Capital Region program are the Navy Department motor pool, bus service between various agencies, and certain other official transportation functions. Details are available in SECNAV Instruction 11240.17.

1.16 ***Permissible Operating Distance (POD).*** It is usually more economical to use the services of commercial carriers for the transportation of personnel and cargo to destinations outside the immediate area of an activity. A one-way distance of 100 miles has been selected as a guide to base permissible operating distances for motor

vehicles. The POD established for an activity should be sufficient to support normal operations. Based on installation experience, a POD will be established which will adequately support the installation's motor vehicle transportation requirements. For transport of material, refer to NAVSUP Manual, Volume 5, Part E. The 100 mile guide shall not be exceeded without written authorization and justification signed by the activity commanding officer or individual assigned signature authority.

1.17 ***Mutual Assistance and Cooperation***. In the interest of good transportation operations, it is the responsibility of an activity transportation department to render assistance to other Naval Activities when their equipment experiences breakdowns/difficulties while on extended operations. Reimbursements for labor and material costs incurred will be charged in accordance with applicable NAVCOMPT accounting procedures. Assistance rendered includes, but is not limited to:

a. Providing emergency repairs/maintenance.
b. Fuels, oils, lubricants.
c. Towing service.

CHAPTER 2. ADMINISTRATION

2.1 *Assignment*

2.1.1 ***General Assignment Criteria***. Transportation equipment will be assigned only to those shore activities that have approved inventory objectives (IOs) and those deployable units that have a CNO approved Table of Allowance (TOA). Replacement and additional equipment are to be assigned by the appropriate TEMC. Assets will be supplied by redistribution of excess, from new procurement, rental or lease. Only that transportation equipment needed to carry out the stated mission will be assigned to a naval activity. Subsequent and continuing determinations and justifications of requirements will be based upon analyses of equipment use, and activity mission, task and function. The equipment selected shall be the best suited by virtue of size, configuration, and economy of operation. Differences in activity missions, facilities and geographic locations preclude complete uniformity in operational procedures. The following list, however, offers the essential procedures of operations and resource management applicable to all assignments.

a. Provide for the pooling of administrative use vehicles.

b. Establish procedures for assignment and use of vehicles.

c. Establish a central dispatch point for control.

d. Periodically review requirements and make periodic reassignments to satisfy changing conditions.

e. Provide for the most economical use of manpower and equipment.

f. Provide for the collection of operational data as a basis for inventory/inventory objective actions and cost performance reporting.

g. Provide for training of personnel.

h. Ensure the safety, security, and authorized use of equipment.

i. Provide for rotation of vehicles, where practical and economical, to equalize equipment usage.

j. Use standard family vehicles to the fullest extent to meet general transportation requirements.

2.1.2 ***Assignment Controls***. Subsequent to pooling of resources and establishment of administrative control under dispatching authority, effective management requires further evaluation of available vehicle resources against mission requirements. Normally, such evaluation will indicate that the bulk of the motor transport requirements can be

supported by dispatching vehicles for short periods of time, to include "taxi" vehicles or vehicles driven by users. (See 2.1.2.c following for Class C dispatch service.) The determining of justifiable requirements for all types of vehicle service shall be based on the following categories.

a. Class A - Continuing Assignments. For Navy purposes, a Class A assignment is defined as the full-time assignment of a specific nonstandard vehicle (i.e., midsize/large sedan or command and control vehicle) to an individual billet.

(1) Class IV (Large) Sedan Assignments. The use of Class IV (large) sedans is limited to those officials specifically authorized full-time assignment of a Class IV sedan by the Secretary of Defense, identified in paragraph 3-1.d of DoD 4500.36-R.

(2) Class III (Midsize) Sedan Assignments. The full-time assignment of a Class III (midsize) sedan may be authorized when CNO has determined that a Class III sedan is essential to the accomplishment of the mission. Request for these assignments shall be forwarded to CNO for approval, via the chain of command and the cognizant TEMC with a copy to NAVFAC (Code 134).

(3) Command and Control Vehicle Assignments. Radio-equipped, emergency-configured (command and control) vehicles may be provided on a 24 hour-a-day basis to commanders who live on the military installation, who are charged by the head of the military department concerned with the overall responsibility for installation security and/or operational functions, and who cannot adequately discharge their responsibility without 24-hour mobility and communication capability. Appendix C of the DoD 4500.36-R provides a checklist for authorizing command and control vehicles. Requests for these assignments shall be forwarded to CNO for approval, via the chain of command and the cognizant TEMC with a copy to NAVFAC (Code 134).

(4) Executive Vehicles. The use of executive vehicles (individually assigned vehicles with chauffeurs) are limited to those authorized by SECNAV. Additional assignments for executive sedans are not authorized. These authorizations, however, can be reassigned within the claimancy.

Personnel authorized Class A assignments shall not use these vehicles for other than the actual performance of official duties. Class A assignments neither provide nor change vehicle inventory objectives, are not authorizations for "home to work", and are not to be construed as prestige assignments nor as waivers of marking and identification requirements established by law. Class A assignments must be individually approved by CNO. Requests for these assignments shall be forwarded to CNO for approval, via the command chain and the cognizant TEMC with a copy to NAVFAC (Code 134).

b. Class B - Recurring Dispatch Assignments. A Class B assignment is the assignment of an automotive vehicle authorized in writing by the local Commander, or the Commander's designee, to an organizational unit of the Command or a tenant activity on a regular or continuous basis for the conduct of official business.

Commanding Officers can restrict the use of a Class B assignment to an individual billet or to expand its uses to meet changing requirements within the organization. A Class B assignment is contingent on meeting requirements which cannot be met by use of pool equipment, other types of available transportation, or is shown to be the most cost effective alternative. Certain exceptions may be made for unusual operating conditions; however, the exceptional conditions must be real and not merely so described to avoid the use of pool vehicles (Class C assignment).

(1) Class B Assignment Review. Periodic surveys are to be made of all Class B assignments to ensure that vehicles are not being used on a convenience basis and are actually required to efficiently support the conduct of official business of the activity, office, or department to which assigned. Where vehicles are continuously assigned to customer activities, a review of the assignments is to be conducted at least annually by the cognizant command or area commander, with appropriate action taken to maintain the continuous assignments at a minimum consistent with good management practices. The appropriate TEMC will review and validate Class B assignments during assistance visits and evaluate the feasibility of alternatives, including evaluation of a radio-controlled taxi system, to satisfy requirements for movement of personnel and material in lieu of maintaining vehicles in a Class B assignment category.

(2) Transportation Review Board. Activities with CESE inventory objectives may accomplish Class B assignments by establishing Transportation Review Boards. A Transportation Review Board is normally composed of department heads and chaired by the Executive Officer (XO), or by the Public Works Officer (PWO) if the XO is not available. The Board should meet quarterly, or as required and determined by the Chairman and Transportation Director. The meeting should be devoted to the required annual review of Class B assignments and to the review and approval/disapproval of new Class B assignment requests and the status of the C Pool. The Transportation Director will conduct the study/collect the data and submit the results, along with recommendations, to the Board.

c. Class C - Pool Vehicles. All DoD motor vehicles not designated as Class A or Class B assignments shall be pooled for performance of services on an on-call basis. Maximum pooling of vehicles at all levels within a naval activity is to be emphasized. Assignments on a Class B basis shall not be made if it is practical to use pool vehicles.

2.1.3 ***New Transportation Equipment Assignment***

a. Light Vehicles. To achieve maximum warranty benefits, new light vehicles should be assigned to those organizational segments of a naval activity where there is the greatest likelihood of accumulating high mileage and maximum use. In general, this means that new vehicles should be assigned on a Class C basis for pool operation; and on a Class B basis to those segments of the naval activity where essential vehicle trips consistently range beyond the immediate vicinity and result in high mileage.

b. Buses. Bus service can be provided at an activity when it will result in economical transportation. Class B assignment of buses is not recommended. To assure maximum use, the passenger capacity of the bus or buses assigned should, within reasonable limits, be commensurate with the maximum number of passengers to be transported at peak loading periods. To handle peak traffic or short hauls, increased frequency of trips is suggested rather than the assignment of additional buses. Generally, in order for a bus operation to be efficient, service should be provided on a schedule of not more than 20 minutes waiting time between trips. The schedule must be maintained during hours of normal service and supplemented as necessary during peak periods. Chapter 5 of DoD 4500.36-R provides detailed information and policy on Bus services.

c. General Use Trucks. In determining the need for a truck configured to transport cargo or materials, the following factors are to be considered.

(1) Maximum use shall be made of any truck assigned to an activity.

(2) As practicable, an assigned truck shall be required for a minimum operation of 4 hours a day.

(3) The criteria stated in 2.1.2 for Class B and Class C vehicle assignments apply to the assignment of general use trucks. Information on equipment is provided in the Construction Automotive and Specialized Equipment Management Information System (CASEMIS) descriptive reference table.

d. Special Use Vehicles. The general use truck criteria does not apply to trucks with special mounted equipment, such as lubricating equipment, welding machines, compressors, and refrigerating units. Requirements for special use vehicles shall be based on activity needs for field services. Trailer-mounted rather than truck-mounted equipment will be used wherever feasible.

e. Construction and Railway Equipment. Only sufficient construction and railway equipment shall be assigned to a naval activity to adequately carry out its stated mission. Subsequent and continuing determination and justifications of requirements shall be based on analyses of equipment utilization by the naval activity. Information on equipment selection may be found in the CASEMIS descriptive reference table. Short term rental in lieu of ownership should be considered in cases of low utilization.

2.1.4 ***Assignment to Ships and Afloat Commands***. The designated shore activity is tasked to provide transportation support to ships and afloat commands on a priority basis. Vehicular support for ships and afloat commands is provided from class C pools administered by the designated shore activity, or by hire arrangements authorized and funded by the Commander-in-Chief, Atlantic Fleet (CINCLANTFLT) and the Commander-in-Chief, Pacific Fleet (CINCPACFLT). CINCLANTFLTINST 11240.3 and CINCPACFLTINST 11200.3, provide guidance and direction regarding automotive

vehicles and equipment inventory objectives for ships and afloat commands in the Atlantic and Pacific ocean areas, respectively.

Shore Activities Serving In-port Fleet Units

(1) By furnishing transportation equipment to ships and afloat commands, activity Class C pools essentially eliminate the need for carrying vehicles on board ships except for emergency and specialized types.

(2) Activities assigned ship support responsibilities will provide transportation equipment to ships and afloat commands in accordance with inventory objectives authorized by the Fleet Commanders-in-Chief.

(3) When the requirements of ships and afloat commands within authorized inventory objectives exceed the quantity of vehicles and equipment available in the activity's C pool, vehicles assigned to shore activities and departments will be withdrawn to support the requirements, or arrangements for commercial hire will be made by the shore activity to fulfill the afloat needs. Commercial hire shall not be used until every effort has been made to reassign Navy-owned vehicles to meet the requirements.

(4) Transportation equipment for ships, afloat, and shore activities will be replaced on the normal replacement cycle as set forth in the CASEMIS Descriptive Reference File (available through direct access to CASEMIS, the cognizant TEMC, or Navy-provided software) and in accordance with paragraph 2.8.

(5) Vehicles assigned to Class C pools for Fleet support shall be used for daily requirements of the shore activity, provided Fleet vehicle requirements are fulfilled.

(6) Ships in the Reserve Fleet, being reactivated, will obtain vehicle support from the designated support activity at the berthing area.

(7) Vehicles and equipment required to support ships under construction and repair will be provided by the designated support activity.

2.1.5 ***Assignment to the NCF, NCTCs and SOUs***. Organic Allowances are designed to support a unit's mission as defined by that unit's ROC and POE. An organic equipment allowance enables a unit or activity to carry out most operational requirements. Organic allowances are not designed to meet every operational requirement.

2.1.6 ***Temporary Assignment or Loan***. An IO/allowance holder may authorize the temporary loan (normally limited to a maximum of 90 days) of CESE when such action is in the interest of economy, efficiency, or military necessity. Before loaning equipment, a mutual loan agreement should be made which defines maintenance, repair, and damage responsibility by the lending and borrowing activities. It should be signed by a

Commissioned Officer and a joint inspection should be performed both at the time of the loan and at the time of return of the equipment. Further information that concerns loan agreements can be found in (DoD 4500.36R) *Management, Acquisition and Use of Motor Vehicles.* Temporary loans may be authorized between the following types of activities:

a. Other Navy and U.S. Military Activities. The temporary loan of transportation equipment to other Navy and U.S. military activities may be made when such action is the most economic and efficient.

b. Civilian Agencies of the Federal Government. The loan, assignment, or transfer of administrative use vehicles will not be made to any non-DoD Federal agency without prior approval from COMNAVFACENGCOM.

c. Combat Area Loans**.** Loan of vehicles to any nonmilitary Federal agency or any agency administering U.S. government contracts in a combat area can be authorized by the Commanding Officer of the lending activity, provided the loan is considered to be in the best interest of the government.

d. Assignment, Lease, or Loan of Transportation Equipment for Public or Private Civilian Use. Numerous laws pertain to the assignment, loan, or lease of government-owned transportation equipment for public or private civilian use. Generally, authority to loan or lease transportation equipment for private civilian use will be given only when the loan/lease will promote the national defense or be in the public interest. The legal authority for a loan/lease should be determined, after a thorough review of the specific circumstances, by the legal council of the Command/Activity concerned. Assistance, if needed, can be obtained from the legal council located at the cognizant EFD/TEMC.

2.1.7 ***Assignment of Courtesy Vehicles***. The free use of courtesy vehicles is not authorized, regardless of whether or not the lender is identified on the vehicle. The use of the Navy's name directly or by implication in connection with private industry to suggest official approval of a commercial product or enterprise is not authorized. The vehicle transportation requirements of the Navy are to be satisfied by Navy-owned or authorized hired assets only.

2.1.8 ***Assignments for Emergency and Disaster Purposes***. Commanders charged with area coordination responsibilities have the authority to override assigned responsibilities of other commanders where emergency or disaster situations arise, or when operational considerations involving the provision of effective support to the operating forces of the Navy clearly demand such action. In exercising such authoritative direction, the area coordinators concerned assume full responsibility for their actions and shall promptly inform other cognizant commanders of the action planned or taken. (SECNAV Instruction 5400.14)

2.1.9 ***Assignment to Commissaries, Exchanges, and Messes Ashore***. The assignment of vehicles to commissary stores, Navy exchanges, messes, and similar special services functions ashore shall be based on the premise that vehicles are not to be assigned for the exclusive use of any division of an activity (special use vehicles excepted) unless the volume of work performed by the vehicle is sufficient to make the assignment economically justifiable. Navy-owned vehicles procured with appropriated funds may be assigned to these activities if available and the circumstances justify. The general policy of vehicle assignments to commissaries, exchanges, and messes ashore is shown in Figure 2-1. Commissary store vehicles are procured with Commissary Store Reserve Funds as required to meet the needs of specific store activities. The funds used to support the initial procurement cost, maintenance, and operation of commissary store vehicles are expended from the Navy Stock Fund.

2.1.10 ***Assignment to Nonappropriated Fund Activities***. The general policy of vehicle assignments to nonappropriated fund activities is contained in Figure 2-1. Further guidance is as follows:

a. Excess Personal Property. Nonappropriated fund activities may obtain excess personal property for administrative purposes in accordance with the Defense Disposal Manual (DoD 4160.21M). In the case of foreign excess, which is not reportable to GSA, such foreign excess personal property should be available to nonappropriated fund activities during the normal local area screening periods in accordance with the Defense Disposal Manual, and under such controls as may be prescribed by the area or theater commanders. Nonappropriated fund activities may likewise obtain excess property located in the U.S. during the same period that such property is available to other Federal Agencies.

b. Assignment to Special Services. Special Services may be permitted intermittent free use of Navy-owned vehicles, when available, for official recreation use only when approved by the Commanding Officer. Special Services also operate recreation vehicles purchased from nonappropriated fund accounts. The nonappropriated fund policies and procedures for the administration, operation, and maintenance of vehicles owned by Special Services are contained in the Special Services Manual (NAVPERS Instruction 1710.11).

2.2 ***Inventory Objectives (IOs)/TABLES OF ALLOWANCES***

2.2.1 ***General Provisions For IOs***. Transportation IOs are administered by the cognizant TEMC. IOs provide the Navy with a means to justify new CESE requirements and replacements. IOs represent the most efficient mix of Equipment Code quantities needed to perform the activity's mission as agreed to by the TEMC and activity. IOs shall not include quantities for maintenance float, pipeline, or depot stocks. To avoid duplication of IOs, the Public Works Center (PWC) or Public Works Department (PWD) will be assigned the IO when Class B service is provided to a tenant or smaller activity.

GENERAL POLICY OF VEHICLE ASSIGNMENTS TO SPECIAL SERVICES

Navy Exchange, Commissary Stores, Ships' Stores, Morale, Welfare and Recreation (MWR) Division (Ashore-Afloat) and Messes (Ashore)

Type of Activity and Cognizant Office		General Policy
Navy Exchange		1. Owns, operates and maintains vehicles from profits.
	*	2. When available has right to use Navy-owned vehicles on a reimbursable basis (1) in emergencies; (2) where full time assignment is not required; (3) where funds are not available for procurement.
NAVSUP		3. May rent or charter vehicles commercially, using nonappropriated funds.
Commissary Stores		1. Generally owns equipment.
NAVSUP	*	2. May utilize activity assigned vehicles, when available, on a reimbursable basis.
Ships' Stores		1. Owns no equipment.
		2. May utilize activity assigned vehicle when available, on a reimbursable basis.
NAVSUP		3. May rent or charter vehicles commercially using nonappropriated funds.
MWR Div. (ashore)		1. May own, operate, and maintain vehicles from nonappropriated recreation funds.

Figure 2-1

General Policy of Vehicle Assignments To Special Service

Type of Activity and Cognizant Office	General Policy
MWR Div. (afloat)	2. Free use of Navy-owned vehicles within activity IO and funding availability is permitted for the purpose of carrying out officially scheduled and sponsored (group) welfare and recreational activities in accordance with the provisions of DoD 4500.36-R.
	* 3. May hire Navy-owned buses on a reimbursable basis, where commercial charter services are not available. The hire or use of Navy-owned vehicles for personal recreation is not permissible.
BUPERS	4. May rent or charter vehicles commercially, using nonappropriated funds.
Messes (ashore)	1. May own, operate and maintain vehicles from nonappropriated funds.
	2. Free use of Navy-owned vehicles permitted for official business of the mess when approved by the Commanding Officer.
	* 3. Has the right to hire Navy-owned vehicles for mess-sponsored (group) recreation on a reimbursable basis, where commercial vehicles are not available or adequate.
BUPERS	4. May rent or charter vehicles commercially using nonappropriated funds.

* Reimbursement. Labor and material costs incurred by the owning activity for its vehicles (and drivers when provided), which are assigned to the above types of activities, will be charged to the activities in accordance with the accounting procedures under which the owning activity is operating, as prescribed in NAVCOMPT Manual, Volume 3, Chapter 5.

USN Registration. All vehicles owned by the above activities, or acquired by them from excess personal property listings of the Military Services or any agency of the U.S. Government, shall be identified by USN registration numbers in the 4xxxxx series. Paragraph 2.10.3 prescribes procedures for requesting the assignment of USN registration numbers for nonappropriated fund vehicles.

Figure 2-1 (Cont'd)

a. Applicable. These procedures are applicable to all Navy Shore Activities, DBOF and non-DBOF, that hold approved CESE IOs and to unified commands whose headquarters receive Navy support.

b. Not Applicable. These procedures are not applicable to ships and afloat commands, fleet commanders having headquarters and support activities ashore, shore activities receiving CESE support from a Public Works Department/Center, Marine Corps Air Stations, deploying Marine Air units, or the Naval Construction Force. Ship and afloat commands derive transportation equipment support from the shore activity designated as their home port. It is the responsibility of the home port shore activity to provide IOs for ships and afloat commands in accordance with applicable CINCPACFLT/CINCLANTFLT instructions relating to the number of vehicles authorized.

2.2.2 ***Procedures For IOs***. Activity transportation equipment IOs for shore activities shall be reviewed on a continuing basis. As changes in mission, new functions, and/or functional transfers occur, the activity IO shall be revised. The IOs shall be based on the minimum number of units required to accomplish the activity's mission. Activity IOs will be reviewed/revised by the TEMCs during TMAVs and/or with sufficient written justification from the activity on a one time basis for each requirement. For lease IOs the activity shall do an economic analysis in accordance with paragraph 2.9.5. The TEMCs shall review and evaluate the activity IO requests and establish/adjust the activity IOs on a continuing basis.

a. Vehicles Excess to IO. CESE is received at an activity to replace current inventory or to fill an unfilled IO and is not to be retained when excess to IO. When new or used CESE is received at an activity to replace current inventory, a reasonable period of time is allocated for the changeover to report excess and process paperwork before transferring equipment to disposal. In certain situations, items excess to IO could be required and may be retained for a limited period of time. These situations shall be fully documented, approved by the TEMC, and kept on file at the activity. Examples of such situations include: On-hand assets are of less capacity than IO items, so additional units must be retained until IO items can be procured (i.e. two 5 ton dump trucks substituting for one 10 ton dump truck); a short term need that must be met, but where an IO change would not be required (less than one year duration). In each such case, authorization for retention of excess vehicles shall be obtained from the TEMC in writing. The TEMCs are to review these temporary approvals during TMAVs.

b. Fire Fighting IOs. Fire fighting IOs shall be closely coordinated with the area Fire Marshal.

c. Railroad Equipment IOs. Railroad equipment IOs will be reviewed, consolidated, and coordinated by each TEMC. The TEMCs are responsible for inventory objective management, redistribution, transfer, and disposal of railway equipment in their own geographic region. The overall administration of railroad operation within the Navy will be in accordance with NAVFAC P-301.

2.2.3 ***COMNAVFACENGCOM IO Review/Approval***. COMNAVFACENGCOM will use the CASEMIS summation of activity IOs for higher level reporting requirements.

2.2.4 ***Tables of Allowances (NCFs/SOUs).*** CESE Allowances are a part of Tables of Allowance which are approved by the Chief of Naval Operations (CNO) and are published biennially as a COMNAVFACENGCOM notice.

a. CESE Allowance Review and Update is accomplished by a Biennial Allowance and Requirement Review (BARR). The BARR is used to recommend changes to a Command's CESE allowance and to indicate which vehicles require replacement. Biennially, each allowance holder or designated component organization prepares and submits a BARR in accordance with NAVFACINST 11200.35, Naval Construction Force Biennial Allowance and Requirement Review. Requests for allowance increases must be accompanied by complete justification based upon mission change and operational procedures and requirements changes. When allowances are increased, maintenance funds and personnel must also be increased. Serious consideration should be given to minimizing CESE allowances so that requirements for funds and personnel can be reduced (see Appendix C).

(1) Prepositioned War Reserve Material Stock (PWRMS)**.** Within PWRMS are Advanced Base Functional Components (ABFC) which are quantities of material and equipment acquired and positioned against a war requirement. PWRMS and ABFCs ensure timely support of designated forces or specific projects during the initial phase of war or to perform a specific CNO approved mission.

(2) Naval Construction Force Support Units (NCFSU). When an assigned project requires more equipment than the organic allowance, it is supplemented by the responsible Fleet or Operational Commander. The most common form of support equipment is that held by an allowance holder for issue to suballowance holders. The NCFSU provides this capability to COMSECONDNCB and COMTHIRDNCB for support of NMCBs. NCFSU equipment is normally tailored to specialized tasks such as large volume earth moving, rock crushing, concrete and asphalt production and long haul trucking operations.

b. Emergency CESE Requests**.** Each allowance holder should anticipate all needs during the BARR so that interim CESE requests will not be necessary. However, should an urgent situation arise, an allowance request may be submitted by letter to CESO, Code 1575, via the chain of command. The request letter must contain full justification for the change, fully explain the requirements for the EC involved, state the issue priority designator, required delivery date, and it should explain how the current annual requirements submission should be adjusted to best accommodate the priority of the request. The ability of CESO to fill such requests will depend on the availability of suitable CESE from other resource areas and the status of procurement programs at the time the emergency request is received.

2.3 ***Budgeting***

2.3.1 ***Investment***. COMNAVFACENGCOM is responsible for investment budgeting for the Navy-wide procurement of Civil Engineering Support Equipment (CESE) except at Defense Business Operations Fund (DBOF) activities, which provide funds through the Capital Purchase Program (CPP).

For NCFs/SOUs, CESO analyzes equipment requirements, recommends proper allowances, and coordinates all CESE procurement. NAVFACENGCOM programs and budgets for initial outfitting of each approved CESE allowance, procurement of new allowance items, and CESE replacements. The following factors are used to determine the number and types of CESE to be procured: projected requirements (BARR), procurement lead time, budget constraints, and priorities levied by NAVFACENGCOM, Fleet Commanders, and certain other second echelon Commanders.

2.3.2 ***Expense***. Claimants are responsible for budgeting operation and maintenance costs of transportation equipment.

2.4 ***Material Manager***. COMNAVFACENGCOM has been assigned responsibility as the centralized single material manager for the Navy for all automotive vehicles, construction, and railway equipment procured by the Navy (less U. S. Marine Corps). Consolidated procurement is accomplished by the designated procuring agencies. COMNAVFACENGCOM is the inventory manager for 2C cognizance material, which includes CESE, and Civil Engineer End Items (CEEI). The Civil Engineer Support Office (CESO) provides centralized management for 2C material. In addition to CESE and CEEI, there are a variety of items also considered 2C Cog items including, but not limited to, decontamination units and automatic chemical agent alarms, chemical agent detector kits and refills afloat and ashore; material and appliances for defense ashore against chemical, biological, and radiological warfare, except instruments for detection and measurement of radioactivity; and all industrial equipment (typically, non-portable ship equipment that costs more than $1,000).

2.4.1 ***Prior Approval for Procurement***. CESE will not be procured or otherwise acquired for Navy ownership by any activity, office or command without prior approval of COMNAVFACENGCOM. The purchase of passenger carrying motor vehicles (sedans, station wagons, buses, and ambulances) for use by the Government is controlled by law. Annually, Congress (through appropriation acts) specifically authorizes the quantity of passenger carrying vehicles to be acquired, and establishes a maximum unit cost for sedans and station wagons. Law enforcement sedans are included in the quantity of passenger-carrying vehicles authorized by Congress, but have a separate statutory price limitation.

2.4.2 ***Transfers of Equipment by Shore Activities***. All equipment transfers shall be authorized and coordinated by the cognizant TEMC.

2.4.3 ***Transfers of Equipment by NCFs/SOUs***. For NCF/SOU units, approval is required from CESO via the allowance holder. After approval is granted, equipment must be prepared for shipment between units or to overhaul facilities to ensure its arrival in satisfactory condition. Disassembly shall be the minimum necessary to safeguard parts known to be subject to damage or loss, and to accomplish reduction in cube. Major disassembly shall not be accomplished without prior approval.

a. Prepare Equipment for Shipment**.** Prepare for shipment as follows:

(1) Inspect and operationally test the equipment. Repair as required. Service the equipment. Ensure that proper quantity of antifreeze is added, as applicable, to prevent freezing enroute. Prepare an Equipment Repair Order (ERO), described in Chapter 4 and list all required repairs not completed. File the ERO in the appropriate Equipment History Jacket so that the ultimate receiver will have basic information about the vehicle's condition.

(2) Thoroughly clean the equipment. Protect components that may be damaged during cleaning with waterproof paper, plastic tape, or other suitable material.

(3) Close all windows and doors. Protect windows and windshields with plywood, masonite, or similar material. All exhausts, intakes, hydraulic hoses, and other openings must be sealed by capping, taping, or other means to prevent entry of water and dirt.

(4) Coat exposed ferrous metal machined surfaces, such as hydraulic ram shafts and similar surfaces. Exterior surfaces of equipment being shipped to overhaul facilities are to be coated with corrosion preventive rustproofing. Appendix M lists approved preservation and rustproofing materials.

(5) Ship all collateral equipage with the equipment, and include the spare tire and rim, unless otherwise directed. Remove and box all pilferable items such as mirrors, windshield wipers, lighters, tools, jacks, and all disassembled components. Mark the box with the USN number and secure to the equipment in a protected location so the box will not interfere with towing, driving, or lifting the equipment.

(6) All attachments shall be shipped with the equipment, unless otherwise directed, Appendix D provides additional information. Small attachments such as bridles, pennants, hook blocks, and wire cable shall be boxed and secured to the equipment in a protected location so as not to interfere with towing, driving, or lifting the equipment. Large components such as backhoes, pile driver leads, clamshell, and dragline buckets that cannot be relocated on the equipment shall be shipped separate from, but at the same time as, the non-rolling stock. These components are usually shipped loose unless handling conditions dictate otherwise. Components may then be secured to pallets or a skid-type base. Boxes, loose components, and palletized or skid-type loads shall be marked with the USN number of the basic equipment.

(7) Remove items or parts that have low ground clearance such as spray bars and long extensions, and secure to the upper portion of the vehicle.

(8) Block, brace or secure any movable component attached to the equipment with strapping, cable, or by other suitable means to prevent movement and damage during shipment.

(9) Drain and blow dry water tanks, pumps, piping, and other components that contain water to prevent freezing damage en route. Cover openings to prevent entrance of water.

(10) Cover equipment electrical components and instruments subject to damage by the elements with a waterproof shroud, plywood housing, or other suitable material.

b. Transfer Actions**.** After completion of the preparation for shipment, continue with the following:

(1) Mark the equipment for the consignee.

(2) Transfer the equipment to the appropriate Shipping Officer. The equipment should be stored at the staging area for the shortest time possible to reduce the possibility of deterioration, cannibalization, or theft.

(3) Ship the equipment by the first available transportation, unless otherwise directed. When possible check the equipment after it has been loaded and represerve and reseal any areas or openings disturbed by handling.

(4) Provide consignee with all shipping data, including USN numbers, number of items in shipment, name of ship, scheduled departure date, and estimated time of arrival at destination. Identify equipment attachments by NAVFACENGCOM identification number (Appendix D) and indicate the USN/USNG number to which it is assigned. Attachments shipped separately from its USN number will be shipped under a separate Transportation Control Number (TCN) for accountability.

(5) For disposition of Equipment History Jacket refer to Chapter 4.

(6) After the item is shipped, the allowance holder must update CASEMIS in accordance with paragraph 2.12.7.

(7) Check CSC recertification date before shipping USNG numbered ISO containers. See Appendix D.

c. Shipment Under Combat Conditions**.** Additional guidelines for shipping equipment under combat conditions are provided in the *NCF Tactical Embarkation Manual* , COMTHIRDNCB/COMSECONDNCB Instruction 3120.1 series.

2.5 ***Foreign Purchases***. The Federal Acquisition Regulation (FAR) permits foreign purchases under specific conditions such as unreasonable cost for domestic procurement and non-availability within the United States. Detailed procedures are contained in the FAR under Foreign Purchases. Additional restrictions may be contained in specific Congressional authorization and/or appropriation acts. When required, data for justification and approval (J&A) will also be developed, and a J&A request forwarded to the applicable Command. LANTDIV coordinates procurement in Europe and PACDIV coordinates procurement in the Pacific Region.

2.6 ***Acquisition of Fuel Efficient Vehicles***. Current laws and regulations require compliance in the fuel efficient acquisition (purchase or hire) and reporting of passenger automobiles (sedans and station wagons) and light trucks with the exception of alternative fueled vehicles as detailed in section 3-4 of the DoD Regulation 4500.36-R. Procurement of sedans and station wagons is limited to compact or subcompact types except as specifically authorized by DoD 4500.36-R sections 3-1 and 3-4.

2.7 ***Replacement Criteria***

2.7.1 ***Life Expectancies***. The age or mileage expectancies furnished in the CASEMIS Descriptive Reference File (available through direct access to CASEMIS, the cognizant TEMC, or Navy-provided software) provide a systematic and uniform schedule of eligibility for replacement planning and are to be used when considering CESE for replacement or for overhaul and retention. The age and mileage expectancies applicable to automotive vehicles were derived from administrative use motor vehicle replacement criteria published by DoD for use by all military departments. The life expectancies are not applicable to specialized equipment mounted on vehicles. The statistical vehicle fleet average should be used for projecting mileage. Age expectancies of construction and weight handling equipment are to be used to determine the basic zone of eligibility; these age expectancies do not have the same value as the age expectancies for automotive vehicles. Construction and weight handling equipment have a lower use rate and are not as affected by age as automotive vehicles. Dependability, obsolescence, and major repair costs are the prime considerations for replacement of such equipment.

2.7.2 ***Repair and/or Replacement Determinations For Automotive Vehicles (Alpha Code A through N).*** In addition to the age or mileage criteria, a vehicle is eligible for replacement when the cost of repairs exceeds certain limits. Normally, repairs will not be accomplished when the total cost of the one-time-repair (labor + material + indirect expenses/other charges) exceeds 50 percent of the original procurement cost of the vehicle. However, if a replacement vehicle is not immediately available and the requirement for the vehicle still exists, repairs may be made on the vehicle at the Activity's discretion. PRIOR to the repairs being made, the cognizant TEMC shall be notified to determine whether or not a replacement vehicle is immediately available.

2.7.3 ***Repair and/or Replacement Determinations For Construction, Railway, Weight Handling and Other Transportation Equipment (Alpha Code O through Z).*** The determination of whether to replace or repair a unit of equipment may be guided in part by the one-time repair limits provided in Appendix F. If the age of the item under consideration exceeds the life expectancy, a factor of 20 percent should be used. Authorization to exceed the one-time-repair cost limit shall be obtained from the cognizant TEMC. Whenever it is determined that an item of construction, railway, or weight handling equipment should be replaced in accordance with the criteria established herein, and a replacement unit is not currently available (as determined by the cognizant TEMC), the equipment may be maintained only at a level to ensure safe operation for further temporary use pending scheduled replacement.

2.7.4 ***Costing of Repair Estimates For Transportation Equipment***. Uniform cost criteria should be used to determine whether it is more economical to repair or replace transportation equipment (see Appendix G for labor hour input standards). Repair estimates shall include direct labor, material, indirect costs, and other direct charges.

a. Direct Labor. Direct labor is all labor, civilian or military, which can be specifically identified to the repair job.

(1) To arrive at direct labor cost, it is necessary to determine the direct labor man-hours required, and then apply the appropriate direct labor hourly rates to these man-hours.

(2) Direct labor costs must represent the best available estimate. Activities normally use flat rate manuals to determine the direct labor man-hours required. Otherwise, estimates will be based on similar work performed previously, or estimates based on individual experience.

b. Labor Rates for Civilian Employees. Cost of civilian labor will be based on the labor rate for the work center performing the work, or where applicable, the labor rate stated within the commercial transportation contract.

(1) When costs of civilian labor are determined on the basis of annual salaries, these costs will include the factor for Government contributed benefits.

(2) When costs of civilian labor are determined on the basis of direct labor hours (days, etc.) applied, these costs will be computed by adding to the gross pay, as shown in current pay tables, the factor for Government contributed benefits.

c. Labor Rates for Military Personnel. Labor rates for military personnel will be the average military wage rate for the work center performing the work, based on standard rates published in the NAVCOMPT Manual, Volume 3, Chapter 5.

d. Direct Materials

(1) Cost to repair will include all materials directly applied and identifiable to the particular equipment undergoing repair, including Government-furnished material to be consumed by a contractor in performing all or a part of the maintenance job.

(2) Consumable items received from the supply system will be costed at the standard inventory price. Items procured from local services will be priced at the latest invoice cost including transportation. Fabricated items will be priced at actual cost including direct expenses as defined herein.

(3) Components and assemblies used in the repair process will be costed at the exchange rate, representing the standard inventory price less credit for return of repairable components. The exchange price can be established as a percentage of the standard inventory price as long as it reflects the estimated cost of repair.

e. Indirect Expenses

(1) The cost estimate will include indirect expenses associated with the repair process. This will be determined by applying the indirect expense rate (expressed as dollar cost per direct labor man-hour) to the estimated direct labor man-hours.

(2) The indirect or overhead costs included in the indirect expense rate shall include: manufacturing or production expense (indirect cost incurred within or identifiable to the maintenance shop or organization performing the repair work, although not identifiable to particular jobs); and, general and administrative expenses/costs incurred in general management or supervision which are measurable costs chargeable to maintenance activities.

f. Other Charges

(1) Contractual Services. Services required incident to and identifiable with the performance of all or a portion of the specific maintenance job will be included as an element of cost. If the contractor is to perform a significant portion of the maintenance job, the cost estimate will show the estimated charges for labor and contractor-furnished parts in addition to the total contract price.

(2) Readying for Shipment. When the equipment/component cannot be repaired on site and costs must be incurred to prepare the item for shipment regardless of destination, such costs are to be included in the estimate of cost to repair.

(3) Freight. When the equipment/component to be repaired is located overseas and no local capability to repair exists, the cost of freight will be included as an element of cost. In all other cases, cost of freight will be excluded.

(4) Miscellaneous. Any other charges required to accomplish the required maintenance and directly identifiable to the equipment will be included.

g. Exclusions. The following costs will not be included in the estimate:

(1) Maintenance Expense Items. Such items as tires, tubes, tire chains, tracks, batteries, and antifreeze, etc., are not to be included as a cost in the repair estimate except where replacement is the result of accident damage.

(2) Accessories. The cost to overhaul or replace accessory items used to adapt the equipment for special uses, such as sirens, flashing lights, rank insignia, two-way radios, fire extinguishers, tool kits, or similar items, are not to be included in the cost repair estimate. Individual estimates of cost to overhaul such items will be made as required.

2.8 ***Requirements***

2.8.1 ***Initial Issue and Replacement Procurement Requests***. The same requirements procedures apply to both the initial procurement of CESE required to fill newly approved IOs and the replacement of CESE. Requirements must be planned and programmed for the budget year(s) as detailed in paragraph 2.8.3 for OPN funded requirements. The submission schedule and procedures for DBOF activity requirements are in paragraph 2.8.4. Included are all United States Navy (USN) registered CESE that are controlled by established IOs in the P-1 Equipment lines listed in paragraph 2.8.2. Items such as refuse containers which are components of mobile refuse collection systems, hydraulic tailgates, and construction equipment attachments are considered accessories or attachments to the end items and will be procured as CESE only when requested with the end item. The budget year requirements submission shall be based on the approved activity IO. Requested replacements must reach eligibility in the budget year(s) based on the replacement criteria in paragraph 2.7. This does not mean equipment will be replaced automatically or immediately when eligibility is reached. Replacement of eligible units is predicated on the funding approved for the purchase of CESE.

For NCF and SOU units, the initial CESE Allowance Review and Update is accomplished by a Biennial Allowance and Requirement Review (BARR). The BARR is used to recommend changes to a Command's CESE allowance and to indicate which vehicles require replacement. Biennially, each allowance holder or designated component organization prepares and submits a BARR in accordance with NAVFACINST 11200.35, Naval Construction Force Biennial Allowance and Requirement Review. Requests for allowance increases must be accompanied by complete justification based upon mission change and operational procedures and requirements changes (see Appendix C).

2.8.2 ***Transportation Equipment P-1 Lines***. The broad vehicle/equipment categories below comprise the budget grouping P-1 lines in the transportation equipment program funded as CESE. (See Figure 2-2 for P-1 Line Summary)

XA Passenger Carrying Vehicles
XB Special Purpose Vehicles/Equipment
XC General Purpose Trucks
XH Construction & Maintenance Equipment
XJ Fire Fighting
XG Tactical Equipment
31 Railway Equipment

NOTE: P-1 line 31 is not normally funded but carries a P-1 line number for administrative purposes.

2.8.3 ***OPN Requirements Procedures***. To coincide with the DoD budget submission, a requirements review will be conducted on a biennial basis for CESE funded in the Other Procurement, Navy CESE Budget Activity 5. These procedures are applicable to non-DBOF activities and for passenger carrying equipment only for DBOF activities. Requirements established during the review will, within approved funding levels, be procured from the two budget year funds. The first budget year is the fiscal year two years following the submission year, e.g., the first budget year for submission in FY 96 is FY 98. Funding constraints preclude the replacement of all equipment items that exceed life expectancy and require activities to execute an effective operation and maintenance program to extend the useful life of equipment to the maximum. To make the best use of the limited funding, the requirements identification process must emphasize selection of the highest priority equipment items. A projected funding level will be developed for each activity to be used for conducting the requirements review. Use of a projected funding amount eliminates the need to prioritize all eligible items and instead emphasis can be placed on selecting the highest priority requirements. Each activity will develop a requirements listing that can be funded within the projected funding amount. The TEMCs will forward a requirements package and any amplifying instructions to activities under their cognizance each review year. The following data will be provided to each activity or be available through direct access to CASEMIS:

- CESE inventory records.
- Current authorized CESE IOs.
- Procurement status information for equipment that is funded and under procurement but not delivered.
- Procurement information for equipment that is planned for procurement but for which funding has not been approved.

- An activity projected funding level for planning purposes and to specifically assist in the selection/prioritization of requirements. It must be emphasized that the funding levels are projections which more than likely will change during the programming and budget process.

- A CASEMIS Equipment Code Descriptive Reference Table that includes a complete list of NAVFAC 6-digit equipment codes to be used for the requested requirements. Only equipment codes/types included in the table should be requested. The Descriptive Reference Table designates the equipment codes/types for "Standard Family of Equipment" items. It also provides the estimated unit cost of equipment to be used in developing the requirements list that falls within the projected funding amount.

a. Activity Review and Submission. Activities shall conduct the review and submit requirements by letter or through direct access to CASEMIS. Requirements data will be submitted only for equipment that falls within the projected funding level. The 6-digit equipment code must be specified for each requested requirement. The requirements are to be integrated into a single priority sequence for all P-1 lines for both procurement years. Priority numbers should begin with "1" through the total number of equipment requirements submitted and each number should be used only once. Priority "1" will represent the most urgent requirement, priority "2" the next most urgent, etc. To the extent possible within the constraints of budget guidance and availability of funding, equipment procured will be in accordance with the needs and priorities identified by the activity. Program budget reductions are implemented by deleting, on an equitable basis, the lowest priority items unless a budget cut is aimed at a P-1 line specifically. In that case, the lowest priorities within that P-1 line are reduced. Therefore, activity established priorities should represent the relative importance of the requirements to ensure that the highest priorities are funded. While the selection of requirements will be based on a combination of mission requirements, priority of assignment, equipment condition and other factors, the following criteria apply:

(1) Care should be taken to ensure that the requested requirements are consistent with the authorized IO. It is assumed that all equipment on hand fills an authorized IO or is excess to activity needs. Excess equipment (equipment over IO) will not be replaced.

(2) The CESE budget is prepared for the review cycle 15 months prior to the budget year. Therefore, care must be taken to realistically evaluate activity needs in the long term. Application of the replacement criteria must consider the timing of the budget/procurement cycle. As a practical matter, there is only one annual procurement cycle after approval of the budget and release of appropriations. Input from the administration, operation, and maintenance branches of the transportation division as well as prior planning should eliminate, or keep to a minimum, the need for any adjustment during the procurement cycle.

P1 LINE/LINE ITEM REFERENCE NUMBER (LIRN) SUMMARY

LIRN	*Description*
P1: XA - PASSENGER CARRYING VEHICLES	
XA1A	BUSES
XA1B	AUTOMOBILES
XA1C	AMBULANCES
P1: XB - SPECIAL PURPOSE VEHICLES/EQUIPMENT	
XB2A	MAINTENANCE TRUCKS
XB2B	SPECIAL PURPOSE TRKS
XB2C	TRAILERS
P1: XC - GENERAL PURPOSE TRUCKS	
XC3A	UTILITY TRUCKS
XC3B	CARGO TRUCKS
P1: XH - CONSTRUCTION & MAINTENANCE EQUIPMENT	
XH6A	EARTHMOVING
XH6B	MISC CONSTRUCTION
XH6C	CRANES
P1: XJ - FIREFIGHTING	
XJ7A	AIRCRAFT FIRE/RESCUE
XJ7B	BRUSH/STRUCTURAL
P1: XG - TACTICAL EQUIPMENT	
XG9A	LIGHT TRUCKS
XG9B	MEDIUM TRUCKS

Figure 2-2

(3) Replacement requests must meet the established life expectancy replacement criteria provided in the CASEMIS Descriptive Reference File. Equipment is also eligible for replacement if the mileage projected for 36 months of additional service exceeds the standards listed in the CASEMIS Descriptive Reference File (available through direct access to CASEMIS, the cognizant TEMC, or Navy-provided software) even though the equipment is not eligible by age.

(4) Established policy shall be to request equipment replacements from the standard family of equipment items listed in the CASEMIS Descriptive Reference Table. When requesting equipment items ending in zero-zero ("00"), the Description/Justification for Non-Standard Family CESE Procurement Sheet (Appendix H, Figure H-1) must contain all the information required for a purchasing agent to procure what is needed (a sample is provided as Figure H-2). Do not assume the purchasing agent knows the exact needs of the end user activity. For all crawler or mobile cranes, a Crane Requirements Data Sheet (Figure H-3) must be completed (a sample is provided as Figure H-4). Information on activity operational requirements, as well as the complete equipment description, is required. For Non-Standard Family Truck Tractor items, a Truck Tractor Data Sheet (Figure H-5) must be completed. It must be emphasized that the data provided on these sheets does not constitute a justification for sole source procurement. Consequently, if specific components are annotated on these forms, they must not be so selective as to limit competition.

b. TEMC Review. The TEMCs will review activity requirement submissions for accuracy and completeness of information, to include requests for non-standard procurement and truck tractor/crane data sheets. The TEMCs are responsible for coordinating fire fighting equipment with the cognizant Fire Marshal. Where there is a discrepancy between the activity submission and the Fire Marshal's recommendation, the TEMC is responsible for resolving the differences. The TEMCs shall formulate a systematic plan for equitable distribution of requirements to activities. The TEMCs will consolidate activity requirements and establish/enter in CASEMIS one prioritized listing for all P-1 lines.

c. OPN Budget Submission. COMNAVFACENGCOM will coordinate with the TEMCs and CESO to determine final requirements to be included in the NAVCOMPT budget request.

d. Emergent Requirements. If an urgent situation arises, the requirement shall be submitted to the TEMC. The TEMC will determine whether the requirement can be met by loan, diversion of current procurement, or reassignment of an item of equipment available within the support area of the TEMC. When this is not possible, the TEMC will forward the request to COMNAVFACENGCOM (Code 134), with full justification, and identification of currently funded item(s) to be deleted.

2.8.4 ***DBOF Requirements Procedures***. CESO will provide detailed guidance to DBOF activities for submission of their requirements in the August/September timeframe prior to the start of the fiscal year in which the equipment is to be procured.

a. Activity Review and Submission. Replacement requirements for equipment in Line Items XB, XC, XH, and XJ are to be submitted to CESO Code 15L2 with a copy to the applicable TEMC. Submission should be provided by a funded Military Standard Requisition and Issue Procedures (MILSTRIP) requisition in message or letter format, including the equipment code and type designator, item description, quantity of each item, unit cost, and total cost of each item. Although the activity requirements will be based on a combination of mission requirements, equipment condition, and various other criteria, the following applies:

(1) Requirements must be within the current Inventory Objectives (IOs).

(2) All requirements must meet replacement criteria as set forth in paragraph 2.7 and the CASEMIS Descriptive Reference File (available through direct access to CASEMIS, the cognizant TEMC, or Navy-provided software).

(3) Established policy shall be to request equipment replacements from the standard family of equipment items listed in the CASEMIS Descriptive Reference Table. When requesting equipment items ending in zero zero ("00"), procedures set forth in paragraph 2.8.3.a(4) apply.

b. Indefinite Delivery Type Contracts/Requirements Contracts. Selected items of construction equipment are available from the Defense Supply Center, Columbus (DSCC) on Indefinite Delivery Type Contracts (IDTC). The General Services Administration has awarded requirements contracts for a variety of other equipment, including medium and heavy trucks, fire trucks, trailers, trash and recycling vehicles, wreckers, standard aerials, pole and line trucks with auger, High Mobility Multipurpose Wheeled Vehicles (HMMWV), lubrication and fuel service trucks, and police transport vans. CESO will consolidate and process any requirements received by MILSTRIP submission for equipment available on these contracts. Personnel in the Shore and Fleet CESE Division of CESO are familiar with what items of equipment are being offered and the available options. However, activities which hold their own procurement funds may order this equipment directly from DSCC and GSA.

c. TEMC Review. A copy of each requirement submission, along with any "Non-Standard" Vehicle Description/Justification Sheets, Crane Data Sheets, and Truck Tractor Data Sheets should be forwarded to the applicable TEMC. TEMCs will review the submission and advise both the activity and CESO of any recommended changes.

d. Reimbursable Work. CESO's processing effort for DBOF CESE requirements will be done on a reimbursable basis. This is implemented through a surcharge applied to the equipment acquisition cost.

e. Forwarding of Funding Documents. DBOF activities are to provide a funded MILSTRIP requisition to CESO by 15 November annually in order for like items of equipment from each activity to be consolidated. This also allows CESO to take advantage of available options on the GSA Family Buy contract. Requirements received after 30 November annually may have to be placed on new contracts for the next model year. CESO will accept two separate funded MILSTRIP requisitions from each activity, one for the under $100,000 requirements and one for the over $100,000 requirements. This allows for execution of minor funding adjustments between equipment types without further action from the activity. DBOF activities need to add the surcharge to the funding authorization included in their initial MILSTRIP requisition.

2.9 ***Lease of Motor Vehicles***

2.9.1 ***Authority***. The authority, procedures, and limitations on the lease of motor vehicles by Navy activities ashore and afloat are contained in DoD 4500.36-R. As indicated in the NAVFAC Contracting Manual, P-68, lease of motor vehicles in excess of 60 days utilizes NAVFAC contracts and not a NAVSUP supply type contract. The term "lease" includes lease or rental arrangements from commercial sources, the General Service Administration (GSA) government-wide indefinite quantity lease, the Navy's centralized leasing contracts, or with other government agencies such as the GSA Fleet Management Centers. Motor vehicles are classified as charter when the driver is provided by the vehicle owner, and as lease/rental when military or civilian personnel of the Department of Defense are used as drivers. This term does not include authorized arrangements for passenger vehicles made by personnel in an official travel or temporary duty status. A "Lease" is defined as being for 61 days or more and a "Rental" is defined as being 60 days or less. The long-term (exceeding 60 days) lease of motor vehicles is restricted to activities ashore for filling the vehicle IOs established in accordance with paragraph 2.2.2 of this publication.

2.9.2 ***Policy for Leasing Vehicles***

a. Administrative Vehicles. It is Navy policy to lease vehicles only when it can be proven to be cost effective, or when no reasonable alternative exists to meet mission requirements. It is mandatory that decisions to lease are supported by detailed justification/economic analysis. Sedans (or other vehicles) will not be leased based on rank or position alone. Class III, IV, and V sedans authorized for individuals in accordance with DoD 4500.36-R are exempt.

b. Fire Fighting Equipment. Approval by COMNAVFACENGCOM shall be obtained prior to rental or lease of fire fighting equipment.

2.9.3 ***Administration***. Offices and commands (claimants) are responsible for budgeting and funding for the lease or rental of motor vehicles for both long-term and intermittent purposes. COMNAVFACENGCOM is responsible for the development and promulgation of technical and economic criteria for long-term motor vehicle lease, contracting procedures, and reporting requirements for maintaining Navy-wide lease IO

control. COMNAVFACENGCOM is also the Navy point of contact for the conduct of studies and participation in the establishment of GSA Fleet Management Centers and Systems. Vehicle support through GSA's Interagency Fleet Management System (IFMS), in general, will only be provided when a cost study under the provisions of PL 99-272 has determined GSA should provide all administrative vehicles. However, activities may be able to obtain minimal vehicle support from their local GSA Fleet Management Centers, subject to availability of vehicles. If the local Fleet Management Center (FMC) can provide vehicles, include this information in the request to the TEMC. Accordingly, if vehicles are not available at the regional level, they may be leased commercially with the TEMC's approval.

2.9.4 ***Limitations***. Motor vehicle leases are governed by certain legislative constraints and economic considerations including the Balance of Payments Program. Restrictions are described in the COMNAVFACENGCOM Contracting Manual (NAVFAC P-68) and the Federal Acquisition Regulation (FAR). Annual appropriation acts may contain additional restrictions.

a. Sedan and Station Wagon Lease. The lease of sedans and station wagons is limited to compact/subcompact types. An exception is permitted when, on the basis of documentation forwarded through established channels, the CNO approves the use of larger sedans or station wagons as essential to an activity's mission. Lease specifications shall conform to the design, weight, equipment and accessory specifications that are employed for the purchase of Navy compact/subcompact sedans and station wagons. This does not prohibit contractors from providing optional equipment not required by the specification in order to increase resale value.

b. Lease IOs. The number of long-term motor vehicle leases shall not exceed the lease IO. However, a leased unit may be applied to a Navy-owned IO when Navy-owned equipment is planned/desired or pending conversion of IO from Navy-owned to lease. Requests for lease IOs or changes thereto shall be submitted in accordance with paragraph 2.2.2 in the same manner as for Navy-owned vehicles. Increases in vehicle lease IOs must be accompanied by a statement from the requiring activity that funding is available to cover the increased cost. Any decrease requested in existing passenger motor vehicle lease IOs may not be automatically exchanged for Navy-owned passenger vehicle IOs because the number of Navy-owned passenger carrying vehicles are controlled separately by specific language in the annual DoD Appropriations Act.

c. New Requirements. Activities are responsible for forecasting vehicle requirements to support new or expanded mission assignments and include them in their IO and requirements review in time to meet the new requirement. When notifications of new mission assignments do not allow sufficient time to acquire new vehicles in the required time frames, the following alternatives should be considered before requesting lease authority:

(1) Temporary reassignment from existing resources.
(2) Retaining in-service vehicle(s) scheduled for replacement.
(3) Diversion of due-in assets (TEMC support).
(4) Transfer/loan from other activities (TEMC support).

2.9.5 ***Justification/Economic Analysis***. Requests to lease are to be supported by detailed justification/economic analysis. When a new requirement has been identified, an Economic Analysis will be conducted using the format in Appendix H, Figure H-6 to determine if an asset should be Navy-owned or leased. The TEMC is responsible for evaluating the justification/economic analysis. Leasing will only be considered when:

a. Leasing is a cost benefit to the Navy (economic analysis supports leasing in lieu of Navy ownership); or

b. Local laws or status of forces agreements preclude the use of U.S. Government-owned vehicles; or

c. An emergent requirement precludes filling with a Navy-owned asset. Vehicles may be leased under a Navy-owned inventory objective only as long as necessary to meet immediate mission requirements. Action shall be initiated to obtain a Navy-owned vehicle either through a lease/purchase arrangement or in the next annual procurement process.

2.9.6 ***Lease-Purchase and Lease-to-Ownership Agreements***

a. Under a Lease-Purchase agreement, the Navy may acquire ownership of a vehicle by making payment pursuant to a purchase option written into the agreement. A Lease-Purchase Agreement should be considered when leasing CESE to fill a Navy-owned IO. When a Lease-Purchase option is desired, it should be specified in the lease request submitted to the TEMC. The lease request should include the type of lease agreement, equipment code/quantities, estimated lease cost, and the month/year the purchase option may be exercised. The solicitation/lease agreement should be structured so that the purchase option reflects a reasonable fair market value of the item at the time it is to be exercised.

b. Under a Lease-to-Ownership agreement, ownership of the CESE automatically passes to the Navy upon completion of the specified lease period, with no additional payment for ownership. Lease-to-ownership agreements generally are not an appropriate mechanism for acquiring CESE, as it would be difficult to meet the criteria contained in subparagraph c. below. However, in those circumstances where a lease-to-ownership may be appropriate, full supporting documentation that would withstand audit review for compliance with the expense/investment criteria contained in the NAVCOMPT Manual is to be submitted along with the lease request.

c. Funding. The criteria for expense/investment funding is outlined in the NAVCOMPT Manual (Vol. 7, Chapter 5). The activities should ensure compliance with these criteria. Specifically, these criteria are:

- The lease payments must not exceed those required for a straight lease.
- The lease term is for a period of 12 months or less (exclusive of renewal options).
- The total of the payments made toward the purchase of the vehicle (whether as a periodic payment, a percent of the lease payment, a lump sum at the end of the lease, or a combination including the value of any purchase credits as may be stipulated by the contract) must not exceed the established expense/investment threshold (currently $100,000).

Provided the agreement meets these criteria, O&M,N funds will be used to fund the purchase option for nonpassenger-carrying vehicles. Passenger-carrying vehicles require OPN funds to execute the purchase option, regardless of the amount. The lease portion of the lease-purchase agreements are categorized as operating expenses and will be funded using operating funds.

d. Approval of Lease-Purchase and Lease-to-Ownership Agreements

(1) Lease-to-Ownership Agreements. All lease-to-ownership agreements require COMNAVFACENGCOM approval.

(2) Lease-Purchase Agreements

- Passenger-carrying vehicles - TEMC approval is required prior to entering into the lease agreement. Approval to purchase and request for OPN funds must be requested from COMNAVFACENGCOM via the cognizant TEMC at the beginning of the fiscal year in which the buy out will occur.
- Nonpassenger-carrying vehicles - The TEMCs will approve lease-purchase agreements for nonpassenger-carrying vehicles. However, COMNAVFACENGCOM approval is required to exercise the purchase option if investment funds (OPN funds) are required to exercise the purchase option.

e. Conversion of Vehicle Registration from Leased to Navy-owned. When a leased vehicle is converted to a Navy-owned vehicle (through either a lease-to-ownership or a lease-purchase arrangement), the CASEMIS inventory database shall be changed from status code "I" (rented/leased equipment) to status code "O" (Navy-owned equipment).

2.9.7 ***Short-Term Rental***. Short-term rental is the rental of vehicles for a period not to exceed 60 days.

a. Intermittent Rental. Activities may, within funding limitations, rent motor vehicles for periods not exceeding 60 consecutive days, without regard to established IOs, to satisfy peak loads, unusual conditions, or emergency requirements. NCF units will chop all intermittent leases through their respective Brigade Equipment Office prior to entering into a short term rental. Use of options, renewals, or consecutive 60-day contracts shall not be utilized to circumvent the IO system. The activity commanding officer may authorize the solicitation, and Form DD 1155 should be used as the contract document.

b. The class of a motor vehicle rented to support the visit of a DoD official can be the same as that normally authorized that official. The class of vehicle rented in support of non-DoD officials, including those from foreign countries, shall be the same as that normally authorized a DoD official of comparable rank or position.

2.9.8 ***Long-Term Leasing***. Except for vehicles to be used by the officials listed in paragraphs 3.1.c and 3.1.d of the DoD 4500.36-R, new leases for sedans, station wagons and light trucks for terms exceeding 60 consecutive days, shall require prior approval from the cognizant TEMC. TEMC approved lease authority is valid for 12 months and two 12-month options, not to exceed a total of 36 months.

a. Procedures for Requesting Leased Vehicles. Activities are to submit requests for all vehicles to be leased for more than 60 days to the cognizant TEMC for approval. An Economic Analysis in the format of Appendix H, Figure H-6 and an Activity Data Sheet (Appendix H, Figure H-7) are to be submitted along with the requests. The TEMCs are not to approve lease requests without adequate written justification and an approved IO for the equipment code requested. If the requested leased vehicles will cause on-hand assets to exceed the approved IO, the excess units must be in the process of being sent to disposal, or an interim IO increase approved by the TEMC. The TEMC should also review similar assets at other nearby activities for possible redistribution of usable vehicles. Lease requests are to include justification and the following information:

(1) Name and location of the activity requiring vehicle support.

(2) Number of vehicles required, by type.

(3) Special requirements (e.g., unmarked, heavy duty suspension, security configuration, etc.).

(4) Intended use.

(5) Length of anticipated use and projected annual mileage.

(6) Name and telephone number (commercial and Defense Switched Network (DSN)) of the contact at the activity.

(7) Purchase option, if applicable.

(8) Vehicle support through GSA IFMS, if applicable. Include Billing Office Address Code (BOAC). (If the activity does not already have a BOAC number assigned, a number may be requested from your local GSA region.)

b. Procedure when the TEMC authorizes leasing from commercial sources. When leasing from a commercial source, activities should first consider leasing automobiles and light trucks from the centralized open-end leases which the Navy negotiates annually with major commercial leasing companies. Vehicles may be obtained from the indefinite quantity contracts using DD Form 1155. Vehicles can be leased off these contracts without further competition.

(1) Vehicle Hire Contracts. For leases from commercial sources for periods exceeding 60 days, a Standard Form 33, Solicitation, Offer, and Award is required. Contract procedures and forms are prescribed in the COMNAVFACENGCOM Contracting Manual, NAVFAC P-68. The activity commanding officer may authorize the solicitation, and Form DD 1155 should be used as the contract document. Requirements for the lease of vehicles shall be consolidated to the extent feasible and invitations for bids shall be requested on a competitive basis with award going to the lowest conforming bidder.

(2) Buses. Full-time charter of buses may be considered to satisfy regularly scheduled and recurring requirements when Navy-owned equipment is not available or economical to use to meet operational demands. Requirements of less than four hours per day that require a full-time driver are likely prospects. Also, cyclic requirements of nine or less months per year may present a favorable bus charter situation in that the cost of paying full-time drivers (12 months) may be avoided. Charter bus service is considered a contract to provide specified bus service vice a contract to provide a specific vehicle and therefore does not require a vehicle IO. The use of commercial buses is advocated for the movement of large groups of personnel for distances in excess of the activity's established POD. Commercial bus use is also recommended where the need is occasional and to satisfy peak requirements.

c. Insurance and Maintenance for Hired Vehicles

(1) Invitation to bid solicitations and resulting contracts for leased vehicles shall provide for self-insurance or as otherwise prescribed by applicable portions of Subpart 28.3 of the FAR. The contractor shall warrant that the contract price includes no cost for insurance for which the Government is responsible.

(2) The Navy shall perform all maintenance on leased vehicles unless a prior determination has been made that it will be more economical, or mission essential, for the contractor to perform such maintenance, in whole or in part.

d. Model Year of Leased Vehicles. As a rule, invitations for bids shall not be limited to current year production models. However, when overall economy is not affected, such solicitation may be limited to current models.

e. Identifying Leased Vehicles. Vehicles leased from commercial sources for more than 60 consecutive days shall be identified in the same manner as Navy-owned vehicles, in accordance with paragraph 2.14.4. Leased vehicles shall not be repainted to conform to Navy vehicle colors. Vehicles leased from the General Services Administration carry GSA tag numbers and markings and, therefore, do not require U. S. Navy registration numbers.

2.9.9 ***Reports***

a. Report of Leased Vehicles. The annual activity Leased Vehicle Report (Figure 2-3) is to include data for the fiscal year 1 October through 30 September. The original and one copy of the Leased Vehicle Report will be forwarded to the cognizant TEMC in sufficient time to ensure its receipt by 10 October. The Leased Vehicle Report has been revised as follows:

(1) Vehicle types have been listed in order by Equipment Code, sub-totaled to Alpha Code or Description-Tonnage/Alpha Code.

(2) Sub-Total lines shall be included for each of the following groups:

- Sedans (Alpha Code A)
- Buses (Alpha Codes B, C, and D)
- Station Wagons (Alpha Code E)
- Ambulances (Alpha Code F)
- 4x2 trucks (Alpha Codes G, H, and I)
- 4x4 trucks (Alpha Codes G, H, and I)
- Trucks (Alpha Codes J and K)
- Trucks (Alpha Codes M and N)

NOTE: Refer to the CASEMIS Descriptive Reference Table (available through direct access to CASEMIS, the cognizant TEMC, or Navy-provided software) to determine Equipment/Alpha codes.

b. Report Symbol. NAVFAC Report Control Symbol 11240-7 applies to the Leased Vehicle Report.

LEASED VEHICLE REPORT

FROM: (Activity)	AREA:	FOR PERIOD:
TO:	__DOMESTIC (US & possessions) __FOREIGN (all other)	1 Oct 19___ thru 30 Sep 19

	Commercial Leases				Interagency (GSA) Leases			
Vehicle Type	No. Units	Total Mileage (000)	Total Costs (No. $)	No. Unit Mos.	No. Units	Total Mileage (000)	Total Costs (No. $)	No. Unit Mos.
SEDANS								
Subcompact (0103)								
Compact (0104)								
Midsize (0102)								
Large (0105)								
Law Enf. (0114)								
Total (Alpha A)								
BUSES								
BOC (up to 30 pass.)								
BOC (36 + pass.)								
Integral								
Total (Alphas B, C, D)								
STATION WAGONS								
Subcompact (0220)								
Compact (0210)								
Midsize (0202)								
Large (0200)								
Total (Alpha E)								
AMBULANCES **Total (Alpha F)**								
TRUCKS/TRK TRAC								
½ Ton PU 4x2								
Carryall 4x2								
Panel 4x2								
Other ¼ - ¾T 4x2								
1 Ton 4x2								
Total (Alphas G, H, I - 4x2s)								
Panel 4x4								
½ Ton PU 4x4								
Carryall 4x4								
Other ¼ - ¾T 4x4								
1 Ton 4x4								
Total (Alphas G, H, I - 4x4s)								
1½ Tons								
2 Tons								
2½ Tons								
3 - 4 Tons								
Total (Alphas J, K)								
5 - 10 Tons								
11 Tons & over								
Total (Alphas M, N)								
TOTAL (Alphas A thru N)								
Util Maint (0722) **(Alpha O)**								
TOTAL VEHICLES LEASED								

(For instructions, see P-300 paragraph 2.9.9)

Figure 2-3

LEASE AGREEMENT SUMMARY

LEASE AGREEMENT SUMMARY

(1) RQSTD BY UIC	(2) TEMC APPROVAL DATE	(3) VEHICLES REQUESTED QTY	(3) VEHICLES REQUESTED EC	(4) VEHICLES LEASED QTY	(4) VEHICLES LEASED EC	(5) CONTRACT DATE	(6) CONTRACT NO.	(7) YRS/ OPTS	(8) OPT PURCH (Y/N)	(9) LEASE COST	(10) MAKE/MODEL	(11) MD YR	(12) ENG DISP/ (CYL)	(13) TRANS/ GEARS	(14) GVWR (TRKS)	(15) FUEL SYSTEM FI/CB(#BLS)
N00000	00-00-00	5	0305	5	0305	00-00-00	GS-00F-89192	1/2	N	$415	CHEVY BLAZER	96	3501 (8)	M-4	6100 FI	
N00000	00-00-00	2	0104	2	0104	00-00-00	N62474-96-C-5409	1/2	Y	$265	CHEVY CORSICA	96	2 OL (4)	M-4		CB (1)

Column:

(1) RQSTD BY: UIC of requesting activity.
(2) TEMC APPROVAL DATE: Date approved by TEMC.
(3) VEHICLES REQUESTED, QTY & EC : Quanity and equipment code of vehicles requested.
(4) VEHICLES LEASED, QTY & EC : Quanity and equipment code of vehicles leased.
(5) CONTRACT DATE: Date of contract.
(6) CONTRACT NO: Contract number.
(7) YRS/OPTS: Basic number of years of contract/number of option years.
(8) PURCH OPT (Y/N) : Is there an option to buy out these vehicles at the end of the lease (Y=Yes, N=No).
(9) LEASE COST: Monthly lease rate per vehicle.
(10) MAKE/MODEL: Make/model of vehicles leased.
(11) MD YR: Model year of vehicle(s).
(12) ENG DISP/(CYL): Engine Displacement in either cubic inches or liters/Number of cyclinders.
(13) TRANS/GEARS: Transmission type (A=Automatic, M=Manual)/Number of forward gears.
(14) TRUCKS GVWR: Gross Vehicles Weight Rating (for trucks only).
(15) FUEL SYSTEM FI/CB(#BLS): FI, if fuel injection system; number of Barrels, if carburetor.

Figure 2-4

c. In compiling the data for the cost columns (round to dollars), include only actual (or projected) lease charges as stipulated in the lease agreement, including mileage charge if applicable. Mileage should be rounded to thousands (e.g., 990,650 miles would be shown as 991). Also, the No. Unit Mos. is derived from the No. Units times the number of leased months in the reporting period (e.g., 10 units delivered 1 July on a one-year lease would result in 10 units X 3 months = 30 Unit Months in the current fiscal year, and 10 units X 9 months = 90 Unit Months the next year). Do not include cost of fuel, oil, maintenance, or repairs (unless provided by the vendor and included in the price as shown in the lease agreement). Data on all vehicles of the types listed, leased for 61 days or more, including police/security and general purpose vehicles, are to be included. Data for charters and intermittent/short-term rentals (60 days or less) are not to be included. The TEMC will submit to COMNAVFACENGCOM (Code 134) by 1 November annually the summaries of the Leased Vehicle Reports for activities under their cognizance. Separate summaries are required for domestic (U. S. and Possessions) and foreign (all other) locations. (This report is also an input to the Standard Form 82, Agency Report on Motor Vehicles, submitted to GSA). One copy of the individual activity Leased Vehicle Reports must be attached to the TEMC summary.

d. Activities with automated data systems may submit a computer generated or automated Leased Vehicle Report in lieu of the format in Figure 2-3. In addition to the data required in Figure 2-3, reports prepared using the automated data system should include separate columns for fuel used (in gallons), fuel cost, maintenance cost, and downtime hours.

e. Annually, agencies provide GSA with a report of vehicles actually leased. DoD 4500.36-R requires copies of the lease contracts be forwarded to GSA; however, this requirement has been modified to have the agencies provide a "Lease Agreement Summary." Figure 2-4 is the format for this report. The TEMCs will forward a "Lease Agreement Summary" of vehicles leased through commercial sources (new lease acquisitions only) for their domestic activities (U.S. and Possessions) to COMNAVFACENGCOM (Code 134) no later than 1 November following the end of the fiscal year.

f. Cost Reporting for Leased Transportation Equipment. For the purpose of Transportation Cost Report (TCR) reporting (NAVCOMPT Manual, Volume 3, Chapter 7), all cost data for leased transportation equipment (i.e., lease costs, fuel costs, maintenance and repair costs) will be reported under the appropriate 6600 series cost accounts. Mileage/hours and maintenance/operation costs of lease/rental vehicles are not to be included with the Navy-owned inventory reporting data for equipment groups A through Z.

2.9.10 ***Rental of Construction Equipment***

2.9.10.1 ***Procedure***. To assist activities in meeting intermittent and peak requirements (i.e., "Low Usage Equipment"), procedures have been developed for obtaining construction and weight handling equipment on a rental basis from commercial sources.

2.9.10.2 ***Authority***. Activity Commanding Officers may, within funding limitations, rent construction equipment for periods up to 120 consecutive days without regard to established IOs to satisfy peak loads, unusual conditions or emergency requirements. NCF units will contact their respective Brigade Equipment Office prior to renting/leasing any construction equipment. A long-term lease (exceeding 120 days) of construction equipment requires prior approval from the cognizant TEMC and is restricted to activities ashore for filling approved IOs. Activities are responsible for budgeting and funding for the rental/lease of construction equipment for both long-term and intermittent purposes. Contract dollar limitations will be based on the contracting authority of the Officer in Charge of Contracts.

2.9.10.3 ***General Provisions for Construction Equipment Rental***. Activities wishing to rent construction and weight handling equipment should consider the following elements in soliciting bids.

a. Equipment Rental Rates. These rates shall include all costs of loading and unloading the equipment at the contractor's plant, including dismantling and assembling charges as necessary. If the Government is able to provide the equipment operator and the contractor is willing to rent the equipment without the operator, this should be clearly indicated. If the equipment is rented with operator, the regular hourly wage rate of the operator and the overtime rate should be indicated.

b. Moving Costs. These costs are applicable in the event the contractor delivers the equipment to the job site. The moving costs should be shown as the cost per move plus mileage. For example, the cost of a move for a small crawler tractor to a Government job site might be $45 per move plus 80 cents per mile of the distance one way.

c. Termination of Lease by Government. The Navy should reserve the right to terminate this equipment rental upon due notice if it is determined to be in the best interest of the Government. The Navy will be responsible upon termination of the lease to return the equipment in as good condition as when delivered, less normal wear and tear. The Navy shall not be responsible nor obligated to pay for any damages resulting from the negligence of the contractor or employees of the contractor.

d. Maintenance of Equipment. If equipment is rented and in the custody of the Government in excess of one work day (8 hours), the Government should be responsible for and perform normal operational-type services. Operational-type services should consist of fueling, lubrication, battery service, checking air pressure in tires, adding oils, etc. These services will be performed by the Navy in the manner prescribed by the contractor. Unless otherwise specified in the agreement, contractors shall be responsible for, and at their expense, maintaining the equipment in good operating condition during the rental period (in the terms of this agreement, this shall include labor or replacement parts as applicable). In the event the equipment must be removed from service by the contractor to perform repairs during the normal working day, such time will be deducted from rental payments in the applicable amount of the rate established.

Should the contractor be unwilling or fail to make the necessary repairs or replace parts to maintain or restore the equipment to good operating condition, the Government should have the option to terminate the lease and return the equipment or arrange with the contractor to have the equipment returned to the point of origin.

e. Insurance. Normally, the U.S. Government acts as a self insurer and paragraph 2.9.8 c(1) applies.

f. Liability of the Contractor. The contractor shall ensure that equipment scheduled for rental to the Government is free from defects and in good, dependable, and safe operating condition. The Government shall have the option, if so desired, to inspect the equipment for condition prior to entering into an agreement with the contractor for equipment.

2.10 ***Registration And Technical Record Control***

a. Responsibilities. The responsibility for assigning USN registration numbers to automotive vehicles, construction equipment, weight handling equipment, and specialized equipment, and maintaining current and complete files and records for all naval activities' transportation equipment ashore and afloat is assigned to COMNAVFACENGCOM. United States Navy numbers are assigned to all CESE and selected items of CEEI. USN numbers are assigned by CESO in accordance with Figure 2-5 of this publication. Some examples of CEEI that are registered in CASEMIS by USN number by the NCF include, but are not limited to: Refrigerated Containers, Shower Bath Units, Water Purification Units and SIXCON Pump Units. United States Navy General (USNG) (cargo container) number identifies International Safety Organization (ISO) container equipment to general type found in Appendix (E), Table E-1.

b. Purpose of Registration. The principal purpose of registering appropriate items of transportation equipment is to establish permanent and positive identification of each unit of CESE as categorized in Figure 2-5. This is accomplished by assigning a permanent U.S. Navy registration number to each unit of equipment at the time of its acquisition by the Navy.

c. Classification by Registration Number. The U.S. Navy registration number assigned to each unit of transportation equipment is keyed to classify the unit by the pertinent subcategory within one of the eight major categories of CESE. Figure 2-5 shows an outline of the classification system. The CASEMIS Descriptive Reference File (available through direct access to CASEMIS or the cognizant TEMC) identifies the appropriate items of CESE requiring registration. Registration numbers are also assigned to specialized equipment when the registration number is required for equipment use off-base.

(1) Registration of Leased Equipment. Vehicles or construction equipment leased for a period of 61 days or more are required by law to be identified as Navy

equipment. Vehicles leased from the GSA motor pool will retain the GSA prefix “G” identification number. Vehicles leased from commercial sources will be provided license plates with an identification number in the 5xx-xxx series. When the 5xx-xxx license plate series has been exhausted, USN registration numbers will be assigned from the series used to identify owned equipment.

(2) Registration of Former Railroad Interchange Cars. Activities with railroad cars that were previously identified under "USNX" or other identification but no longer appear in the current Official Railway Equipment Register are to request U.S. Navy registration numbers in the 6xxxxxx series for the cars. All USN 6xxxxxx registration series cars are to be included in the I&R Subsystem of CASEMIS.

(3) Assignment Logic for ISO/USNG Numbers (NCFs/SOUs)**.** ISO Container Control Numbers (ICCN) are eleven character codes that consist of four capital letters of the Latin alphabet (which designate ownership of the container), followed by six Arabic numerals for the serial number, and one check digit. The check digit provides a means of validating the transmission accuracy of the owner code and serial number. The check digit is determined by a formula in *ISO Standard*, ISO 6346-1984 (E), and is the remainder left over after dividing the product of the formula by the modules number "11." If eleven divides evenly into the product the check digit equals "0" (zero). If there is a remainder after dividing by eleven, then the check digit equals the remainder (with the exception of a remainder of 10).

NOTE: In order to avoid the duplication that results from the check digit value of zero being assigned as a remainder of both 10 and 0, the serial numbers that result in remainders of 10 have not been assigned. This accounts for the gaps in serial number assignments for the ICCNs.

2.10.1 ***Procedures for Reporting Acquisition and Requesting Registration Number Assignment***. All equipment contained in the CASEMIS Descriptive Reference File which is Navy-owned, Navy leased for a period of 61 days or more, or provided to the Navy by GSA shall be reported within 15 days of receipt. Early reporting will provide accurate inventory postures and assist the TEMC with requirements planning. Unreported equipment, centrally procured by NAVFAC, is considered a new due-in asset and will show a newer asset posture than actually exists. Early reporting of equipment will accurately show the current status of an activity's equipment inventory based on depreciation and life expectancy. Accurate and complete information is essential for locating equipment when problems arise concerning maintenance on equipment and equipment components. The Navy-wide transportation equipment technical records are included in the Inventory and Registration (I&R) subsystem of CASEMIS. The field working proponent responsible

Classification of CESE by Assignment of Permanent USN Registration Numbers

Registration Series		Category
USN	20xxxxx	Crushing, Mixing, Batching and Paving Equipment
	21xxxxx	Batchers
	22xxxxx	Crushing, Washing, and Screening Equipment
	23xxxxx	Finishers
	24xxxxx	Mixers
	25xxxxx	Distributors and Placers
	26xxxxx	Spreaders and Transporters
	27xxxxx	Asphalt Equipment (Miscellaneous)
	28xxxxx	Concrete Equipment (Miscellaneous)
USN	30xxxxx	Drilling, Blasting, and Driving Equipment
	31xxxxx	Compressors, Air, Portable (60 through 600 cu. ft./min.)
	35xxxxx	Rock Drilling Equipment
	36xxxxx	Pile Drivers
	37xxxxx	Well Drilling and Earth Boring Equipment
USN	40xxxxx	Earth Moving Equipment
	42xxxxx	Crane, Crawler, Revolving, w/Backhoe, Dragline, Shovel, and Skimmer Attachments
	43xxxxx	Ditchers, Rooters, and Mucking Machines
	44xxxxx	Graders
	45xxxxx	Loaders
	46xxxxx	Rollers
	47xxxxx	Earth and Rock Moving Equipment, Off Highway Trucks, Trailers, and Scrapers
	48xxxxx	Tractors
USN	50xxxxx	Power Generation and Miscellaneous Construction and Maintenance Equipment
	51xxxxx	Generators (5 KW and up); Welders, Electric Arc; Lighting Equipment, Trailer Mounted
	52xxxxx	Pump, Water, Centrifugal or Diaphragm, Portable, 4-inch to 12-inch capacity, Gas or Diesel
	53xxxxx	Pump, Special Construction and Asphalt, Portable
	54xxxxx	Servicing Equipment, Refrigeration Containers (Miscellaneous)
	55xxxxx	Portable Power Operated Pipe Tongs, Amphibious Fueling Hose Reel, and Skid Mounted Air-Conditioning Unit
	56xxxxx	Soil Stabilizing and Lawn Equipment
	57xxxxx	Sweepers, Snowplows, Snowplow Attachments, and Sanders
	58xxxxx	Trash and Garbage Collectors
	59xxxxx	Mobile Machine Shops

Figure 2-5

Classification of CESE by Assignment of Permanent USN Registration Numbers

Registration Series		Category
USN	60xxxxx	Railway Equipment (Except Locomotive Cranes)
	61xxxxx	Car, Railway, Cargo Hauling
	62xxxxx	Car, Railway, Self-propelled
	63xxxxx	Car, Railway, Special Purpose
	64xxxxx	Car, Railway, Tank
	65xxxxx	Locomotive, Railway
	66xxxxx	Equipment, Railway, Track Maintenance
	67xxxxx	Car, Railway, Power Generating
	68xxxxx	Station, Railway, Mobile Power
USN	70xxxxx	Fire Fighting Equipment
	71xxxxx	Fire Truck, Crash and Rescue (CFR)
	72xxxxx	Fire Pump, Portable
	73xxxxx	Fire Truck, Pumper Combination, Structural
	74xxxxx	Fire Truck, Aerial Ladder
	75xxxxx	Generator Foam, Trailer Mounted
USN	80xxxxx	Weight Handling Equipment
	81xxxxx	Crane, Tractor Mounted or Operated, and Landing Craft, Wheel Mounted
	82xxxxx	Crane, Truck, and Missile Handling
	84xxxxx	Crane, Railway, Locomotive
	87xxxxx	Hoist and Winch Power
	88xxxxx	Propelling or Propulsion Unit, Marine Type
	89xxxxx	Pollution Abatement Equipment
USN	90xxxxx	Passenger Vehicles, Trucks, and Trailers
	91xxxxx	Bus
	92xxxxx	Sedan
	93xxxxx	Station Wagon/Carryall Truck
	94xxxxx	Truck, Light (up to 10,000 LB. GVW)
	95xxxxx	Truck, Medium (10,001 up to 23,999 LB. GVW)
	96xxxxx	Truck, Heavy (24,000 LB. GVW and up)
	97xxxxx	Trailer
	98xxxxx	Motorcycle and Scooter
USN	4xxxxx	Nonappropriated Fund Vehicles
USN	5xx-xxx	Vehicles Leased from Commercial Sources

Figure 2-5 (Cont'd)

for management of the system is CESO, CBC Port Hueneme, CA. The Inventory and Registration subsystem is an on-line data base system with records maintained on a daily basis. Mandatory equipment acquisition data elements to be reported for each equipment item are: Activity UIC, U.S. Navy Registration Number or GSA number, Status Code, Make, Model, Serial Number, Year of Manufacture, Equipment Code/Type Designator, Contract Number, Date Received, Acquisition Cost and Fuel Type. Other data elements may also be added in the fields provided or in the remarks field.

a. Reporting Acquisition of Registered CESE. As part of the procurement contract, the manufacturer is required to identify applicable vehicles or equipment by U.S. Navy registration numbers affixed to the equipment. In addition, short standard nomenclatures describing the equipment are etched or die-stamped on the nameplates for use by field personnel. Initial registration provides a means of identifying each piece of equipment on record in a uniform manner from the time of purchase until final disposition. Material Inspection and Receiving Reports, Form DD 250, or Motor Vehicle Delivery Orders (MVDOs) are prepared for equipment purchased from DoD contracting offices. If the DoD contract calls for equipment to be shipped Freight on Board (FoB) Destination, the receiving activity must inspect and sign the DD 250 and forward the document to the responsible defense contracting office. Activities are encouraged to maintain their own records within the Inventory and Registration (I&R) subsystem of CASEMIS. Activities not maintaining I&R via direct access to CASEMIS will report equipment acquisitions by mail or fax to the cognizant TEMC. For NCFs/SOUs, a DD 1342 or electronically prepared facsimile of the same will be prepared for each unit received.

b. Registration Number Assignment and Reporting of Unregistered CESE. When an activity receives an item of transportation equipment that is not identified by a permanent U.S. Navy registration number but which requires one, a request for a registration number should be made immediately. The custodian of the item received shall initiate a request to the cognizant TEMC. The TEMC will coordinate U.S. Navy registration number assignment with CESO and provide the identification number back to the activity. Upon assignment of the registration number, activities with direct access to CASEMIS will enter the acquisition data elements. Activities without direct access to CASEMIS will fax or mail the acquisition data elements to the cognizant TEMC in a format similar to Appendix H, Figure H-9. The custodian of the equipment shall affix the assigned U.S. Navy registration number on the unit in accordance with Appendix J.

2.10.2 ***Special Vehicle Registration in the National Capital Region***. The TEMCs shall maintain a current record of official Government and State tags in use on Navy-owned motor vehicles within their areas of support to include the special program for registration and U.S. Government tags for vehicles regularly based or housed in the District of Columbia. The records will describe the motor vehicle by type and U.S. Navy registration number, cross-referenced to the special tag numbers, and will include information regarding all subsequent reassignments of tags and voided tag numbers.

2.10.3 ***Nonappropriated Fund Vehicle Registration***. All transportation equipment for nonappropriated fund activities, whether received from excess sources or by procurement, will be registered in the 4xxxxx series of USN registration numbers. Registration numbers for Morale, Welfare and Recreation (MWR) vehicles, are assigned by the Bureau of Naval Personnel (BUPERS), NAVSUPPACT Memphis, Millington, TN 38054-5045, Code 656, telephone (901) 874-6670 or DSN 882-6670. Registration numbers for Navy Exchange and Commissary vehicles are assigned by the Navy Exchange Service Command (NEXCOM), Virginia Beach, VA, Code BPFS, telephone (757) 631-3633. MWR and resale vehicle markings will be in accordance with that command's policy.

2.11 ***Alterations and Modifications***. All alterations and modifications to USN-Numbered Civil Engineering Support Equipment (CESE) that affect the safety, stability, operating characteristics, or so alter the original design configuration so as to change the basic function of the equipment in terms of end use performance or capacity, shall be approved in writing by the cognizant TEMC (except for cranes which must be approved by the Navy Crane Center).

a. Requests. Requests for modification shall contain full justification and be accompanied by a detailed description and engineering calculations and drawings where appropriate. The TEMC shall approve or disapprove the request in writing. However, for any design change that affects the safe operating characteristics or warranty, the TEMC shall obtain the approval of the manufacturer (contractor).

b. Records. Upon receipt of approval, activities shall file a copy in the equipment history record together with the record copy of the Shop Repair Order (SRO) or Equipment Repair Order (ERO) used in accomplishing the approved alteration or modification. When the alteration or modification affects the end use or capacity of the equipment so as to change its equipment code identification, the equipment code/type designator in the CASEMIS Inventory and Registration system shall be corrected. For any alteration/modification to weight handling equipment, refer to the NAVFAC P-307.

2.12 ***Distribution of Excess Transportation Equipment***

2.12.1 ***Disposition Process***

a. Disposition Instructions for Shore Activities. The disposition process and documentation for excess equipment removed from service varies according to the condition of the equipment. If excess equipment is usable, the TEMC will ascertain if there are other Navy requirements for the equipment and provide direction for its transfer. The record holding TEMC shall immediately advise the other TEMC of any usable excess transportation equipment prior to sending to DRMO. If there are no other Navy requirements for usable equipment, the record holding TEMC will instruct the activity to effect a disposal action with the appropriate Defense Reutilization and Marketing Office (DRMO). With the exception of medical, railway, fire fighting, and material handling equipment as specified in paragraph 2.12.2, the holding activity will

initiate disposal with the appropriate DRMO for equipment that is not in usable condition. The processing of excess equipment shall be in accordance with the Defense Disposal Manual (DoD 4160.21M), NAVSUP Manual Vol II, and NAVCOMPT Manual Vol 3, Chapter 6.

b. Disposition Instructions for NCF, NCTCs and SOUs**.** Upon receipt of a request for 2C cognizance equipment disposition instructions from the allowance holder, CESO shall determine if it is feasible to retain the item within the Navy through a transfer to another activity or rehabilitation at an overhaul facility. If retention is not economical, CESO shall direct the transfer of the equipment with its collateral equipage, attachments, and Equipment History Jacket to DRMO. Activities will remove all unit decals and stencils from equipment prior to turn-in to DRMO. Upon completion of transfer actions, forward the transfer document, DD Form 1348-1, or DD Form 1149, *Procurement Requisition Invoice/Shipping Document,* to CESO Code 1575.

c. Withdrawal From Property Disposal Accounts**.** Navy activities, other than non-appropriation funded, that want CESE in the property disposal account, ***MUST FIRST OBTAIN CESO/TEMC APPROVAL*.** It should also be noted that CESE can be issued from the property disposal accounts only to fill valid deficiencies in approved Inventory Objectives (IOs)/allowances. After receipt, the IO/Allowance Holder must ensure that CASEMIS is updated in accordance with paragraph 2.12.7. Navy activities may withdraw CESE for the purpose of obtaining a component or subassembly. After obtaining necessary parts the item of CESE must be returned to DRMO.

2.12.2 ***Reporting of Excess Medical, Railway, Fire Fighting, and Material Handling Equipment***. Regardless of equipment condition, the holding activity shall report excess medical, railway, and fire fighting equipment on a Standard Form (SF) 120 to the TEMC for disposal instructions as follows:

a. Ambulances and other special medical and dental vehicles will be listed on an SF 120, separate from other equipment, which will be forwarded to the cognizant TEMC, with a copy to the Health Care Support Office. This is not applicable to NCF and SOU field type ambulances.

b. Railroad equipment will be listed on a separate SF 120 and forwarded to the cognizant TEMC.

c. Fire fighting equipment shall be listed on a separate SF120 and sent to the cognizant TEMC.

d. Material Handling Equipment Disposition Requests (NCFs/SOUs). SPCC Instruction 10490.3, *Material Handling Equipment for Forces Afloat Fleet Issue Control Points, Naval Shore Establishment and Land-Based Operating Forces: Administration and Control of,* contains complete instructions to report redistribution and disposal of material handling equipment (other than 2C cognizance). The following supplemental information is provided to assist activities that do not hold these instructions.

(1) Disposal Process**.** A six-step overview of the disposal process is as follows:

(a) The Allowance Holder submits a *Report of Excess Personal Property,* Standard Form 120 (completed in accordance with paragraph 2.12.3) directly to Commander, Naval Inventory Control Point, Mechanicsburg, PA 17055-0788.

(b) The Allowance Holder submits the SF-120 to NAVICP as a request for disposal of equipment with a copy of the SF-120 to CESO Code 1575.

(c) NAVICP Processes the request and sends copies of the completed SF-120 back to the Allowance Holder and CESO Code 1575.

(d) The Allowance Holder then transfers the equipment along with a DD Form 1348-1 to The Defense Reutilization and Marketing Office (DRMO), and obtains a signed copy of the DD Form 1348-1, *Procurement Requisition/DoD Single Line Item Release/Receipt Document.*

(e) The Allowance Holder forwards a signed copy of the DD Form 1348-1 to CESO Code 1575.

(f) CESO Code 1575 then removes the USN registration number from CASEMIS records and the disposal transaction is completed.

(2) Equipment Description**.** Reports shall include a complete description of the equipment in Block 18(b).

(3**)** Repair Estimates**.** Reports shall indicate repair estimates for Condition Code A4.

(4) Replacement**.** Reports shall indicate whether a replacement is required or has been received. When a replacement has been received, the USN registration number of the replacement will be cited.

2.12.3 ***Preparation of the SF 120, Report of Excess Personal Property***. This guidance provides a uniform system for the preparation of the SF 120. A sample form (Appendix H, Figure H-8) illustrates the correct format, including vehicle condition and repair cost estimate. To expedite handling within the TEMCs, use of a separate form for each P-1 line is recommended. Special attention should be given to information annotated in Block 18b. For example, the last item in the list, "est. cost to place in B-5 condition", should only contain those repairs necessary to return the vehicle/equipment to a safe and serviceable condition (power train, lights, brakes, and other related repairs). Reporting activities shall prepare the SF 120 in accordance with the following instructions.

a. Block 1 - The Report Number is composed of the activity Unit Identification Code (UIC) for the first six positions, the Julian date for the next four positions, and the next position identifies the type of property being disposed of as indicated by the following codes:

(1) K - Items that have a national stock number (NSN).

(2) Z - Base closure property.

(3) U - Shelf-life property.

(4) L - Nonstandard stock number and items in FSC 23, 24 and 7430.

b. Block 2 - Enter the date the report is mailed or faxed.

c. Block 3 - Leave blank.

d. Block 4 - Insert an "X" in the appropriate box.

e. Block 5 - Enter the Defense Reutilization and Marketing Office or the appropriate TEMC.

f. Block 6 - Enter the appropriate fund account number when applicable (e.g., exchange/sale property, nonappropriated fund property).

g. Block 7 - Enter the complete name and address of reporting activity.

h. Block 8 - Enter the name and title of the person approving the report. The signature of this person or their authorized designee is required.

i. Block 9 - Enter the name and DSN, FTS, or commercial telephone number of the person to contact for further data about reported material.

j. Block 10 - Leave blank.

k. Block 11 - Enter the office to which requisitions are to be sent. If the data is the same as Block 7, the words "see Block 7" may be used.

l. Block 12 - Leave blank.

m. Block 13 - Leave blank.

n. Block 14 - Enter the UIC of the activity where the material is located. If no UIC is available, enter the complete name and mailing address of the activity plus the UIC of the reporting activity shown in Block 7.

o. Block 15 - Reimbursement Requirement. If reimbursement is required, except for the exchange/sale and foreign equity property, enter the number 1 in the YES box. If reimbursement is not required, enter the number 2 in the NO box. DO NOT USE THE LETTER "X".

p. Block 16 - Leave blank.

q. Block 17 - Leave blank.

r. Block 18a - Line items will be numbered in numerical sequence beginning with serial number 001 for the first item reported on a given day (or a given Report Number, Block 1). There is to be only one Item Number 001, 002, etc. on a given day including instances of multiple SF 120s (resulting from different P-1 items, medical equipment, or just too many items to be listed on one SF 120).

s. Block 18b - The following is required (plus any other pertinent data, particularly that which would prevent redistribution when unsuited for the requirements of the receiving activity):

(1) National Stock Number (NSN) if applicable;

(2) USN number;

(3) Equipment Code (EC);

(4) Type/capacity;

(5) Make/model;

(6) Year manufactured;

(7) Vehicle ID (chassis, serial) number;

(8) Accumulated mileage (or operating hours for O-Z equipment)

(9) Estimated cost to place in B-5 condition.

t. Block 18c - Enter the Federal Condition Code (see Appendix I).

u. Block 18d - Enter the standard unit of issue.

v. Block 18e - Enter the number of units reported.

w. Block 18f - Enter the standard unit cost (acquisition cost).

x. Block 18g - Enter the total line item value if quantity is more than one.

y. Block 18h - Leave blank.

z. At the top of the form, complete Page ____ of ____ pages.

2.12.4 ***Disposition of Serviceable Excess Transportation Equipment (Shore Activities).*** Excess equipment determined by the holding activity to be in condition (see Appendix I) other than H or S (Supply Condition Codes) and/or 3, 6, 9, X or S (Disposal Condition Codes) are considered to have the potential for further use and redistribution within the Navy. The holding activity shall forward a SF 120, Report of Excess Personal Property, prepared in accordance with paragraph 2.12.3, to the appropriate TEMC. The report may be mailed as an original copy or sent by facsimile machine. Such equipment will be screened by the TEMC upon receipt of the SF 120. If transfer to another activity supported by the TEMC is warranted, instructions will be issued within 15 days from receipt of the SF 120 to the holding activity. Prior to shipment, a physical condition check should be made by the receiving activity to avoid the shipping costs for equipment that is in unsatisfactory condition. The SF 120 containing undistributed excess items will be returned to the original holding activity with instructions to transfer excess items to the appropriate DRMO. The holding activity shall process property record disposition actions in accordance with paragraph 2.12.7.

2.12.5 ***Disposition of Unserviceable Excess Transportation Equipment***. Excess equipment determined by the holding activity to be in Supply Condition Codes H or S is considered to be unsatisfactory for further Navy use. Equipment not in usable condition is to be turned in to the appropriate DRMO directly by the holding activity on DD Form 1348-1 (DoD Single Line Item Release/Receipt Document) and in accordance with local disposal procedures. The DRMO also requires the equipment maintenance records and the information listed on the SF 120.

2.12.6 ***Disposition by Survey***. A survey is the procedure required when Navy property or Defense Logistics Agency material in Navy custody is lost, damaged or destroyed (except in incoming shipments). Processing disposals by survey, a complex and costly procedure, requires reference to NAVSUP Manual Vol. II, Section VI as amended by NAVSUPNOTE 7200, Subj: Accounting and Reporting of Government Property Lost, Damaged or Destroyed, of 29 Aug 1980.

2.12.7 ***CASEMIS Inventory Record Adjustment***. If excess equipment is transferred to another activity, the record holding TEMC will update the CASEMIS inventory records to reflect the transfer. For excess CESE transferred to the DRMO, the holding activity shall complete the reporting action described herein within 15 days from disposition to ensure that COMNAVFACENGCOM inventory records properly reflect all disposal actions of CESE. Activities with direct access to CASEMIS will update the inventory records by direct entry of the equipment disposition data elements (U.S. Navy Registration Number and Status Code Z) or by file transfer of the data. Activities without direct access to CASEMIS will report equipment disposition data by fax or mail to their cognizant TEMC in a format similar to Appendix H, Figure H-9.

2.13 ***Warranties and Deficiencies***

2.13.1 ***Warranties-General***. Warranties protect the Government by guaranteeing equipment against defective material, poor workmanship and inadequate design. Warranties vary with contractor and contracting office. However, the warranty period is seldom less than 12 months or 12,000 miles. In addition, any warranty given to the general public by a contractor is almost always passed on to the Government. The contractor is usually responsible for parts and labor costs incurred in correcting warranty defects on equipment within the United States (all 50 states). Outside the U.S., the contractor is generally responsible for only parts replacement and not labor. Sources for specific warranty provisions include: Equipment labels, equipment manuals, dealers, contractors, and the cognizant TEMC. Clarification on disputed warranty provisions can be obtained from CESO, Code 15L2. Recourse for pursuing warranty defects that a contractor is reluctant to correct is included in the Quality Deficiency Report (QDR) process defined in the following paragraphs.

2.13.2 ***Deficiencies***. Activities shall inspect all new CESE and identify any deficiencies. Deficiencies will fall into one of the following categories:

a. Theft and damage deficiencies sustained in shipment.(2.13.3)
b. Safety deficiencies. (2.13.4)
c. Warranty deficiencies. (2.13.5)
d. Contract deficiencies. (2.13.6)
e. Technical documentation deficiencies. (2.13.7)

2.13.3 ***Theft and Damage Deficiencies Sustained in Shipment***. The Report of Discrepancy (ROD), Standard Form 364, is used to report shortages in shipment and transportation damages. The ROD is processed through the local supply department. The supply department will seek appropriate resolution of the deficiency with the shipper. Shipping deficiencies and the ROD process are governed by NAVSUPINST 4610.33 entitled Reporting of Transportation Discrepancies in Shipments, and NAVSUPINST 4440.179 entitled Report of Discrepancy (ROD).

2.13.4 ***Safety Deficiencies***. All CESE developing deficiencies affecting safe operation shall be immediately removed from service until corrective action has been completed. Safety deficiencies shall be reported on a Quality Deficiency Report (QDR), Standard Form 368 (see paragraph 2.13.9 and Appendix H, Figure H-10) to CO NCBC, CESO 15L2, 1000 23rd Avenue, Port Hueneme, CA 93043-4301 with a copy to the cognizant TEMC. In lieu of a QDR form, the requested information may be stated in any type of written correspondence. QDR information detailing safety deficiencies can be faxed to CESO 15L2 at (805) 982-3395 or DSN 551-3395. CESO 15L2 will identify and notify the TEMCs and other Navy activities affected by the safety deficiency. After initial reporting of safety deficiencies, activities shall pursue the same action identified below for warranty or contract deficiencies. In-house repairs to correct a safety deficiency shall have the manufacturer's authorization.

2.13.5 ***Warranty Deficiencies***. Activities shall initiate the following corrective action for CESE warranty deficiencies:

a. CESE in the U.S. Activities located in the U.S. shall contact authorized representatives of the contractor for warranty deficiency correction. These representatives can include local dealers, factory branches, manufacturer's district representatives or the manufacturer. The activities shall report the warranty deficiencies and their efforts to resolve the deficiency on a QDR as outlined in paragraph 2.13.9. Activities having shop facilities shall correct minor warranty deficiencies in-house when the total cost to the Government to transport the equipment to and from the dealer exceeds the total cost of the warranty claim, or when the delay in obtaining warranty service through the dealer will result in unacceptable downtime. Activities making in-house warranty repairs cannot submit a claim against the contractor unless the contractor has authorized the repairs as part of the contractor's warranty obligation.

b. CESE outside the U.S. Usually contractors' warranty obligation outside of the U.S. is limited to providing replacement parts only. Activities shall contact contractors directly to request replacement parts needed for the activity to correct the deficiencies. The activities shall report the warranty deficiencies and their efforts to resolve the deficiency on a QDR as outlined in paragraph 2.13.9.

2.13.6 ***Contract Deficiencies***. CESE with contract deficiencies can fall into one of two cases: Case (1) Contractor has provided equipment that does not meet contract requirements and, therefore, the contractor has an obligation to correct the deficiency (e.g. a latent defect not detected by the government inspector); or, Case (2) Contractor has provided equipment that meets contract requirements but the equipment does not meet the activity's requirements. In case (1), the contractor has a responsibility to correct the deficiency and the activity shall submit a QDR and initiate the same action specified for warranty deficiencies in paragraph 2.13.5 above. In case (2), the contractor has no obligation to correct the deficiency and the activity has the responsibility for any action or cost associated with correction of the deficiency. Activities shall complete QDRs for case (2) deficiencies in accordance with paragraph 2.13.9 so future contracts can be written to include all Navy requirements. In some circumstances an activity may not be able to determine whether a contract deficiency is case (1) or case (2). In this situation the QDR should so state and ask for assistance from CESO 15L2 in making this determination.

2.13.7 ***Technical Documentation Deficiencies***. In those cases where technical manuals (operators, repair or parts) are not received with the equipment or are incomplete or incorrect, the receiving activity shall, within 10 days, complete and forward a QDR report. The original QDR shall be forwarded directly to CO NCBC, CESO 15L2, 1000 23rd Avenue, Port Hueneme, CA 93043-4301. A copy of the QDR shall be forwarded to the cognizant TEMC. Note: Only one set of manuals will be shipped for each type of vehicle.

2.13.8 ***Assistance with CESE Deficiencies.*** Activities unable to resolve warranty or contract deficiencies shall so indicate on the QDR report. CESO 15L2 shall initiate further action to resolve the deficiencies by communicating with the contractor and the contracting officer. CESO 15L2 will advise the QDR originator of progress in this regard. Unless otherwise directed, activities shall not communicate directly with the contracting officer. In order for CESO 15L2 to provide assistance in resolving QDR deficiencies, the QDR originator must fill out the QDR report completely per paragraph 2.13.9. The originator must be clearly identified on the QDR report with an accurate phone number and address. The TEMCs shall assist with coordinating communication between CESO 15L2 and activities when requested either by an activity or CESO 15L2. This coordination can be particularly important in dealing with CESE deficiencies at activities overseas.

2.13.9 ***Preparation and Distribution of Quality Deficiency Report (QDR), Standard Form 368***. Activities shall complete QDR reports as indicated in the sample in Appendix H, Figure H-11. If a QDR form is not available, Appendix H, Figure H-10 may be photocopied or the requested information may be stated in any type of written correspondence. Completeness and accuracy are essential for processing the QDR in a timely manner and for providing all necessary action.

a. Completeness. Section 1 of the QDR is to be completed by the activity. The activity shall provide information for blocks: 1a, 1b, 2a, 3, 4, 6, 7, 8, 10, 11, 12, 13, 15, 15b, 15c, 16a (1) and (2), 16b (2) and (3), 17, 18, 19, 20, 21 (as applicable), and 22. Additional sheets may be added to the QDR report when there is insufficient space in the blocks provided. For trucks, include chassis manufacturer and chassis identification number as well as the body manufacturer and body identification number. Include USN registration number(s) in blocks 16a (1) and (2).

b. Distribution. The originating activity shall date and assign a serial number to each QDR report and distribute the QDR as follows.

(1) Original to:

CO NCBC, CESO 15L2	FAX: CESO 15L2
1000 23rd Avenue	(805) 982-3395
Port Hueneme, CA 93043-4301	DSN 551-3395

If you facsimile a copy, also mail the original.

(2) Copy to the cognizant TEMC.

c. Final Resolution. CESO and the TEMCs will coordinate action until the QDR is resolved. CESO Code 15L2 will provide notification of the final resolution of major deficiencies to both TEMCs, NAVFAC, and to the affected activities.

2.13.10 ***Additional QDR Guidance***. It is important that the QDR state what corrective action has been taken and the status of this action. The status shall indicate names of dealers, factory branch offices or manufacturers contacted, and action resulting from

such contacts. If the same deficiency is found on several units of similar equipment, only one QDR has to be submitted, referencing each of the several units involved. Similarly, if several deficiencies are found on one unit of equipment, only one QDR has to be submitted. Submit an additional QDR, referencing previous applicable QDR report(s), if a deficiency recurs on a previously repaired or replaced part. For deficiencies that are not satisfactorily corrected when the contractor is responsible, the QDR shall contain the name and address of the manufacturer's representative who did not comply with the terms of the warranty or contract, and the reasons for noncompliance. The Navy Quality Deficiency Reporting Program is governed by SECNAVINST 4855.6.

2.14 ***Painting And Identification Markings***

2.14.1 ***Painting Specifications, Standards and Authorized Colors***. All Navy transportation equipment shall be treated and painted in accordance with MIL-STD 1223 and all specifications and standards referenced within MIL-STD 1223. The colors of the paint shall match the color chips in FED-STD-595B unless otherwise specified and in accordance with colors listed in Appendix J, Figure J-3.

a. Authorized Colors for NCF,NCTCs and SOUs**.** Colors of all paint used on CESE shall provide the best available color match of the following color chips in Federal Standard No. *595B.*

Yellow	Number 13538	White	Number 17886
Green	Number 14064	Gray	Number 16187
Sand	Number 33303	Red	Number 11105
Black	Number 17038		

b. Waterborne Equipment (NCF,NCTCs and SOUs)**.** Waterborne equipment, which includes turntables, propulsion units, and winches, shall be painted gray, Color No. 16187.

c. Other Vehicles and Equipment (NCF,NCTCs and SOUs)**.** All other vehicles and equipment shall be painted lusterless green, Color No. 14064 (NSN 8010-00-298-2295).

d. Special Requirements for CARC (NCF,NCTCs and SOUs)*.* Some new equipment introduced to the NCF and SOU communities has been painted with Chemical Agent Resistant Coating (CARC). Most CARC-painted vehicles in the NCF may be identified by "CARC" printed near the equipment data plate. CARC-painted equipment must be repainted only with CARC. The 3/4-ton CUCV (M1009) EC 030731, and 1-1/4 ton CUCV (M1008) EC 036031 which are painted with acrylic enamel by the manufacturer must be touched up with CARC. **STRICT SAFETY PRECAUTIONS WHILE USING CARC PAINT MUST BE ADHERED TO.** Safety precautions and procedures for touch-up and repainting of CARC equipment are found in Appendix J*.*

e. Camouflage Painting of CESE (NCF,NCTCs and SOUs)**.** Unless directed by the cognizant Theater Commander or higher authority, CESE will not be painted camouflage. When camouflage painting is directed, it shall be the three-color camouflage CARC, using the applicable patterns and combinations of colors suggested for various seasons and climatic regions described in the *U.S. Marine Corps Camouflage Paint Patterns,* TM-4750-15/2-2. Appendix J contains additional guidance.

f. Desert Painting of CESE (NCF,NCTCs and SOUs)**.** Unless directed by the cognizant theater commander or higher authority, CESE will not be painted Desert colors. When desert painting is directed, the entire piece of equipment will be painted CARC, color number 33303. Appendix J contains additional guidance.

Color	**Quantity**	**NSN**
Sand	1 GL	8010-00-111-7988
Sand	5 GL	8010-00-111-8336
Olive Drab	1 GL	8010-00-111-7940
Olive Drag	5 GL	8010-00-111-8069
Green, Forest	1 GL	8010-00-111-8382
Green, Forest	5 GL	8010-00-111-7937
Field Drab	1 GL	8010-00-111-7943
Field Drab	5 GL	8010-00-111-8129
Green, Light	5 GL	8010-00-111-8007
Brown, Earth	5 GL	8010-00-111-8338
Black	1 GL	8010-00-111-8005
Black	5 GL	8010-00-111-8356
Yellow, Earth	1 GL	8010-00-111-7968

2.14.2 ***Repainting Requirements***. Transportation equipment shall be repainted when inadequate protection is afforded against rust or corrosion. Equipment shall not be repainted merely to change the color or gloss characteristics if the finish is serviceable. Spot painting, in lieu of completely refinishing previously painted sections, should be done whenever practicable. Bare surfaces of body sections and sheet metal exposed by deterioration of paint or by accidents shall be spot painted immediately to prevent deterioration of the metal. When using any paint product, particularly lead-base paint, all current health and safety regulations shall be strictly enforced. Contact the activity health and safety department/office to obtain all applicable regulations and instructions pertaining to a safe painting environment.

2.14.3 ***Recruiting Vehicles***. The color and marking of vehicles for recruiting purposes shall be as prescribed by the Bureau of Naval Personnel (BUPERS) and as approved by CNO. Those vehicles may display signs and/or slogans in accordance with Instructions promulgated by BUPERS or Naval Recruiting Command.

2.14.4 ***Vehicle Identification***. The placement of registration numbers and other equipment markings on motor vehicles for identification purposes, as required by law, are described herein. USN registration numbers are to be applied or stamped on a non-rusting identification plate and permanently affixed to the interior of the vehicle by the manufacturers of most vehicles destined for Navy ownership. Exceptions to this are the light vehicles from GSA Automotive Center contracts. These light vehicles, fitted with Navy license plates, will not have identification plates with the USN registration numbers. The USN registration number will be embossed on the Navy license plate. For permanently preserving the registration number correlation with its respective vehicle, it is recommended that the number be written with a permanent-type marking pen on a painted surface interior to the vehicle such as the underside of the trunk or hood, the door jams, or glove compartment interior.

a. Vehicles With License Plates. Navy vehicles, including trailers, that are designed for highway travel are procured with Navy license plates containing the USN registration number, "FOR OFFICIAL USE ONLY", and "U. S. Navy" embossed and attached to the front and rear of the vehicle. The embossed USN registration number does not include a dash (i.e. "-"). Activities receiving vehicles from DRMO or new procurements without plates shall request them from CESO via the cognizant TEMC and install locally. In areas where license plates cannot be used (such as the National Capital Region and some foreign countries), the required markings shall be applied by the using activity on receipt of the vehicle. License plates will not be switched between vehicles. When vehicles are disposed of, their license plates will be destroyed.

b. Equipment Without License Plates. Motor vehicles not designed for highway travel like construction and earthmoving equipment are procured and maintained with markings on the equipment. The size of the letters and numerals shall be 3 inches. Location shall be as shown in Appendix J, Figure J-6. Where small surfaces are unsuitable for sizes shown, the size may be varied to suit the space. In general, the registration shall be applied to the rear and both sides of the vehicles and equipment. When hydraulic tailgates or other attachments can obscure the rear USN registration number, dual markings must be applied so that an identification number is visible regardless of the position of any tailgate or other device on the truck.

(1) Identification Markings. Identifying markings shall be displayed as follows:

(a) On the sides of the vehicle - DoD component identification (top line), registration number (middle line), and legend (bottom line).

(b) On the rear of the vehicle - DoD component identification and the registration number.

(2) Location of Markings.

(a) Side Markings.

1 Passenger cars, station wagons, ambulances, carryalls, general purpose trucks and truck tractors: Centered on each front door or in a comparable position in relation to the driver's seat on motor vehicles without doors.

2 Buses: Centered on the panels just below the windows, to the rear of the entrance door on one side, and to the rear of the driver's compartment on the opposite side. (School buses shall be marked in accordance with local laws and regulations.)

3 Trailers and semitrailers: Centered on each side of the front quarter of the vehicle.

4 Motorcycles, scooters and sidecars: On an appropriate surface.

(b) Rear Markings. Either in a single line equidistance from the vehicles outside edges, U.S. Navy on the left and the USN registration number on the right; or in an appropriate placement where the U.S. Navy identification and the USN registration number can be readily identified.

(3) Marking Materials. Markings shall be applied using one of the following type material:

(a) Paint. Use gloss enamel. Vehicles painted with CARC, only CARC paint will be used for markings.

(b) Decal. (Non-reflectorized). Use pressure sensitive elastomeric film conforming to Military Specification MIL-M-43719C.

(c) Decal. (Reflectorized). Use reflectorized pressure sensitive film conforming to American Society of Testing Materials (ASTM) D 4956, Type I Class 3. Wide-angle prismatic retroreflective markings shall conform to Type IV of ASTM D 4956 Class 1. Reflective materials used for markings shall meet ASTM D 4956 Type IV.

(d) Pressure Sensitive Vinyl (NCFs, NCTCs and SOUs). This decal method involves application directly on the equipment of nonreflectorized pressure-sensitive elastomeric film or to reflectorized pressure-sensitive film. The decals may be procured from NCBC Port Hueneme, NCBC Gulfport, or from commercial sources. Requisitioning data for black pressure-sensitive vinyl numerals and letters is listed below.

NOTE: *Ensure quantity of issue prior to ordering.*

	Item	Stock Number	Description
1.	3" high 1/2" stroke	7690-01-031-9568	Numeral **0**
2.	3" high 1/2" stroke	7690-01-031-9559	Numeral **1**
3.	3" high 1/2" stroke	7690-01-031-9560	Numeral **2**
4.	3" high 1/2" stroke	7690-01-031-9561	Numeral **3**
5.	3" high 1/2" stroke	7690-01-031-9562	Numeral **4**
6.	3" high 1/2" stroke	7690-01-031-9563	Numeral **5**
7.	3" high 1/2" stroke	7690-01-031-9564	Numeral **6**
8.	3" high 1/2" stroke	7690-01-031-9565	Numeral **7**
9.	3" high 1/2" stroke	7690-01-031-9566	Numeral **8**
10.	3" high 1/2" stroke	7690-01-031-9567	Numeral **9**
11.	3" high 1/2" stroke	7690-01-031-9553	Letter **U**
12.	3" high 1/2" stroke	7690-01-031-9551	Letter **S**
13.	3" high 1/2" stroke	7690-01-031-9546	Letter **N**
14.	3" high 1/2" stroke	7690-01-032-0732	Letter **A**
15.	3" high 1/2" stroke	7690-01-031-9554	Letter **V**
16.	3" high 1/2" stroke	690-01-031-9557	Letter **Y**
17.	3" high 1/2" stroke	7690-LL-LH2-0044	**U.S. NAVY**
18.	3" high 1/2" stroke	7690-LL-L00-8135	**USN**
19.	1" high 5/32" stroke	7690-00-329-0538	**FOR OFFICIAL USE ONLY**
20.	1/2" high 1" long	7690-LL-L00-8136	**DASH**
21.	1-1/2" high 3/16" stroke	7690-00-857-9737	Numeral **0**
22.	1-1/2" high 3/16" stroke	7690-00-857-9728	Numeral **1**
23.	1-1/2" high 3/16" stroke	7690-00-857-9729	Numeral **2**
24.	1-1/2" high 3/16" stroke	7690-00-857-9730	Numeral **3**
25.	1-1/2" high 3/16" stroke	7690-00-857-9731	Numeral **4**
26.	1-1/2" high 3/16" stroke	7690-00-857-9732	Numeral **5**
27.	1-1/2" high 3/16" stroke	7690-00-857-9733	Numeral **6**
28.	1-1/2" high 3/16" stroke	7690-00-857-9734	Numeral **7**
29.	1-1/2" high 3/16" stroke	7690-00-857-9735	Numeral **8**
30.	1-1/2" high 3/16" stroke	7690-00-857-9736	Numeral **9**
31.	1-1/2" high 3/16" stroke	7690-00-857-9722	Letter **U**
32.	1-1/2" high 3/16" stroke	7690-00-857-9720	Letter **S**
33.	1-1/2" high 3/16" stroke	7690-00-857-9715	Letter **N**
34.	1-1/2" high 3/16" stroke	7690-00-857-9702	Letter **A**
35.	1-1/2" high 3/16" stroke	7690-00-857-9723	Letter **V**
36.	1-1/2" high 3/16" stroke	7690-00-857-9726	Letter **Y**

(4) Marking Colors. Painted and elastomeric film color numbers shall conform to FED-STD-595B. Reflective colors shall conform to ASTM D 4956. Marking colors shall be:

(a) On vehicles or equipment painted yellow, use numerals and letters in reflective black, Type I, Class 1, No. 17038.

(b) On vehicles painted white, individual letters and numbers shall be the reflective type, conforming to Type I, Class 3, Blue of ASTM D 4956.

2.14.5 ***Special Markings for Aviation and Ground Fuel Servicing Vehicles***. Special markings are required on fuel and oil servicing trucks and trailers to minimize the possibility of replenishing aircraft systems with an improper grade of fuel or oil. Precautionary markings are also required to provide sufficient warnings regarding the content of these vehicles. Type IV, Class 1 wide-angle prismatic reflective markings as outlined in ASTM D 4956 will be used. Markings will be 6-inch reflective red alpha-numeric characters on an 8-inch prismatic reflective white background. Except as noted (paragraph 2.14.5.e.), painted markings, in lieu of reflective markings, are not authorized.

a. Flammable. Apply the word "FLAMMABLE", using 6-inch red reflective letters on an 8-inch white prismatic reflective background, to the front, rear and each side of the vehicle tank/semitrailer.

b. No Smoking Warning. Apply the words, "NO SMOKING WITHIN 50 FEET", using 6-inch red reflective letters on an 8-inch white prismatic reflective background to each side and the rear of the vehicle tank/semitrailer.

c. Product Identification. Vehicle tanks/semitrailers shall be marked on each side and the rear with product designations. In addition, refuelers used to issue approved NATO aviation fuels will be marked with the NATO symbol for the product being dispensed. NATO symbols will be centered below each product designation (rear and sides). All lettering will be in 6-inch red reflective letters imposed on an 8-inch white prismatic reflective background. Product designation markings and NATO symbols shall be as follows.

Product	**Marking**	**NATO Symbol**
Aviation gasoline,		
Grade 100/130 Octane	AVGAS 100/130	F-18
Grade 115/145 Octane	AVGAS 115/145	F-22
Jet fuel, Grade JP-4	Jet Fuel JP-4	F-40
Jet fuel, Grade JP-5	Jet Fuel JP-5	F-44
Jet Fuel, Grade JP-8	Jet Fuel JP-8	F-34

Motor gasoline,	
Leaded	MOGAS Leaded
Unleaded	MOGAS Unleaded
Diesel fuel	DIESEL FUEL
Lubricating oil, Aviation	AVLUBE
Lubricating oil, motor	LUBE OIL
Heating fuel	HEATING FUEL

NOTE: Refuelers and semitrailers used solely as defueling units shall be marked JET FUEL or AVGAS (omitting grade codes and NATO symbols).

d. Aviation and ground fuel vehicles, refuelers and defuelers and waste fuel/oil trucks will display the appropriate Department of Transportation (DoT) placard depicted in Appendix J, Figure J-4.

(1) The appropriate identification numbers to be displayed on the DoT placard shall be:

PRODUCT CONTENT	**I.D. NO**
Jet Fuels (All)	1863
Diesel/Heating Fuels (All)	1993
Gasolines (All)	1203
Oils (Lubricating)	1270

(2) If liquid being transported is not listed here, refer to 49 CFR for appropriate ID number.

e. Emergency switches and push/pull devices will be clearly marked "EMERGENCY SHUTOFF" in 2-inch lettering. The method of operation shall be indicated by a clearly visible arrow or by the word "PUSH" or "PULL" as appropriate. Red on white reflective or painted marking may be used. Whatever the case, emergency markings will be clearly visible at all angles to the surface being viewed.

2.14.6 ***Aircraft/Fuel Servicing and Aviation Mobile Ordnance Equipment***. The front and rear bumpers will be painted black, and 4-inch stripes of yellow reflective sheeting (wide-angle prismatic ASTM D 4956 Type IV, Class 1) shall be applied 4 inches apart at an incline of 45 degrees from the left and right of the center vertical starting pattern.

2.14.7 ***Temporary Identification of Vehicles***. Vehicles not ordinarily used on landing areas, runways, taxiways, or peripheral roads must be readily identifiable whenever they travel over any part of the landing area. These vehicles are required to carry a flag on a staff attached to the vehicle. This flag will be at least 3-feet square and will consist of 1-foot squares of alternate international orange and white on both sides.

2.14.8 ***Warning Stripes for Vehicles, Construction, and Allied Equipment***. Variations in sizes and configurations as well as safety requirements necessitated by local conditions prohibit establishment of uniform instructions for the application of warning stripes. Such marking shall be in accordance with Note (1) to Appendix J, Figure J-3 as a minimum.

2.14.9 ***Hazardous Materials and Dangerous Articles***. Navy vehicles used for transporting hazardous materials and other dangerous articles shall be marked and operated in accordance with the effective edition of the Drivers Handbook Ammunition Explosives and Dangerous Articles NAVSEA OP-2239 and the rules and regulations prescribed by the Federal Motor Carrier Safety Regulations, U.S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety.

2.14.10 ***Slow-Moving Vehicles***. The slow-moving vehicle emblem shall be displayed on vehicles and equipment that do not exceed a speed of 25 miles per hour on the highway. The design and placement of the emblem shall be in accordance with Section 1910.145 subpart J (10) of Department of Labor Occupational Safety and Health Act (OSHA). The emblem consists of a fluorescent yellow-orange triangle with a dark red reflective border conforming to ASTM D 4956 Type III, Class 1.

2.14.11 ***Flag Officer and VIP Identification***. Flag Officers, Staff Officers of flag rank, and VIPs are authorized to display their flag rank on sedans by means of a special plate (see Appendix J, Figure J-5). Flag rank displays shall not be painted on surfaces of the vehicle nor shall staffs be affixed. All other identification, painting, and marking instructions herein prescribed for Government-owned vehicles are to be strictly adhered to as required by law and regulations.

2.14.12 ***Law Enforcement/Security Vehicle Markings***. Markings shall be as follows, unless a prior exemption has been approved by Naval Security and Investigative Command, in accordance with OPNAVINST 5530.14. The vehicles will be painted the manufacturer's standard gloss white. The word “Police” in 4-inch reflectorized blue letters of material conforming to ASTM D4956, Type III, Class 1 (encapsulated lens), will be centered on the vertical portion of trunk lid facing to the rear. The word "Police" in 4-inch reflectorized blue letters will also be applied to the side of both front fenders at the top. A command security department logo, either magnetic or decal, may be applied to the center area of the front doors of the vehicle. Requests to exempt base security/law enforcement vehicles from law enforcement/security markings and/or standard Navy markings and identification shall be forwarded to the Chief of Naval Operations (N09N), via the major claimant with a copy to the cognizant TEMC.

2.14.13 ***Ambulance Emblems and Markings***. An ambulance is defined as a vehicle that provides emergency medical care. Those manufactured after 1977 shall be certified by the ambulance manufacturer as a "STAR OF LIFE" ambulance. The “star of life” certification shall be provided on a placard or label, permanently affixed and easily visible in the ambulance oxygen compartment. The "star of life" shall be used on

emergency medical care vehicles in accordance with DoT HS 803 721 (Jan 79) and Fed. Spec. KKK-A-1822D (Nov 94), and all ambulances shall be identified as follows:

a. Colors. The exterior surface, including the wheels, shall be painted the manufacturers standard gloss white with a solid horizontal uninterrupted orange stripe/band. The band/stripe of orange, not less than 6 inches wide nor more than 14 inches wide, shall encircle the entire ambulance body configuration at the belt line below the lowest edge of cab windows, but may exclude the front of the hood panel. (The orange stripe may be edged in black or blue.) All lettering and markings shall be blue. The colors, orange and blue, shall be the same as specified in American National Standard Z53.1-1974, Safety Color Code for Marking Physical Hazards.

b. Markings. The material for markings shall be applied using wide-angle prismatic reflectorized material conforming to ASTM D 4956 Type IV, Class 1. The material for the emblems shall be applied using reflectorized material conforming to ASTM D 4956 Type I, Class 3. All markings shall be of the following type, size, color and location:

(1) Front Markings.

(a) The word "AMBULANCE" in block, blue letters, not less than 4 inches high, shall be mirror image, centered above the grille, on the orange or white background.

(b) A block type blue "STAR OF LIFE" of not less than 3 inches on a 4-inch white field shall be located both to the right and left of the word "AMBULANCE".

(2) Side and Rear Markings.

(a) The word "AMBULANCE" shall be in block blue letters on the white field of not less than 6 inches in height, centered, alongside or under the "STAR OF LIFE", on each side and rear of the vehicle body.

(b) A block type blue "STAR OF LIFE", of not less than 16 inches, shall be on the right and left side panels. The "STAR OF LIFE" emblems, of not less than 12 inches, shall be provided on each rear door window glass or rear door panels.

(3) Top Markings. A block type, painted or tape, blue "STAR OF LIFE" (may be without the white staff of aesculapius), of not less than 32 inches shall be provided on the ambulance rooftop.

c. NCF field-type ambulances. Shall be marked as follows:

(1) On the front, where space permits, the word "AMBULANCE" shall be displayed in letters 3-inches high, centered above the windshield. A 3-inch high red

cross on a 4-inch square white field shall be located both to the left and right, in line with the word "AMBULANCE" above the windshield.

(2) On the rear, a 6-inch high red cross on an 8-inch square white field shall be centered on each rear door panel, approximately 8 to 10 inches below the window, depending on vehicle configuration.

(3) On each side and on the top, a red cross on a white background shall be painted. Size of the cross and background will depend upon the vehicles configuration.

2.14.14 ***Exemptions from Identification Markings***. The exemption referred to in the DoD 4500.36-R is modified to apply only to exterior markings and identification for Navy vehicles. Navy vehicles which are exempted from exterior markings shall be identified by painting the USN registration number on both the underside of the trunk lid and on the inner side of the glove compartment lid. In lieu of painting, the registration number may be stamped on a corrosion-resistant metal plate to be affixed to either of these two prescribed locations. Theater unified commanders are designated to authorize exemptions for motor vehicles located within their area of responsibility, when conspicuous identification will endanger the security of individuals or U.S. Government interests. For CONUS commands, requests for marking exemptions, other than law enforcement/security vehicles, shall be submitted to the CNO (N46) via command channels, and the appropriate TEMC. Law enforcement/security vehicle marking exemptions are discussed in paragraph 2.14.12.

2.14.15 ***Records of Exempted Vehicles***. Each TEMC shall maintain current inventory records of all administrative use motor vehicles that are authorized exemptions from the identification and marking provisions of the DoD 4500.36-R.

2.14.16 ***Removal of Markings***. Upon permanent transfer to a disposal agency, or upon sale to commercial contractors, all Navy markings shall be obliterated or removed from the equipment prior to removal from an activity's inventory.

2.14.17 ***Special Markings***. All special markings (e.g., work center/shop/division numbers, environmental message, etc.), not previously prescribed herein or consistent with marking policies prescribed in DoD 4500.36-R, should be limited to placement at the location where the vehicle license plate(s) normally would be located. (When license plates are being used, an additional plate with the special marking, can be suspended from the front plate only - not the rear.)

a. All BOXCARS used to transport ammunition or explosives shall be painted with a WHITE EPOXY paint for better heat reflection. Two coats of gloss high reflective white acrylic urethane enamel, Federal Color No. 27886 or equivalent, shall be applied over a suitable primer.

b. All FIRE TRUCKS (including wheels) shall be painted lime yellow (No. 13670) with a white reflective horizontal band of wide-angle prismatic reflective material conforming to ASTM D 4956 Type IV, Class 1. The band shall be 10 inches wide along both sides, the full length of the truck and across the front (space permitting), and be in a plane with the headlights. The roof and upper part of the cab, down to a line at the bottom of the windshield, shall be painted the manufacturer's standard gloss white. The equipment compartments shall be painted with spatter type paint and the cab interior shall be painted with black wrinkle paint. A command fire department logo, either magnetic or decal, may be applied to the center area of the front doors of the truck cab.

c. ISO Containers. ISO Containers shall display identification numbering system required by OPNAVINST 4620.10, *Joint Procedures for Implementing the International Safe Container Act.*

d. Seabee Insignia**.** To readily identify NCF equipment, a yellow Seabee insignia shall be painted on all assigned equipment. **NOTE:** *If yellow does not contrast, the Seabee shall be painted black.*

Recommended stenciling locations for the Seabee emblems are listed in Appendix J. These recommendations shall be closely adhered to. If the recommended location has less than 8-inch width or height, the stencil shall be centered, with the Seabee itself shown upon the equipment, without concern for the trim. If space does not permit this, a 4-inch stencil may be used. If there is doubt about the proper stenciling location, contact CESO Code 1575. Stencils may be requisitioned from NCBC Port Hueneme or NCBC Gulfport, using the data below, and a funded requisitioning document.

NSN	Description	U/I
7520-00-067-8434	Stencil, Insignia Seabee	8" ea
7520-01-160-9554	Stencil, Insignia Seabee	4" ea

e. Octopus Insignia**.** To readily identify CESE assigned to the U.S. Navy Cargo Handling and Port Group, a yellow Octopus insignia shall be painted on all assigned equipment. The recommended stenciling locations shown in Appendix J shall be closely adhered to.

. f. Lifting Device Markings**.** Lifting devices shall be painted yellow and identified by the words "LIFT HERE" stenciled in 1-inch black letters on a visible area next to the lifting device.

g. Tire Pressure Markings**.** The recommended tire pressure shall be stenciled in 1-inch black figures on a visible area above each tire on all vehicles (except sedans) with pneumatic tires. A correct example for a vehicle with tires that require 25-pound pressure is "TP-25."

h. Tie Down Markings**.** It is recommended that tie downs and the capacity of each tie down ring be permanently attached to the equipment.

I. SIXCON Fuel Tanks**.** Fuel tanks shall be marked on each side with the word "FLAMMABLE" in 6-inch black letters directly above the words "NO SMOKING WITHIN 50 FEET" in 3-inch black letters. A removable 8- by 36-inch black sign with 6-inch yellow letters designating the type of liquid being transported shall be mounted in a bracket bolted on each side of the tank frame or tank carrier. This sign shall be marked "MOGAS" on one side and "DIESEL" on the other.

j. Optional Markings**.** The following information concerns other markings that may be applied to CESE when authorized by appropriate authority.

(1) Unit Identification Markings**.** Unit identification markings may be applied on equipment when approved by the cognizant Force Commander. Currently approved marking size and shapes are shown in Appendix J, Figure J-6. The markings shall be placed in the following general locations so that they are clearly visible for at least 50 feet (see Appendix J).

(a) Automotive self-propelled equipment left front and right rear

(b) Automotive towed equipment one on rear and one on left side near the front

(c) Other Equipment on each side near the USN numbers

(2) Operator's Nameplates**.** Operator's nameplates may be displayed on automotive vehicles, centered on the grille, when approved by the cognizant Unit Commander. The 3-1/2 by 18-inch nameplates shall be constructed of wood and painted green. Two-inch yellow lettering shall be centered on the sign.

(3) Vehicle Classification Markings**.** Department of the Army Field Manual FM5-36, *Route Reconnaissance and Classification*, outlines vehicle classification markings that shall be displayed when required by a cognizant Theater Commander.

(a) Front Sign. All vehicles except trailers may use a yellow, 9-inch diameter front sign with black lettering mounted or painted on the right front of the vehicle facing forward, on or above the bumper, but below the driver's line of vision.

(b) Side Sign. Trailers shall use a yellow, 6-inch diameter side sign with black lettering and shall be mounted or painted on the right side of the trailer facing forward.

k. Removal of Markings**.** When CESE is transferred to a naval activity or unit not authorized certain markings, those markings shall be removed or changed to authorized markings for the new custodian.

2.15 ***Activity/Unit Transportation Organization***. The administration of transportation equipment matters at an activity should be the responsibility of a specifically designated component of the activity. This component is usually described as the "Transportation Division" and is normally a part of the Public Works Department (PWD). Transportation functions at smaller activities are often administered by a transportation branch or section.

2.15.1 ***Responsibilities***. The Transportation Division (or branch/section) is responsible for providing responsive, cost effective transportation services to the activity and providing safe and reliable equipment. The Transportation Director (or Superintendent) is responsible for planning, organizing, and developing equipment, manpower, and funding requirements; and directs, supervises, controls and coordinates the activities of these branches. The Director's responsibility for achieving the objectives of the Division by providing responsive transportation services to the activity, must include taking measures needed to reduce all costs, in order to be competitive with commercial operations. These services normally include:

a. Operating vehicle and equipment pools.

b. Operating scheduled and unscheduled passenger and freight transportation systems.

c. Maintaining automotive, construction, railroad, fire fighting, and weight handling or materials handling equipment.

2.15.2 ***Organizational Components***. A Transportation Division normally consists of two branches; an Operations Branch and an Equipment Maintenance Branch. Both are supervised by a Transportation Division Director or Transportation Superintendent. The major functions of the branches are:

a. Operations Branch

(1) Operates the activity bus and taxi system for the movement of personnel.

(2) Operates the trucking system for the movement of material and equipment.

(3) Operates the solid waste collection system.

(4) Provides equipment with operators for facilities maintenance functions, including riggers and equipment for heavy lifts and movements. (Note: Riggers may be assigned to another Department within the Command.)

(5) Assigns vehicles on a long-term basis to using departments (Class B assignments, as described in paragraph 2.1.2).

(6) Operates station motor pool and assigns vehicles on daily or trip basis (Class C assignments), and responds to all intermittent random requests.

b. Equipment Maintenance Branch. Accomplishes scheduled and unscheduled maintenance with minimum labor and material (parts) necessary to ensure a safe and serviceable fleet capable of meeting the activity's operational requirements.

c. Subordinate Components. Depending on the size of the activity, subordinate organizations designated as functional sections may be established to carry out the functions within the two main branches of a Transportation Division. Such sections normally are headed by a foreman or general foreman. Possible sections are as follows:

(1) Under the Operations Branch: Station Bus Section, Taxi Section, Heavy Equipment Section, Crane and Rigger Section, and Operator Licensing and Examining Section.

(2) Under the Maintenance Branch: Automotive Repair Section, Heavy Equipment Repair Section, and Materials Handling Equipment Repair Section.

2.15.3 ***The NCF/SOU Equipment Organization (Titles and Duties)*****.** The terms and titles in this manual when referring to NCFs/SOUs are normally those used in a Naval Mobile Construction Battalion (NMCB) as outlined in NAVFAC P-315, *Naval Construction Force Manual*. The person filling the following jobs in your organization may have a completely different title, but the function should be basically the same.

a. Equipment Officer**.** The Equipment Officer is appointed by the Commanding Officer and is personally responsible for the proper use and maintenance of all CESE assigned to the unit and ensures that all equipment is under a dispatching authority and is properly controlled. Through the use of an operations section, the Equipment Officer evaluates available vehicle resources against the mission requirements of the unit and assigns all equipment accordingly. It is the Equipment Officer's responsibility to disseminate instructions to all equipment users and to ensure proper application. The Equipment Officer investigates all reports of abuse and improper use of equipment, conducts traffic court and motor vehicle accident investigations, and can designate someone to conduct traffic court and vehicle accident investigations.

b. Operations Supervisor**.** The Operations Supervisor supervises all personnel who operate equipment and enforces the policies of the Equipment Officer. The Operations Supervisor works with project officers and equipment users to coordinate equipment requirements; review project plans, specifications, and estimates; and through the operations section, maintains administrative and operational control over all assigned equipment.

c. Dispatcher**.** The key position in the management of the equipment of the unit is the Dispatcher, who controls the day-to-day assignment and CESE usage. The Dispatcher's primary duties are to receive and evaluate requests for vehicles and then dispatch suitable equipment from authorized resources. It is the dispatcher's responsibility to check the operator's license prior to issuing a trip ticket, provide for the most economical use of manpower and equipment, and ensure equipment safety, security, and proper use.

(1) Dispatcher Qualifications. Personnel selected as dispatchers should have the ability to convey information and instructions in a concise, tactful, and understandable manner; exercise good judgment; to make decisions quickly and to work efficiently under pressure; perform administrative, clerical, and record-keeping skills that concern transportation; and have knowledge of equipment sizes, types, uses, and limitations.

(2) Dispatcher Responsibilities. The Dispatcher's primary duty is to manage the equipment resources of the unit efficiently. The Dispatcher must accomplish this within the general policies and directives of the Navy and in accordance with local policies, as directed by the Equipment Officer. The paperwork flow required when dispatching CESE is outlined and explained in Chapter 3. The Dispatcher also provides the following:

(a) Route Information. The Dispatcher must brief operators on the weather, road conditions, routes to be followed, and emergency procedures; know the general details of the most frequently traveled routes, weight limits on roads and bridges, low-clearance viaducts, and traffic hazards; and must be able to direct inexperienced operators on the routes to be followed and the location of principal points. The Dispatcher should have a good knowledge of local transportation systems, their schedules, and routes, and familiarity with local laws and regulations that govern the use of equipment. Most states have requirements about lights, signals, and weight limits per tire, and require special permits for moving heavy equipment on public highways.

(b) Equipment Status. The Dispatcher must know the current status and location of every assigned item of equipment. In order to evaluate and schedule requests for equipment and services, a color coded equipment status board is maintained that lists all equipment assigned to the Unit, the vehicles' current status, general assignment, and location. Further information about equipment status boards is contained in Chapter 3.

(c) Keys. The Dispatcher controls the keys to all vehicle locking devices and secures all primary circuit ignition keys, padlock keys, and any duplicates while not in use. All self-propelled automotive equipment that have nonlocking ignition switches shall install a method of padlocking the steering wheel or gear shift lever. Dispatch offices without a 24-hour duty watch must use locked key cases or cabinets.

(d) Records. The Dispatcher must maintain all required forms and records. The paperwork flow is outlined in Chapter 3. The Dispatcher must ensure that CESE required to operate over the road contains accident reporting procedures, Standard Form 91, *Motor Vehicle Accident Report,* and a description of local accident reporting procedures. Chapter 3 further explains accident reporting. The Dispatcher also collects feeder data such as inventory, allowance status, equipment availability/nonavailability, and usage/cost information.

(e) Equipment Scheduling. The Dispatcher will rotate vehicles between jobs, where practical, to equalize equipment usage. Unused equipment is cycled and exercised to minimize deterioration. All equipment must be made available for preventive maintenance service as scheduled by the Maintenance Branch.

d. Equipment Yard Supervisor**.** The Equipment Yard Supervisor, "Yard Boss," has one of the operations section's most important jobs. The Yard Boss manages the equipment yard and the vehicles parked in it, and establishes and enforces traffic control through the yard, such as stop signs, speed limits, and one-way traffic flow. The Yard Boss is in charge of yard maintenance and establishes parking lines and areas such as ready line and awaiting-entry-into-shop line; and ensures that all operator maintenance procedures are performed correctly to reduce vehicle misuse. The Yard Boss normally determines operator liability because the Yard Boss is familiar with the equipment and should know what dents and damage are new. Working with the Dispatcher, the Yard Boss cycles and exercises equipment not otherwise used. The Yard Boss is normally in charge of the vehicle refueling station, the equipment wash rack, and may also be assigned as custodian for collateral equipage or equipment attachments. The Yard Boss makes certain that a pre-start check of CESE is performed by the operator prior to leaving the yard.

e. License Examiner**.** License Examiners must be designated in writing by the Commanding Officer or Officer in Charge. The License Examiner plans and administers a Unit's licensing program and supervises the unit's operator training program. Before the examiner issues or validates a license, each applicant's qualifications are determined. Locally prepared knowledge examinations, clinical tests, and performance qualification tests are conducted. The License Examiner must be experienced in aspects of the operation, servicing, and safety requirements of equipment the examiner is designated to license. The examiner maintains license files and records for each assigned person with a U.S. Government operator's license. The appointed License Examiner shall become familiar with, and maintain a library of, the following publications or the pertinent sections thereof: NAVFAC P-307, *Management of Weight Handling Equipment*; NAVSUP P-284, *Materials Handling Equipment, Vols. I and II*; NAVFAC

MO-403, *Navy Drivers Handbook*; NAVSEA OP-2239, *Motor Vehicle Drivers Handbook, Ammunition, Explosives, and Hazardous Material*; U.S. Department of Transportation, Federal Highway Administration, *Motor Carrier Safety Regulations; International Road Signs*; and COMTHIRDNCB/COMSECONDNCB Instruction 5100.1, *Naval Construction Force Safety Manual* (NCF only). Chapter 3 further explains license forms and procedures.

f. Operator**.** Every person who drives or operates any item of equipment is called an operator. All military operators who use government-owned or rented equipment must be examined and licensed in accordance with this chapter. Licenses do not authorize an operator to use CESE; each item of equipment must be properly dispatched. Under no circumstances will a vehicle be dispatched to a person who does not posses a valid U.S. Government operator's license that covers the size and type of vehicle requested. Operators are responsible for the use of CESE for authorized official business only, and must comply with all traffic laws, ordinances, and regulations.

(1) Operator Qualifications. Operator qualifications are set forth in NAVFAC MO-403, *Navy Drivers Handbook*; NAVSEA OP-2239, *Motor Vehicle Drivers Handbook, Ammunition, Explosives, and Hazardous Material*; NAVSEA OP-2165 Volume 1, *Navy Transportation Safety Handbook*; U.S. Department of Transportation, Federal Highway Administration, *Motor Carrier Safety Regulations*; Code of Federal Regulations, *Title 49-Transportation Parts 100-199*; and state and local laws and regulations. The proper selection of personnel to be licensed is of utmost importance; therefore, before a person in the Armed Forces can obtain a license the following requirements must be met. However, a Commanding Officer may impose additional qualifications, requirements, examinations, or certifications deemed necessary.

(a) Age. Military operators must be at least 18 years of age. Ambulance drivers must be 21 years of age.

(b) Physical Fitness. A physical examination is required except for military personnel applying for a license to operate general-purpose vehicles up to 10,000 pounds gross vehicle weight (GVW) who possess a valid state operator's license for the vehicle types involved. Operators must have no physical defects or emotional instability that interfere with efficient operation of equipment. Persons with disabling deformities or conditions that interfere with satisfactory performance of duties may be disqualified by the examiner. Operators must have minimum vision of 20/40 Snellen in one eye, and 20/70 Snellen in the other eye, with or without glasses. Applicants must be able to distinguish red, green, and yellow colors regardless of position of colors. Hearing, with or without hearing aid, must test 15/20 for ordinary conversation in one ear. Operators must be able to speak English reasonably well, be able to prepare accident reports, and understand the meaning of standard traffic signs.

(c) Examinations. Examination and tests for military personnel that apply for a license to operate general-purpose vehicles up to 10,000 pounds GVW will be waived if the applicant possess a valid state operator's license for the type

vehicles involved. Applicants for licenses to operate trucks over 10,000 pounds GVW, buses over 10 passengers, emergency and special-purpose vehicles, construction/weight handling/materials handling equipment, and for transporting explosive/hazardous material, must successfully pass both a written knowledge examination and a performance qualification test as outlined in paragraph 3.10.

(2) Operator Maintenance. Operator's must keep the vehicle clean, safe, in serviceable condition, and perform operator maintenance. Equipment must be inspected systematically to discover defects before a serious failure or an accident occurs. Operator Maintenance includes the following inspections and services:

(a) Prestart Inspection. A prestart inspection consists of performing the services listed on the *Operator's Inspection Guide and Trouble Report*, NAVFAC 9-11240/13, also called a "Hard Card," (Appendix H, Figure H-22) and other services, as directed. This inspection basically covers inspection of fuel, oil, water, and battery levels; inspection of tires, safety devices, drive belts, cargo and mounted equipment; inspection for leaks and exterior or interior damage; and lubricating, as required. Do not operate defective or unsafe equipment. Note the discrepancies on the Hard Card/Daily PM Report and forward immediately to the Dispatcher.

(b) Operating Checks. The Operator MUST use the senses to detect items that need attention: *smell* (burning rubber, grease, clutches); *hearing* (unusual noises); *sight* (instruments); and *feeling* (drag, pull, vibration). Tires should be periodically inspected for flats and rocks between duals. During operation, lubrication is the responsibility of the operator. If a defect is suspected stop the equipment, investigate, ensure that defects that damage equipment or impair safe operation are repaired before using equipment.

(c) After Operation Services. After operation, the operator performs established shutdown procedures as prescribed in the appropriate operator's manual and other services, as directed. This operator checks equipment cleanliness (wash and steam clean as appropriate), drains air tanks, covers exhaust stacks, closes doors, windows, and hoods, sets brakes, blocks dump beds to drain, and tops off fuel tanks if tanks are less than one-half full. Supervisors will ensure that the equipment is protected against the weather and the Hard Card/Daily PM Report is completed and returned to the Dispatcher.

(d) Service Station Services. The services performed during each refueling shall be to check the engine oil level, check under the vehicle for leaks, check coolant level and antifreeze, check the cleanliness of the radiator fins and the condition of hoses and clamps, check electrolyte level in battery, clean the battery terminals and carrier, check lug bolts and nuts, and retighten, and check tires for proper inflation and condition.

2.16 ***Transportation Management Information Systems***. Automated Transportation Management Information Systems can provide many times the data available from manual systems and in more formats than are normally available from central data processing systems. The ability to review data, make direct entries which bypass time consuming manual systems, retrieve data/summaries for review in print, and produce standard or special reports, enhances productivity. It also provides the database necessary to allow management to review performance on an exception or specific basis without the excessive effort needed to perform a manual analysis, or search through numerous satisfactory performance items to find the few problem areas. This means effective use of management time and timely identification of minor problem areas before they become major. A number of Transportation Management Information Systems are available for activity use.

a. Personal Computer Transportation Support (PC Transport). PC Transport falls into the Public Works Management Automation (PWMA) arena. PWMA encompasses automated programs for the management of all Public Works functions. PC Transport is a transportation-specific module developed within this framework for ease of use and compatibility throughout the Public Works areas. The PC Transport microcomputer application is designed to take advantage of the latest microcomputer technology. PC Transport can be used for a fleet of any size. It can be used on a stand-alone computer or on a Local Area Network (LAN). The number of users (terminals, printers, etc., attached to the system) is limited only by the LAN configuration. PC Transport replaces the old Base Engineering Support, Technical (BEST) minicomputer system. PC Transport is an on-line (or "live") system. It supports all basic administrative, fueling, vehicle and operator dispatching functions, maintenance management , and repair data collection, and provides analysis and report generation including the TEMES report. Questions on obtaining this program or its applicability should be directed to the cognizant TEMC.

b. Computer Assisted Maintenance and Equipment Operations (CAMEO). CAMEO is a transportation maintenance and operations tracking program designed for single microcomputer users at very small activities. It supports all basic administrative, fueling, maintenance management and repair data collection, and provides analysis and report generation. CAMEO supports inventory, assignments, IOs, fuel issue transactions, Shop Repair Order data, and provides applicable reports including the TEMES. All data is from manual input after-the-fact. Questions on obtaining this program or its applicability should be directed to the cognizant TEMC.

c. Naval Facilities Transportation System (NFTS). NFTS is another personal computer (PC) based transportation management software application. NFTS is a Government owned software package designed to function on a Local Area Network (LAN). NFTS supports all basic administrative, fueling, vehicle and operator dispatching functions, maintenance management and repair data collection, and provides analysis and report generation. Questions on obtaining this program or its applicability should be directed to NAVFAC Code 131 in San Diego, CA.

d. Seabee Automated Mobile Management System (SAMMS) Equipment Operations and Mobile Equipment Maintenance (EO/EM) Module. The Equipment Operations (EO) and Equipment Maintenance (EM) encompass equipment maintenance, operations, licensing, DTO parts management functions, and reporting. Included in the equipment management functions are operational control of automotive, construction, and materials handling equipment, control and storage of collateral equipment, attachments and accessory components, and operators testing and licensing. Similarly, the DTO parts management functions include ordering DTO parts, receiving DTO parts, issuing DTO parts, and generating DTO reports as required. The EO and EM modules also provide for various reporting functions including the Tab A Report and Deadline Report.

EM and EO are stand alone systems that are designed for use by maintenance and operations personnel on separate computers. The use of two computers will permit the equipment operations personnel and maintenance personnel maximum access to the systems needed to support their individual but related functions. Information is passed between the EO and EM systems on a daily basis. However, the systems are designed to function independently. Specific instructions for entering/updating data, viewing data, generating reports, and other functions are provided in the *Equipment Management Systems (EMS) Users Manuals* for the EO and EM modules.

e. Because microcomputers are constantly increasing in power, decreasing in price, and playing a more important role for management in all areas, every activity holding CESE should plan and budget for installation of this necessary tool.

2.17 ***Most Efficient Organization (MEO).*** MEO, in its generic sense, simply means that a function, in this case Transportation Operations and Maintenance (O&M), is operating at optimum efficiency and in the most effective manner possible. The term evolved from the Commercial Activities (CA) program reviews mandated by Office of Management and Budget (OMB) Circular A-76, and in the past several years it has assumed increasing importance to CESE managers. For the most part, the Navy's success in Transportation O&M CA reviews can be credited to the survey teams and activity personnel who have identified various methods for improving efficiency and reducing costs through an established MEO. Activity CESE managers should look closely at their respective Transportation O&M functions (whether involved in CA or not) with a view toward achieving the MEO. To assist in this endeavor, some of the more significant improvement/cost reductions that should be considered are provided:

a. Maintenance Function

(1) Revise work generation practices.

(a) Implement a service writer concept.
(b) Establish a quick line repair.
(c) Schedule body repairs separately.
(d) Involve customer in vehicle appearance responsibility.

(2) Implement incentive pay for mechanics.

(3) Increase use of Blanket Purchase Agreements (BPAs).

(4) Require vendors to deliver material direct to shop store.

(5) Establish pre-expended parts bin.

(6) Improve parts cross-referencing.

(7) Improve communications between Transportation and Supply.

(8) Buy rebuilt components rather than rebuild.

(9) Use indefinite quantity parts contracts.

(10) Evaluate economic feasibility of retaining outlying shops.

(11) Maximize use of support contracts (body repair, component repair, outlying area maintenance, vehicle washing, lube services).

(12) Adjust pay grades of mechanics to commensurate with job skill level requirements.

(13) Determine requirements for diagnostic/productivity enhancing tools and equipment.

(14) Cost all labor in accordance with NAVCOMPT manual Cost Account Codes (CACs).

(15) Maximize use of retread tires.

(16) Expand use of labor saving tools/equipment.

(17) Increase technical training.

b. Operations Function

(1) Sub-contract construction equipment requirements that are not of a continuing nature, i.e., crane work, ditching, pole setting, etc.

(2) Centralize delivery and construction operator function (absorb operators and equipment back under transportation control).

(3) Implement revised dispatching procedures.

(a) Use computerized dispatch/assignment system.

(b) Install radio equipment to optimize equipment/operator productivity.

(4) Adjust pay grades of dispatchers or make it a collateral duty of the operations foreman or operator on standby.

(5) Inspect C pool equipment before issuing, document condition to ensure that operators damaging or abusing equipment can be identified.

(6) Maximize the use of support contracts (peak vehicle rental, fixed runs, trash and garbage).

(7) Adjust pay grades of operators to skill levels required.

(8) Use part time labor for fixed runs (i.e., intermittent/seasonal schedules).

(9) Ensure operators perform service checks (oil, water, tires, etc.) and applicable service facilities are conveniently located, operational, and utilized.

(10) Cost all labor in accordance with NAVCOMPT manual CACs.

c. Other Possibilities

(1) Rotate assignments, i.e., assign lowest cost/low mileage equipment to highest mileage users.

(2) Evaluate vehicle size/type required versus vehicle size/type assigned.

(3) Revise working hours (night for trash & garbage, etc.).

(4) Establish incentives for drivers.

(5) Install an Automated Fuel Dispensing System.

(6) Fuel/service at night.

A complete summary with details concerning the above MEO elements may be obtained from the TEMCs. The TEMCs can also provide assistance in implementing MEO elements.

2.17.1 ***Commercial Activities (CA) Program***. In recent years, a variety of factors have served to decrease the availability and use of Government forces in the performance of maintenance, operations, and other base support services at Naval activities. The policy and procedures for the operation of the Navy CA are contained in OPNAVINST 4860.7 and are implemented by related NAVSUPSYSCOM and COMNAVFACENGCOM letters. The OMB Circular A-76 contains policies for acquiring CA products and services needed by the Government and provides a comprehensive Cost Comparison Handbook as a supplement. Program inquiries connected with transportation equipment support shall be directed to the appropriate TEMC.

a. Contracts with commercial contractors for transportation related services should always stipulate the status of all equipment provided to the contractor (see paragraph 3.15). Generally stated, any equipment provided to the contractor, but operated by Government personnel will remain Government owned, be replaced by the Government, and subject to approved IOs. Generally stated, any equipment provided to the contractor and operated by contractor personnel will be replaced by the contractor and will not be subject to approved IOs.

b. A copy of the transportation portion of the CA study should be forwarded to the cognizant TEMC for their review and input.

CHAPTER 3. OPERATIONS

This chapter contains guidelines for the administration of transportation equipment matters concerning the operations functions of a Transportation Organization set forth in paragraph 2.15.

3.1 ***Trip Tickets***. The Motor Equipment Utilization Record (DD Form 1970), (Appendix H, Figure H-12), or an activity generated Trip Ticket, shall be employed as the basic document for information concerning the utilization of motor vehicles and shall be prepared in accordance with instructions on the back of the form. Navy activities using mechanized/computerized motor vehicle utilization data gathering systems shall establish operating procedures to implement this requirement. The use of the Trip Ticket for Class A and Class B assignments on station will be optional as determined by the activity Commanding Officer. (Trip Tickets are required for all NCF and SOU activities regardless of the class assignment.) Trip Tickets are required daily for all off station and C pool vehicle dispatching. All Trip Ticket data shall be recorded on the Dispatcher's Log described below and retained for at least 90 days after issue.

3.2 ***Dispatcher's Log***. The Dispatcher's Log (NAVFAC Form 9-11240/2) is shown in Appendix H, Figure H-13. It will be used to record all vehicles dispatched off station and for all Class C pool vehicles. The Dispatcher's Log provides space for recording accounting data (job order number) not provided for on the Trip Ticket. Completed dispatch logs and trip tickets will be forwarded to the transportation/operations supervisor for review and filing. The Dispatcher's Log will be retained for at least 36 months at shore activities and 90 days for NCF/SOU units.

NOTE: The retention criteria for Trip Tickets and Dispatcher's Logs will provide an audit trail of historical data needed to conduct short term cross reference comparisons and/or utilization studies.

3.3 ***Bus Service***

3.3.1 ***Bus Service, General***. It is Navy policy to provide sufficient bus service to effectively support activity missions. This support may be provided to military personnel, DoD civilians, contractor employees, and military dependents. This service may be provided with government-owned, leased, or chartered equipment, or with contract service. Expenses for the operation of such services will be paid from appropriated funds. In all cases, bus systems are funded from station O&M,N funds, whether or not fares are collected. For reimbursement which may be available for certain school bus operations, see Chapter 6 of the DoD 4500.36-R. While not all inclusive, Figure 3-1 provides a quick reference to the types of bus service available. Government-furnished transportation services will be categorized as group home-to-work transportation service, base mass transit, and shuttle bus service.

CATEGORIES OF BUS TRANSPORTATION

Bus Service	Authorizing Directive	Approving Authority	Method of Funding
Shuttle Bus	DoD 4500.36-R NAVFAC P-300	Local CO	Appropriated funds
Group home to work	DoD 4500.36-R NAVFAC P-300	CNO	Appropriated funds (fares collected must be deposited to U.S. Treasury as misc. receipts)
Base Mass Transit	DoD 4500.36-R NAVFAC P-300	CNO	Appropriated funds (fares collected must be deposited to U.S. Treasury as misc. receipts)
Emergency	DoD 4500.36-R NAVFAC P-300	CNO	Appropriated funds (fares collected must be deposited to U.S. treasury as misc. receipts)
Liberty	NAVFAC P-300	Local CO	Appropriated funds
School	DoD 4500.36-R	Local CO	Appropriated funds
Morale, welfare, recreation, command religious program (Chaplains Program)	DoD 4500.36-R	Local CO	MWR Appropriated funds

Figure 3-1

a. Application of the various types of available transportation services:

(1) Group Home-To-Work Transportation Service. Transportation services to and from places of employment, provided on a fare basis. The fact that commercial transportation facilities are inadequate and cannot be made adequate is the primary factor in approving group home-to-work transportation requests.

(2) Base Mass Transit Service. Non-duty transportation services among places on a military installation or between subinstallations, provided on a fare basis. Base mass transit service is designed to fulfill requirements beyond the scope of shuttle bus service.

(3) Shuttle Bus Service. Scheduled activity bus service provided fare-free within or between installations for transporting military and DoD personnel between offices and work areas; enlisted personnel between troop billets and work areas; DoD contractor personnel on official defense business; and employees of non-DoD federal agencies on official business. Available space on shuttle buses may be used by other categories of personnel; however, such conveyances may not be used to provide domicile-to-duty transportation.

b. When more than one of these services is deemed appropriate for an installation, their use should be integrated in the overall installation transportation plan and with any commercial service being provided. There should be a clear distinction concerning the purposes of the various types of service.

3.3.2 ***Mass Transportation Services (Group Home-To-Work Transportation and Base Mass Transit)***. Title 10, Section 2632, of the United States Code (10 U.S.C. 2632) gives the Secretary of the Military Department concerned authorization to provide transportation by motor vehicle or water carrier with seating capacity of 12 or more passengers in order to effectively conduct the affairs of their departments. However, privately-owned vehicles, car pools, van pools, and scheduled buses will continue to be the primary sources of home-to-work transportation. (Individual home-to-work transportation assignments are discussed in Chapter 1, paragraph 1.13.)

a. Authorization for Group Home-To-Work Services. Requests for group home-to-work services should be sent to CNO via the activity chain of command, the cognizant TEMC and COMNAVFACENGCOM (Code 134). Whenever CNO determines that the effective conduct of the affairs of the Navy requires assured and adequate transportation service, this service can be provided by motor vehicle or water carrier to and from places of employment for individuals attached to, or employed in, that department. In authorizing the establishment of such systems, CNO must determine that:

(1) Other facilities are inadequate and cannot be made adequate;

(2) A reasonable effort has been made to induce operators of private facilities to provide the necessary transportation, and such effort has been unsuccessful; and,

(3) The service to be furnished will make proper use of transportation facilities and will supply the most efficient transportation to the persons concerned.

b. Authorization for Base Mass Transit Services. CNO may authorize base mass transit services on any military installation, or in some cases between sub-installations, which are within the established permissible operating distance, if the service is determined to be efficient, practical, and in the best interest of the Navy. In authorizing the establishment of such systems, CNO must determine that:

(1) There exists a potential for saving energy and for reducing air pollution;

(2) A reasonable effort has been made to induce operators of private facilities to provide the necessary mass transportation, and such effort has been unsuccessful; and

(3) The service to be provided will make proper use of transportation facilities and will supply the most efficient transportation to the persons concerned.

The base mass transit authorization may be used to provide home-to-work transportation on military installations or between sub-installations in reasonable proximity. It may also be used to provide on-base transportation service to domiciles, shopping areas, and installation recreational areas on a routine basis, if the traffic volume warrants, or as a special service to support a specific event.

c. Reimbursement

(1) Unless specifically waived under subparagraph (3) below, a fare system will be structured to recover all costs of providing the mass transportation service, including capital investment, salaries, operations and maintenance. If the vehicle is used for both operational (mission) and mass transportation, only the costs directly related to mass transportation must be recovered, i.e., acquisition costs shall not be recovered through the fare system.

(2) In overseas areas only, a "reasonable" fare may be authorized. This fare shall, as a minimum, recover the cost of operation.

(3) Public Law 100-180 amended 10 U.S.C. 2632 to authorize waiving the fare for transportation of DoD (military and civilian) personnel to and from a military installation (to include dependents), in the case of a military installation located in a remote area determined by CNO to be inadequately served by regularly scheduled commercial mass transit.

(4) All fare and proceeds received by DoD components from the operation of mass transportation services must be accounted for and deposited in the U.S. Treasury as miscellaneous receipts, pursuant to provisions of 10 U.S.C. 2632.

d. Vehicle Acquisition. When determinations have been made that group transportation and/or base mass transit service are required, the Navy, subject to budget limitations and funding availability, may:

(1) Buy or hire motor vehicles or water carriers;

(2) Maintain and operate the equipment by Government-owned or contractor facilities;

(3) Lease or charter the equipment to private or public carriers for operation.

e. Requests for Mass Transportation Service (Group Home-To-Work Transportation or Base Mass Transit Service). Requests for authority to establish these transportation services shall be submitted through the cognizant TEMC and the command chain to CNO, via the Commander, Naval Facilities Engineering Command (Code 134), for determination. The following information shall be furnished:

(1) Name, mission, and location of the activity.

(2) Current military and civilian strength, and authorized changes that will affect transportation requirements. Show breakdown of work-shifts if applicable.

(3) A description of existing facilities, including the use of privately owned vehicles, carpools, and group riding arrangements.

(4) Points to which service is required and the distance between the installation and each point.

(5) The number of people requiring recurring transportation between the installation and each point (indicate by shift if applicable).

(6) In the case of group home-to-work transportation service, a statement describing the efforts which have been made to make existing facilities, public or private, adequate, or efforts to induce private operators to provide the necessary transportation.

(7) In the case of base mass transit service, an assessment of the potential for saving energy and reducing pollution.

(8) The type of service proposed, plus information concerning all necessary arrangements such as rentals, charters, rates, routes, and schedules; and type, source, number, and seating capacity of the equipment to be used. The amount of fare to be charged shall be stated and a map or sketch of the area enclosed. If the proposed service is to be operated with Government-owned vehicles, requests must indicate that the local commercial carriers have no desire or capacity to provide the service.

(9) A statement as to the estimated cost and availability of appropriated funds to operate the service.

(10) The date on which the service is needed or can be started.

f. Transit Facility Control Number. After CNO's approval of the group transportation or base mass transit service request, a Transit Facility Control Number shall be assigned by COMNAVFACENGCOM for reference, control, and reporting purposes. These bus systems shall be reviewed at least annually to determine continued validity and a statement indicating the continuing validity of the requirement for such transportation is to be attached to the report required by paragraph g. below.

g. Annual Report. A report indicating the actual expenditures chargeable to the home-to-work transportation and/or base mass transit service facility operations shall be prepared at the end of the fiscal year (30 September) using the format shown in Appendix H, Figure H-14. NAVFAC Report Control Symbol 11240-16 applies to this report. This report shall be forwarded to COMNAVFACENGCOM with a copy to the appropriate TEMC by 30 November annually. A statement indicating the continued validity of the requirement for this transportation must be attached to the annual report. This will constitute the annual review required by DoD 4500.36-R.

h. Types of Fares for Group Home-To-Work Transportation and Base Mass Transit. Fares normally will be collected by the vehicle operator. Fares may be collected in any or all of the following forms.

(1) Books of tickets;
(2) Single-trip tickets;
(3) Round-trip tickets;
(4) Commutation tickets;
(5) Identification as authorized to travel free of charge;
(6) Cash.

i. Selecting Types of Fares. In general, the use of cash fares should be discouraged. Serially-numbered tickets for payment of fares should be employed to the maximum extent. Tickets may be single-trip, round-trip, in books, or commutation

tickets. In considering the type of tickets to be used, it should be noted that refunds may be paid only to the original purchasers. Ticket books and commutation tickets should provide space for the original purchaser's name, signature, and badge number (if applicable) with the date of purchase shown.

j. Inventory Control of Tickets. An inventory control record of all types of tickets received from the printer (supported by a copy of the printer's invoice or delivery receipt) and of tickets issued to ticket agents for sale (supported by a signed custody receipt) shall be maintained by the office responsible for the control of tickets. At least once a month, a physical count of tickets on hand should be made and reconciled with the balance reflected by the inventory control record. Tickets returned to the custodian will be reported in the control record as a receipt and will be supported in the records of the ticket agent by a custody receipt. Ticket agents will maintain an inventory control record of tickets, recording the tickets received from the Transportation Officer (by denomination) and the tickets sold each day. At least once each month the Transportation Officer will make a physical count of the tickets held by the agents, and the results of such counts will be reconciled with the agents' control records. The amount of sales recorded in the inventory control records will agree with the collections turned over for deposit with the Disbursing Officer. If the collections are given to a collection agent responsible for obtaining cash from all ticket agents for deposit with the tickets held by the agents, the results of such counts will be reconciled with agents' control records. The amount of sales recorded in the inventory control records will agree with the collections turned over for deposit with the Disbursing Officer. If the collections are given to a collection agent responsible for obtaining cash from all ticket agents for deposit with the Disbursing Officer, the ticket agent should obtain a custody receipt for the cash turned over. The custody receipt may be changed to indicate receipt for cash instead of tickets. The depositing collection agent will maintain a record of ticket sales, showing this data, to substantiate the Cash Collection Voucher (DD Form 1131), NAVCOMPT Manual, Volume 4, Chapter 3. Receipts will be deposited with the Disbursing Officer daily or at any other reasonable interval.

k. Use of Coin Boxes. Where coin boxes are used, the activity Disbursing Officer shall establish policy and procedures for accounting for cash deposits. Vehicles shall be equipped with tamper-proof coin boxes that permit visual inspection of coins inserted. If lock type boxes are used, the keys shall be kept by the Transportation Officer or an authorized representative other than the driver of the vehicle.

3.3.3 ***Shuttle Bus Service (Scheduled Activity Bus Service)***. The capability to transport groups of individuals on official business between offices on installations or between nearby installations is a recognized requirement and is essential to mission support. The effective use of buses reduces the requirement for individual assignment of administrative vehicles.

a. Shuttle bus services may be provided fare-free on or between installations for the transportation of:

(1) Military personnel and DoD employees between offices and work areas of the installation or activity during designated duty hours when justified by the ridership. These routes will be designed to service offices and work areas only and will not include base housing areas, recreational, or shopping areas unless these areas cannot reasonably be avoided in servicing the authorized points.

(2) Enlisted personnel between troop billets and work areas.

(3) DoD contractor personnel conducting official defense business.

(4) Employees of non-DoD federal agencies on official business. Such transportation will only be provided over routes established for primary support of the defense mission.

b. The following instructions apply to establishing and maintaining shuttle bus routes:

(1) Established routes and schedules must be based on a validated need to transport passengers authorized above. Shuttle bus routes will not be used to provide domicile-to-duty travel except as authorized above.

(2) The conveyance used must be no larger than the most economical available to accommodate "duty" passengers.

(3) Frequent surveys (at least annually) must be conducted to ascertain that the conditions cited in (1) and (2) remain constant.

c. Space-available transportation on shuttle buses may be provided to the following categories of passengers:

(1) Off-duty military personnel and DoD civilian employees.

(2) Reserve and National Guard members.

(3) Dependents of active duty military personnel and DoD civilian employees.

(4) Retirees.

(5) Visitors to the base (intra-installation only).

Shuttle bus service may be provided with Navy-owned or contract equipment. Expenses for the operation of such services will be paid from appropriated funds.

3.3.4 ***Transportation for Morale, Welfare and Recreation (MWR) Programs.*** Transportation provided for activity-approved Morale, Welfare and Recreation (MWR) programs, i.e., athletic teams, and the Chaplain's program, shall generally be organized on a group basis large enough to employ buses. The Commanding Officer of an activity may, however, authorize the use of vehicles with seating capacities less than buses where feasible and economically justified.

3.3.5 ***Liberty Bus Service***. At naval activities where commercial transportation services are not available, or are inadequate for transporting liberty personnel, activity Commanding Officers may inaugurate liberty bus service. Liberty bus facilities that in any way parallel or compete with common carriers are not to be authorized unless the carriers provide the activity Commanding Officer with a letter indicating an unwillingness, disinterest, or inability to provide adequate service necessary to satisfy the requirements. Liberty bus service shall not be established in lieu of fare-charging group transportation services, nor used to transport civilians, military dependent personnel, or guests. Bus service furnished to military personnel on base is not considered liberty bus service.

3.3.6 ***Emergency Bus Service***. In compliance with Title 10, Section 2632, U.S. Code, transportation between domicile and places of employment may be provided for military personnel and civilian employees during public transportation strikes or other stoppages. This applies only to those who are actively engaged in projects, or the support of projects, the continued delay of which would adversely affect national defense. Fares for such service shall be charged and accounted for as described in paragraph 3.3.2. Routine construction, repair, or overhaul of aircraft, ships, or material peculiar to the Navy will not qualify under this policy. When public transit strikes or other work stoppages are imminent or in progress, Commanding Officers who determine that transportation between domiciles and places of employment is essential shall submit the following information to CNO, with COMNAVFACENGCOM and the appropriate TEMC as a copy addressee.

a. Installation or activity requiring transportation support.

b. General nature of the transportation requirements, including efforts to induce private facilities to provide the necessary transportation.

c. Titles of critical projects.

d. Availability, type, and number of vehicles required.

e. Number of personnel, by project, to be transported.

f. Proposed fares.

3.3.7 ***School Bus***. School bus operation is covered in Chapter 6 of the DoD 4500.36-R. However, a Transit Facility Control Number for each school bus operation should be requested from the COMNAVFACENGCOM (Code 134). The request for the Transit Facility Control Number should include the name of the activity, the school(s) served, the approximate number of children provided daily transportation, the number of buses involved, the approximate distance traveled one way daily by each bus, and a map showing the route(s). COMNAVFACENGCOM should also be advised when the school bus service is discontinued.

3.4 *Operation of Ambulances*

a. Policy. The following rules, which are based on a Bureau of Medicine and Surgery (BUMED) instruction (NAVMEDCOMINST 6700.9), shall be strictly adhered to in relation to the operation of Medical Department ambulances.

b. Use of Ambulances

(1) Ambulances shall be used only for the transportation of such wounded or injured persons who are eligible by law, regulation, or humanitarian consideration for treatment in Medical Department facilities of any of the armed services.

(2) Ambulances shall not be used in lieu of other vehicles for transporting messengers, mail carriers, baggage, food, other commercial type hauling, or general use.

(3) Vehicles other than ambulances shall be used to the maximum extent practicable to provide transportation for personnel between remote sections of an activity, or between adjacent activities, for routine medical and dental examinations or treatment, including x-rays, laboratory tests, and dental treatment.

(4) Each ambulance dispatched shall have at least one attendant who is Emergency Medical Technician-Ambulance (EMT-A) trained.

c. Authorization of Emergency Runs. Only personnel delegated by the Commanding Officer may authorize emergency runs, and these authorizations must be in writing. When emergency runs are authorized, a brief report on the necessity for the run shall be fully recorded in the duty log of the cognizant Medical Department.

d. Ambulance Speed Limits. All State laws, municipal ordinances, and local command orders and instructions relating to operations of motor vehicles shall be strictly observed.

e. Use of Ambulance Warning Lights and Sirens. Warning lights or sirens are to be used only on authorized emergency runs. The use of the siren and the red light shall be governed by local laws and command regulations. It is emphasized that

the use of the siren or red light in emergencies does not give the ambulance operator the authority or privilege to violate local traffic regulations. Each designated ambulance operator shall be required to acknowledge in writing that this fact has been brought to their attention.

f. Ambulance Driver Qualifications. All ambulance drivers, whether civilian or military personnel, shall have successfully completed the DoT training program (or equivalent) for the operation of emergency vehicles, and shall have a valid U.S. Government Motor Vehicle Operator's Identification Card (OF-346) in their possession while operating ambulances. In addition, ambulance drivers must satisfy State and municipal requirements as to age and other qualifications (see paragraph 3.8.7). Drivers shall be fully conversant with local traffic regulations and local geography prior to being assigned to drive Medical Department ambulances.

g. Operating Records and Forms. Each ambulance shall carry a book or clip board containing orders and safety precautions prescribed by the local command for the locality. Each vehicle shall also carry the Motor Vehicle Accident Report, Standard Form 91, and an accident identification card (DD Form 518), and all drivers shall be thoroughly instructed in their proper use.

3.5 ***Assignment and Operation of Law Enforcement Vehicles***

3.5.1 ***Use of Law Enforcement/Security Vehicles***

a. Assignment of law enforcement vehicles (EC 0114) shall be limited to law enforcement or security functions. These vehicles will be used solely by law enforcement/security personnel to perform their assigned functions/duties.

b. Use of law enforcement vehicles for administrative purposes is prohibited.

3.5.2 ***Authorized Vehicles***. Navy policy and standards for law enforcement/base security vehicles are regulated by CNO (N09N). That office has issued OPNAVNOTE 5530 of 4 Feb 1991 (to be incorporated in the next update of OPNAVINST 5530.14), providing the following guidance on law enforcement/security vehicles.

The only vehicles that come equipped with a police package are the standard law enforcement/security vehicles specified in Federal Standard 122 as Item 17 (midsize patrol sedan) and the Item 17A (large pursuit sedan). These vehicles are authorized for use by Navy security departments as outlined in subparagraphs a. and b. below. However, since individual activity requirements vary, non-police package compact and midsize sedans or pickup trucks may be substituted for the Item 17 and 17A vehicles. Consideration should be given to the high cost of leasing the 17 and 17A vehicles and fuel economy when determining base security vehicle requirements. Activities should also consider using a mix of vehicles to fill their security vehicle requirements.

a. The Item 17 midsize patrol sedan is equipped with a six cylinder engine and is recommended for patrol vehicles and can generally accommodate prisoner shields, shotgun mounts, and communication consoles.

b. The Item 17A large pursuit sedan is equipped with an eight cylinder engine and is primarily used for traffic enforcement and exclusive law enforcement purposes such as prisoner transports absent a designated transport vehicle, i.e., patrol wagon. Standard law enforcement/security vehicle requirements should be coordinated between the Security Department and the Public Works Transportation Department.

3.5.3 ***Non-standard Vehicles***. There may be special needs for unmarked vehicles or other non-standard law enforcement vehicles; e.g., vans, and patrol wagons specially designed for prisoner transport, special response vehicles, or transport vehicles for the K-9 Corps. Public Works Departments will provide non-standard vehicles only when authorized by the major claimants. Requests for such vehicles should be forwarded to major claimants for approval. Requests must cite complete justification for nonstandard vehicles.

3.5.4 ***Acquisition of Law Enforcement/Security Vehicles.*** Requirements for base law enforcement/security vehicles will be filled through leasing except when procurement would be more practical or cost effective, e.g., specially equipped vehicles or low mileage/use vehicles. Leasing is more practical than procurement because of rapid accumulation of mileage and extensive wear. Vehicles should be leased off the Navy's Centralized Leasing Contract for Surveillance and Law Enforcement Vehicles since these vehicles are equipped with heavy duty components, have unlimited mileage, and specific models can be requested. A cost analysis is not required for high-mileage law enforcement/base security vehicles.

3.6 *Utilization*

3.6.1 ***CESE Utilization Program***. The principal purpose of the utilization program is to provide activity managers with meaningful management indicators for the efficient and effective management of CESE. The program provides management information to assist in the evaluation of CESE, including assignment criteria at the activity level. Utilization targets are established as local management indicators to identify abnormal variations in utilization for vehicles at a naval shore activity, NCFs/SOUs and are not hard performance standards; however, it is important to define and document the basis of each assignment (i.e., mileage, mission/task, hours in use, cost savings, etc.).

3.6.2 ***Technical Coordination/Assistance***. The utilization program is to be technically coordinated by the TEMC. The cognizant TEMC shall provide assistance in the performance of a detailed evaluation of the activity's equipment utilization by reviewing and validating all assignments (Class B and Class C) during the activity TMAV. Justification letters for all Class B assignments shall be maintained by the Transportation Department/Division. Upon completion of the review/validation of

activity assignments, annual utilization targets for each individual assignment shall be established by the activity. Review, approval, and validation by the cognizant TEMC shall be at the assignment level. These individual utilization targets will be based upon one or more of the following criteria: Criticality to, and importance of mission accomplishment; DoD mileage standards; cost effectiveness (i.e., relative costs of alternatives to a full-time assignment); safety of operations; work productivity; and energy conservation. The criterion for each assignment shall be documented and kept on file to facilitate review. For report purposes, the individual assignment targets will be segregated by alpha code and the average will become an annual alpha code target per unit. Individual utilization targets at the assignment/unit level will vary from the alpha code average target due to variations inherent in the "averaging" process.

3.6.3 ***Applicability***. The CESE utilization program is applicable to all naval shore, Naval Construction Force (NCF) and Special Operating Unit (SOU) activities. The Activity Utilization Report, Appendix H, Figure H-15, can be used for both individual assignments and summary information. It will be used for activity quarterly reviews. Activities use the quarterly data to monitor/evaluate assignments and take action as necessary to manage the utilization program on a continuing basis.

3.6.4 ***Equipment Subject to the Program***. All Navy-owned or leased CESE grouped under Alpha Codes A through N (less Alpha Code F), are subject to the program. Alpha Codes R (MHE), S, U, W, and Y may be included at the discretion of the activity and activities are encouraged to do so. A summary of all alpha codes is provided as Appendix H, Figure H-16.

3.6.5 ***Equipment Excluded from the Program***. All Navy-owned or leased CESE grouped under Alpha Codes F, O, P, Q, T, V, X, and Z are excluded from the utilization program; however usage (miles/hours) shall be recorded to satisfy other reporting requirements, e.g., TEMES, cost reports, maintenance scheduling, etc. Administrative use vehicles are not to be excluded from the program because of assignment to special use. Some examples of special use are pickup trucks assigned to station fire departments, trucks modified with temporary racks to facilitate handling certain types of cargo, service oriented trucks such as tire and lube service trucks mounted with small air compressors, and truck tractors used with aviation gasoline (AVGAS) trailers.

3.6.6 ***Formula for Utilization Reporting***. The standard utilization percentage for all alpha codes reporting utilization performance is 100. Ideally, the actual utilization percentage should be equal to the standard utilization percentage. When computing the actual utilization percentage, the "Total Actual Period Miles" (or hours if R, S, U, W or Y are included), are the total miles generated by the activity's equipment during the report period and the "Total Target Period Miles" are the alpha code target miles per unit for the reporting period multiplied by the average inventory:

$$\frac{\text{Total Actual Period Miles (Alpha Code)}}{\text{Total Target Period Miles (Alpha Code)}} = \text{Utilization Percentage}$$

3.6.7 ***Activity Utilization Report, NAVFAC 9-11240/9.*** The Activity Utilization Report, NAVFAC 9-11240/9 (Appendix H, Figure H-15), is designed to keep activity management informed of transportation equipment utilization. Quarterly targets generally reflect 25% of the approved annual target; however, variable quarterly targets may be established to account for fluctuating workload conditions. In any event, the sum of the quarterly targets must equal the established annual target. This report is made up of the following data:

a. Column 1 - Alpha Code. Enter the standard equipment Alpha Code A-N (less Alpha Code F). Alpha Codes R, S, U, W, and Y may be entered, if desired (at the Activity's discretion).

b. Column 2 - Description. Enter the type of equipment, e.g. sedans, buses, etc., assigned to the activity.

c. Column 3 - Annual Target Miles Per Unit. Enter the activity approved annual target per unit for the alpha code.

d. Column 4 - Fiscal Year Beginning Inventory. Enter the number of equipment on hand at the activity for each applicable alpha code. This shall be the actual count of assigned units as of 1 October.

e. Column 5-

(1) Target. Enter the total target miles/hours for the first quarter of the fiscal year. Usually this figure is determined by using 25% of the target miles/hours per unit in Column (3) multiplied by the average inventory in Column (7). This method is only a guideline since variable quarterly targets, based on usage experience, may be used when preparing the report to reflect quarterly fluctuating workloads.

(2) Actual. Enter the total miles/hours accumulated on all equipment in each alpha code during the quarter. This figure is obtained from odometer readings, hour meter readings, or mileage/operating hour reports. Miles/hours accumulated on units excessed/surveyed during this period must also be included. Actual miles driven/hours operated must be recorded at the close of each quarter in order that utilization and vehicle assignments may be properly evaluated.

f. Column 6 - Percent of Use. Enter the utilization percentage obtained by dividing the target miles/hours into the actual miles/hours operated for the period.

g. Column 7 - Average Inventory. Enter the figure obtained by dividing the sum of columns (4) and (8) by two. Calculate to one decimal place.

h. Column 8 - Ending Inventory. Enter the number of vehicles on hand by alpha code at the end of the first quarter. Do NOT count vehicles excessed/surveyed during the period, but DO count new assets received and assigned prior to the end of the report period.

i. Column 9 -

(1) Target. Enter the cumulative total of target miles/hours for the first and second quarter of the fiscal year. The procedure described for determining column (5) may be used, except in this quarter 50% of the annual target miles/hours per unit in Column (3) is multiplied by the average inventory in Column (11) unless variable quarterly targets are used.

(2) Actual. Enter the total miles/hours accumulated during the first and second quarter for all equipment in the alpha code. Be sure to include the mileage or operating hours accumulated on units excessed/surveyed during this six month period.

j. Column 10 - Percent of Use. Repeat Column (6) procedure.

k. Column 11 - Average Inventory. Enter the figure obtained by dividing the sum of columns (4), (8), and (12) by three. Calculate to one decimal place.

l. Column 12 - Ending Inventory. Enter the number of equipment on hand at the end of the second quarter. (Column 8 comments are applicable for determining ending inventory.)

m. Column 13 -

(1) Target. Enter the cumulative total of target miles/hours for the first, second, and third quarters of the fiscal year. The procedure described for determining Column (5) may be used, except in this quarter 75% of the annual target miles/hours per unit in Column (3) is multiplied by the average inventory in Column (15) unless variable quarterly targets are used.

(2) Actual. Enter the total miles/hours accumulated on all equipment in this alpha code during the first three quarters of the fiscal year. Be sure to include the mileage or operating hours accumulated on units excessed/surveyed during this nine month period.

n. Column 14 - Percent of Use. Repeat Column (6) procedure.

o. Column 15 - Average Inventory. Enter the figure obtained by dividing the sum of Columns (4), (8), (12), and (16) by four. Calculate to one decimal place.

p. Column 16 - Ending Inventory. Enter the number of equipment on hand at the end of the third quarter. (Column 8 comments are applicable for determining ending inventory.)

q. Column 17 -

(1) Target. Enter the total target miles/hours for the fiscal year. The procedure described for determining Column (5) may be used, except in this quarter 100% of the annual target miles/hours per unit in Column (3) is multiplied by the average inventory in Column (19).

(2) Actual. Enter the total miles/hours accumulated on all equipment in this alpha code during the fiscal year. Be sure to include the mileage or operating hours accumulated on all units excessed/surveyed during this fiscal year.

r. Column 18 - Percent of Use. Repeat Column (6) procedure.

s. Column 19 - Average Inventory. Enter figure obtained by dividing the sum of Columns (4), (8), (12), (16), and (20) by five. Calculate to one decimal place.

t. Column 20 - Ending Inventory. Enter the number of equipment on hand at the end of the fourth quarter. (Column 8 comments are applicable for determining ending inventory.)

u. Column 21 - Requires Evaluation. This column is to be used to indicate areas of concern. As a minimum, equipment obtaining less than 90% utilization shall be reviewed.

3.6.8 ***Utilization Analysis***. The activity transportation manager will evaluate equipment usage by individual assignment on a quarterly basis through the use of the Activity Utilization Report (NAVFAC 9-11240/9). Activities experiencing a 10% deviation from the established target shall conduct an analysis to determine the cause of the change. Results of this analysis and recommendations for corrective action such as: pooling or sub-pooling assets, resetting assignment targets, etc., should be furnished to the appropriate activity officials for their action.

3.6.9 ***Customer Notification of Equipment Utilization Performance***. Activities that provide transportation equipment on a reimbursable and full-time basis (both PWCs and PWDs) shall prepare a cumulative year-to-date report of equipment utilization for each customer, quarterly, based on these procedures. PWCs and PWDs shall make a concerted effort to obtain maximum utilization performance and maintain control over their corresponding inventories and IO levels by encouraging customer activities to restrict requests for equipment assignments to the minimum essential for the accomplishment of their respective missions.

3.7 ***Guidelines for Achieving Motor Vehicle Fuel Economy***

3.7.1 ***Vehicle Usage Reduction***. Vehicle usage should be reduced to that essential to mission accomplishment. Walking and use of bicycles should be encouraged where appropriate. The most fuel efficient mode of transportation consistent with total cost effectiveness should be employed, considering the following:

a. Bus Systems. Maximize use of scheduled bus systems where economically feasible and justified by passenger density.

b. Pooling. Maximize vehicle pooling. Establish pickup points and follow the practice of every Navy vehicle operating where practicable with a full payload of passengers and/or cargo.

c. Taxi Service. Where economically feasible, establish a radio-dispatched base taxi (feeder system) employing passenger vans for multiple random-passenger transport to connect with or supplement the regularly scheduled bus routes.

3.7.2 ***Operation of Vehicles in a Fuel Efficient Manner***

a. Ensure that the vehicle is the minimum weight and size for the payload. Remove unnecessary loads, but carry maximum payloads. Moving the total vehicle weight and its load accounts for 80 percent of the fuel consumed.

b. Plan and schedule trips to reduce the distance traveled, but avoid idling in heavy traffic.

c. Avoid prolonged engine warm-up.

d. Accelerate slowly. Allow automatic transmission to shift into high range by easing off accelerator as soon as possible. With a manual transmission, shift into high gear as soon as possible without lugging engine. Avoid high acceleration starts.

e. Drive at a steady speed. Anticipate needs for a slower or faster speed to avoid rapid acceleration and braking, as both operations waste fuel. Braking dissipates energy in the form of heat.

f. Reduce vehicle speed to that really necessary. Normally, the best fuel economy is achieved with the transmission in high gear at speeds between 30 and 40 miles per hour (mph). Wind resistance at speeds in excess of 40 mph results in a significant increase in fuel consumption.

g. Eliminate engine idling while waiting.

h. Limit use of electrical accessories. Turn off lights and heater when not needed.

i. Limit use of air-conditioner. Use of this accessory significantly reduces the miles per gallon (mpg) below that achievable without its use.

j. Ensure proper maintenance procedures are followed as outlined in paragraph 4-1.10.6.

3.8 ***Testing and Licensing of Vehicle and Equipment Operators***

3.8.1 ***Policy***. It is the policy of the Navy to ensure that all military personnel, civilian employees, and contractor personnel operating vehicles and equipment on a naval installation are qualified and properly licensed. Most States now have a classified motor vehicle operator's licensing program that includes appropriate examinations to ensure knowledge of traffic laws, ability to read road signs, vision, and color recognition; and to ensure by road test competency to operate a specific class of vehicle. It is Navy policy to accept, without further testing and examination, a valid operator's license issued by a state or jurisdiction as proof that the applicant has achieved the proficiency level to safely operate non tactical Government vehicles up to 10,000 pounds gross vehicle weight (GVW). Examination and testing of motor vehicle operators by non NCF and SOU Navy activities will be limited to personnel required to be licensed to operate vehicles over 10,000 pounds GVW, buses, emergency service vehicles, and special purpose vehicles, and to military personnel not possessing a valid state license. Further, it is Navy policy to establish and conduct training programs for full-time motor vehicle operators (MVOs) to promote driver safety, fuel efficient operation, and reduced vehicle maintenance costs. Additional training shall be provided to all operators of police vehicles, ambulances, fire trucks, fuel trucks, buses, motorcycles, and vehicles used for transporting ammunition/explosives and hazardous material.

3.8.1.1 ***Policy for NCF and SOUs***. All military personnel in the NCF and SOUs who operate government owned or leased equipment under the administrative or operational control of COMSECONDNCB, COMTHIRDNCB, or the Civil Engineer Support Office shall be qualified and licensed in accordance with the provisions of this section. Under no circumstances shall a vehicle be dispatched to a person who does not have in his/her possession a valid U.S. Government Motor Vehicle Operator’s Identification Card (OF-346) that covers the size and type of vehicle requested.

3.8.2 ***Applicability***. The policy and procedures set forth herein are applicable to all naval activities, afloat and ashore, including ships, and will include military and civilian operators of all motor vehicles and construction equipment. These policies and procedures are not applicable to operators of aircraft ground handling and servicing equipment under the cognizance of the Naval Air Systems Command, or to operators of materials handling equipment (MHE) under the cognizance of the Naval Supply Systems Command. Commanding Officers of shore activities and ships have authority to issue the U.S. Government Motor Vehicle Operator's Identification Card (OF-346) under the procedures prescribed herein, and the Construction Equipment Operator's License (NAVFAC 11260/2) in accordance with the procedures set forth in paragraph

3.9. (See Appendix H Figures H-18 and H-19.) Operators of weight handling equipment (WHE) should refer to NAVFAC P-307, Management of Weight Handling Equipment, for testing and licensing requirements for WHE.

3.8.3 ***DoD Contract Personnel***. Contracts and agreements should require that equipment and operators comply with the licensing requirements of state and local motor vehicle laws. DoD contract personnel shall not be issued an OF-346 (U.S. Government Motor Vehicle Operator's Identification Card) or a Construction Equipment Operator's License (NAVFAC 11260/2). DoD contract personnel assigned to operate either government owned or contractor owned/leased motor vehicles/equipment in performance of a contract shall be certified, by the contractor and at the contractor's expense, as being fully qualified to operate the vehicles/equipment to which they are assigned. The prime contractor shall document all operator qualifications. This documentation shall be provided to the contract administrator prior to an operator engaging in any mode of equipment operation. Documentation shall be retained by the contract administrator.

3.8.4 ***Motor Vehicle Operator's Testing and Licensing Procedures.*** The regulations issued by the U.S. Office of Personnel Management govern all agencies in authorizing their civilian employees to operate Government owned/leased vehicles for official purposes and are set forth in Chapter 930 of the Federal Personnel Manual. In addition, activities shall comply with the procedures prescribed herein for military and civilian operators, and with current regulations prescribed in the following publications as applicable to all affected vehicle operators.

a. Management, Acquisition, and Use of Motor Vehicles (DoD 4500.36-R).

b. Commercial Motor Vehicle Safety Act of 1986 (PL 99-570).

c. Driver's Handbook, Ammunition, Explosives, and Dangerous Articles (NAVSEA OP-2239).

d. Navy Transportation Safety Handbook (NAVSEA OP-2165, Volume I)

e. U.S. Department of Transportation, Federal Highway Administration, Motor Carrier Safety Regulation, 49 Code of Federal Regulations, Parts 300-999.

f. State and local laws and regulations.

g. Navy Driver's Handbook (NAVFAC MO-403).

In addition to the foregoing publications and the regulations prescribed herein, Commanding Officers of activities or installations may prescribe more stringent or additional qualifications, requirements, examinations, or certifications as may be required in testing personnel for issuing the OF-346, or for suspending or revoking the

OF-346. Suspension or revocation of the OF-346 for civilian operators, however, shall be consistent with the Federal Personnel Manual.

3.8.5 ***License Applications***. Prospective operators of Government motor vehicles shall be selected and recommended by their military or civilian supervisors based on a prior interview. To obtain an OF-346, Parts I and II of NAVFAC Form 11240/10, Application/Record for U.S. Government Motor Vehicle Operator's Identification Card, shall be completed and signed by the supervisor. Both the NAVFAC 11240/10 and a completed Optional Form 345 (OF-345), Physical Fitness Inquiry for Motor Vehicle Operators, shall be forwarded to the office responsible for issuing the OF-346.

3.8.6 ***Operating Government-Owned/Leased Motor Vehicles on Official Business***

a. Vehicles up to 10,000 pounds GVW. (Includes Truck Van/Carryall, EC 0330)

(1) Civilian

(a) Personnel required to operate a motor vehicle to carry out their assigned duties (Incidental Drivers) may operate a motor vehicle both on and off base when in possession of a valid state (or host nation, if applicable) license for the type and class of vehicle to be operated.

(b) Incidental Drivers not possessing a valid state license may be issued an OF-346 to operate a motor vehicle on base only. The following notation shall appear on the OF-346: "VALID FOR USE ON BASE ONLY".

(c) When the requirement for employment or their primary responsibility is to operate motor vehicles (e.g., Motor Vehicle Operator (MVO)), they shall have in their possession a valid state (or host nation, if applicable) license for the type and class of vehicle to be operated either on or off base.

(2) Military

(a) Shall have in their possession a valid state license or a valid OF-346 for the type and class of motor vehicle to be operated on base. Possession of a valid State Operator’s License is NOT required for the issuance of an OF-346 or NAVFAC Form 11260/2 to NCF or SOU personnel on active duty.

(b) Shall comply with state (or host nation, if applicable) motor vehicle laws and regulations for the area in which the motor vehicle will be operated off base. (States differ widely in their requirements. Some states require a license from their state, some recognize a license from another state, even when expired, and some states recognize a valid OF-346 alone.)

b. Vehicles over 10,000 pounds GVW; Vehicles designed to carry more than 15 passengers, including the driver; Emergency Service Vehicles; and Special Purpose Vehicles.

(1) Civilian

(a) Personnel required to operate a motor vehicle to carry out their assigned duties (Incidental Drivers) may be issued an OF-346 to operate a motor vehicle on base only. The following notation shall appear on the OF-346: "VALID FOR USE ON BASE ONLY".

(b) All operators of motor vehicles (full-time regular and incidental), not restricted to on base only driving, shall have in their possession a valid state (or host nation, if applicable) license and a valid OF-346 for the type and class of motor vehicle to be operated either on or off base. The following notation shall appear on the OF-346: "VOID UNLESS ACCOMPANIED WITH A VALID STATE OPERATOR'S LICENSE FOR CLASS OF VEHICLE BEING OPERATED".

(2) Military

(a) Shall have in their possession a valid state license or a valid OF-346 for the type and class of vehicle to be operated on base.

(b) Shall comply with state (or host nation, if applicable) motor vehicle laws and regulations for the area in which the vehicle will be operated off base. (States differ widely on their requirements. Some states require a license from their state, some recognize a license from another state, even when expired, and some states recognize a valid OF-346 alone.)

c. Driver Education/Training. In addition to driver selection and training set forth in the DoD 4500.36-R, the following training is required (OPNAVINST 5100.12):

(1) Individuals shall not be assigned as a driver of Navy police vehicles, ambulances, fire trucks, and crash and rescue vehicles until they have successfully completed the National Highway Traffic Safety Administration's Emergency Vehicle Operator Course (EVOC) conducted by a Naval Safety Center approved instructor, or other training approved by the Naval Safety Center. Operators shall complete the training every three years thereafter to ensure competency in the safe operation of such vehicles. EVOC instructors shall not instruct unless they have been recertified within the previous three years.

(2) Each individual driver shall meet these additional requirements and fully understand the operational peculiarities of the vehicle prior to being issued a U.S. Government Motor Vehicle Operator's Identification Card (OF-346). All required training shall be documented in the operator's history record file.

(3) For information concerning the above, contact the Motor Vehicle Safety Division at: Commander, Naval Safety Center, Motor Vehicle Safety Division, 375 A Street, Norfolk, VA 23511-4399, commercial (757) 444-1470 or DSN 564-1470.

d. Basic Summary of Licensing Requirements

Up to 10,000 GVW and less than 15 Passengers		
	ON BASE	**OFF BASE**
Civilian Incidental	OF-346 OR valid state license	valid state license
Civilian MVO	valid state license	valid state license
Military (all)	OF-346 OR valid state license	meet state requirements
Military (NCF/ SOU)	OF-346	OF-346
Over 10,000 GVW or more than 15 Passengers		
	ON BASE	**OFF BASE**
Civilian Incidental	OF-346 OR valid state license	OF-346* AND valid state license
Civilian MVO	OF-346* AND valid state license	OF-346* AND valid state license
Military (all)	OF-346 OR valid state license	meet state requirements

* OF-346 shall be annotated "VOID UNLESS ACCOMPANIED WITH A VALID STATE OPERATOR'S LICENSE FOR CLASS OF VEHICLE BEING OPERATED".

NOTE: When only an OF-346 is used for on base operation, the OF-346 shall be annotated "VALID FOR USE ON BASE ONLY".

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3.8.7 ***Requirements for Issue of an OF-346***

a. Comply with paragraph 3.8.5.

b. Pass a physical examination, when required.

c. Satisfactory completion of a written test, devised by the activity, that will ensure the applicants knowledge of all applicable Federal, State, and local laws and safety regulations pertaining to the operation of the specific type vehicle for which the OF-346 is to be issued.

d. Satisfactory completion of an operational road test, devised by the activity and administered by personnel who are licensed and qualified to evaluate the

applicants knowledge and operational ability with respect to each type of vehicle for which the applicant is to be issued the OF-346.

NOTE: The operational road test can be waived for vehicles up to 10,000 pounds GVW, provided the applicant has a valid state license.

e. Applicants will be provided instruction on the operator's responsibility for vehicle safety inspection, accident reporting procedures, fuel efficient operation, preventive maintenance, and official use.

f. An OF-346 shall not be issued if the applicant's state motor vehicle license has been revoked or suspended.

NOTE: When there is any reasonable doubt regarding the authenticity or validity of an applicants' state motor vehicle operators license, a prompt inquiry is required, and a certified copy of the applicant's state driving record obtained. Additional inquiries regarding the applicants driving record can be obtained from the National Driver Register (NDR), National Highway Traffic Safety Administration, U.S. Dept. of Transportation (DoT), Washington, DC 20590.

3.8.8 ***Testing Operators for Transportation of Explosives and Hazardous Material***

a. Regulations established by NAVSEA OP-2239, Driver's Handbook, Ammunition, Explosives, and Dangerous Articles, are to be applied to all applicants of an OF-346 where operators will be engaged in transporting ammunition, explosives, or other dangerous/hazardous materials. Operators shall know, understand, and adhere to the requirements of NAVSEA OP-2165, Navy Transportation Safety Handbook, Volume I and the U.S. Department of Transportation, Federal Highway Administration Motor Carrier Regulations, as well as all State and local laws and regulations regarding the transportation of ammunition, explosives, and other hazardous or dangerous articles.

b. Hazardous Materials/Hazardous Wastes (HM/HW) are pervasive in modern society. One of the most important aspects of HM/HW handling is transportation. The method in which HM/HW is transported can be the determining factor whether an accident or spill could occur, and proper identification of HM/HW will determine the correct accident/spill response measures to be implemented. Department of Transportation (DoT), Code of Federal Regulations (CFR), Title 40, parts 261, 262 and 263, shall apply when identifying, handling or transporting hazardous materials and/or waste.

3.8.9 ***Optional Form 346 (OF-346) Government Motor Vehicle Operator Identification Card***

a. The OF-346 shall:

(1) Be signed by the qualified issuing official.

(2) Be signed by the operator.

(3) Show expiration date.

(4) List/identify the type and class of vehicle the operator/cardholder is qualified/authorized to operate, including capacity.

(5) List/identify all restrictions imposed (e.g., specific driving conditions, geographical areas, automatic shift vehicles only, corrective lenses, etc.), including any restrictions noted on the operators state license.

(6) List/identify any moving violations and/or suspensions, recorded against the OF-346.

b. Each OF-346 shall be numbered and a chronological record of issuance maintained.

c. A history record file shall be maintained for each individual operator/driver who has been issued an OF-346. This file shall contain all the documentation required for issuance/renewal of the OF-346 and related driving record. Pertinent information shall be forwarded to the personnel office for retention in the operator's Official Personnel File (OPF). For NCF and SOU personnel, all pertinent licensing documents will be filed in the individual's License Record and stored in the custody of the command License Examiner.

3.8.10 ***Physical Fitness Review***. Every four years, or less if deemed necessary, activities shall provide for the review of physical fitness of all civilian employees who are required to possess an OF-346 to operate government owned or leased motor vehicles in accordance with standards and procedures established by the Office of Civilian Manpower Management. Activities have the option of conducting this review on a more frequent basis and are recommended to do so for regularly employed MVOs. The Physical Fitness Inquiry (OF-345) is to be completed in accordance with Appendix A, Chapter 930 of the Federal Personnel Manual. A physical fitness review of personnel who only require a valid state driver's license to operate government owned or leased motor vehicles shall be conducted in accordance with the licensing guidelines of the state in which the license was issued.

3.8.11 ***Expiration and Revocation of OF-346***

a. Expiration The OF-346 is valid for the same time frame as the operator's state motor vehicle license or for a period of four years, which ever occurs first. The OF-346 renewal is dependent upon a determination by the issuing authority that the operator continues to meet the prescribed physical standards and continues to

demonstrate competence in driving the motor vehicles the individual is authorized to operate. For NCFs/SOUs, the license examiner shall maintain a tickler file of each operator's license expiration date. Renewal action should start approximately 90 days before the expiration date.

b. Revocation Activities shall establish programs to take adverse, disciplinary, or other appropriate action against drivers who fail to operate government motor vehicles in accordance with applicable laws and regulations. Such programs shall include provisions for the assignment of points for official duty related moving traffic violations and the suspension and revocation of the authority to operate government motor vehicles. As a minimum, activity directives shall include convictions for driving under the influence of alcohol or narcotics and leaving the scene of an accident without identifying oneself as sufficient cause for suspension or revocation of driving privileges. The OF-346 can be suspended or revoked for cause by the activity Commanding Officer or by the designated individual with that authority in accordance with procedures prescribed in the Federal Personnel Manual. A suspended OF-346 can be reinstated after a predetermined designated time period, but a revoked OF-346 shall not be restored until it is determined the operator is fully qualified through evaluation, re-examining, and testing. All revoked or suspended licenses shall be returned to the license office without delay.

3.8.12 ***National Driver Register (NDR)***

a. The Department of Transportation provides a central U.S. driver records identification facility which contains information on drivers whose licenses have been denied, suspended, or revoked. The states provide DoT with data for the register and utilize the register (via computer inquiry) for evaluating initial and renewal applicants for licensing.

b. DoD components may make use of data in the NDR in evaluating applicants for an OF-346. As a minimum, DoD components shall utilize the NDR to verify driving records on initial applicants for an OF-346 when the applicant does not possess a valid state driver's license, or when the issuing activity has reason to suspect a poor driving record of an applicant with a valid state license. DoD components shall not provide the Department of Transportation with data on OF-346 suspensions or revocation action. DoD components may also utilize the NDR when issuing a new or renewal OF-346. Data received from the NDR shall be utilized by the issuing agency to deny or approve OF-346 issue/renewal actions.

c. Activities may obtain instructions and material for participation in the NDR by contacting the National Drivers Register, National Highway Traffic Safety Administration, U.S. Department of Transportation, Washington, DC 20590.

3.8.13 ***Accident Reporting and Traffic Safety Program***

a. DoD policy, as set forth in DoD Instruction 6055.4 (Department of Defense Traffic Safety Program), requires each DoD component to establish and maintain comprehensive traffic safety programs. DoD Instruction 6055.7 (Mishap Investigation, Reporting and Record Keeping) requires each accident involving a DoD motor vehicle to be investigated.

b. The Navy Traffic Safety Program, promulgated by OPNAVINST 5100.12, requires all accidents/mishaps involving Navy vehicles/automotive equipment to be reported in accordance with OPNAVINST 5102.1.

c. All vehicles shall contain a DD Form 518 (Accident-Identification Card) and all drivers involved in accidents shall complete a DD Form 518 and SF 91 (Motor Vehicle Accident Report). Additionally, a copy of local area reporting procedures should be available.

d. Naval activities shall develop safety and accident prevention programs for the safe operation of DoD motor vehicles which shall also include provisions for mandatory use of seat belts (OPNAVINST 5100.12) and a prohibition against the use of tobacco products in all government owned or operated vehicles (OPNAVINST 6100.2).

e. A Traffic Safety Council shall be established at each naval station (OPNAVINST 5100.12). Membership of the council shall include representation from all major commands located at these stations.

f. In any duty period a person may not drive a motor vehicle for more than a total of 10 hours, or after having been on duty for 15 hours, or after eight hours if the vehicle is carrying explosives or other hazardous cargo. A vehicle carrying explosives or other hazardous cargo requiring more than eight hours driving time shall have TWO drivers assigned who may drive no more than eight hours each and total driving time for both driver's shall not exceed 10 hours (OPNAVINST 5100.12).

g. Wearing portable headphones, earphones, or other listening devices while operating a motor vehicle is prohibited (OPNAVINST 5100.12).

3.8.14 ***Commercial Driver's License Program (CDLP).*** The Commercial Driver's License Program (Public Law 99-570) was established by the Commercial Motor Vehicle Act of 1986. The provisions of the Act apply both to interstate and intrastate drivers.

a. The Act requires that drivers of commercial vehicles: (1) Have a single driver's license; (2) be tested for the knowledge and skills needed to drive a commercial motor vehicle; and (3) be disqualified from driving a commercial motor vehicle if the driver commits certain criminal or traffic violations.

b. A commercial vehicle is defined as being a vehicle that:

(1) Has a manufacturer's gross vehicle weight rating (GVWR) or gross combination weight rating (GCWR) of 26,001 pounds or more, or has a GCWR, inclusive of a towed unit with a GVWR of more than 10,000 pounds; or

(2) Is designed to carry 16 or more passengers, including the driver; or

(3) Is of any size and used in the transportation of hazardous materials in a quantity requiring placarding by federal law or regulations.

c. As of 1 April 1992, personnel who operate a commercial motor vehicle on public highways must possess a state-issued Commercial Driver's License (CDL).

d. The following personnel are waived/exempted from the Act's requirements and are not required to obtain/possess a CDL:

(1) Military personnel on active duty who operate equipment owned or operated by the Department of Defense in pursuit of military purposes.

(2) All operators of fire fighting and other emergency equipment.

(3) Operators of farming equipment.

e. All personnel who operate a commercial motor vehicle involving interstate commerce (trade, traffic, or transportation from a place in a state to a place outside of such state) are subject to Controlled Substances Testing in accordance with interstate commerce laws and regulations. Testing shall be conducted in order to meet any (but not limited to) of the following requirements:

(1) Pre-employment;

(2) Biennial (once every two years);

(3) Post-accident (when driver is cited resulting from accident);

(4) Reasonable Cause;

(5) Random Selection.

f. The use of a DoD motor vehicle by a civilian employee to obtain a CDL as a condition of employment meets the Ethics Reform Act of 1989, and therefore can be authorized.

g. Complete details concerning CDL requirements for Controlled Substances and alcohol testing can be obtained from the Department of Motor Vehicles of each State and from the Code of Federal Regulations (CFR 49), Part 382, Part 383 (CDLP) and Part 391, Subpart H, (substances testing) dated 1 October 1995.

3.9 ***Construction and Railroad Equipment Operator Testing and Licensing Program***

3.9.1 ***Applicability to all Personnel***. All personnel who are or may be assigned to duties involving the operation of government furnished construction and railroad equipment shall be tested and licensed in accordance with the provisions of this publication before being permitted to operate such equipment. Equipment listed on Figure 3-2 requires licensing under this program. Operators of weight handling equipment will refer to NAVFAC P-307, Management of Weight Handling Equipment, for testing and licensing requirements. DoD contract personnel will not be issued a government license.

3.9.2 ***Personal and Physical Qualifications***

a. Age. Applicants must have attained their 21st birthday, except that military personnel assigned to activities operating or preparing to operate outside the continental United States must have attained their 18th birthday.

b. Physical Faculties and Fitness. A periodic physical examination by a medical officer is requisite. See Federal Personnel Manual 930-A-1 for civilian personnel. In addition, the minimum requirements described below must be met by the applicant. Conformance to or deviation from these requirements must be noted by the examining medical officer and such findings must be forwarded to the licensing office for inclusion in the applicant's file.

(1) Limbs. Applicant's arms, hands, fingers, legs, and feet must be sufficiently intact and functional to permit safe operation of construction equipment, even under severe operating conditions.

(2) Eyesight. Applicants must have minimum vision of 20/30 Snellen in one eye and 20/50 Snellen in the other eye, with or without glasses/contact lenses.

(3) Color Perception. Applicants must be able to distinguish red, green, and yellow colors regardless of position of colors.

(4) Hearing. Applicant's hearing, with or without hearing aid, must test 15/20 for ordinary conversation in one ear.

(5) Physical Fitness. Applicants must evidence sufficient strength, endurance, agility, and speed of muscular reaction to meet the demands of equipment operation.

Construction Equipment Requiring Licensed (NAVFAC Form 11260/2) Operators

NAVFAC Equip Code	Equipment Description
2520 thru 2521	Distributor; Asphalt/Water
3531	Drill Core
3710	Auger Earth
4230 thru 4270	Crane, Crawler
4310	Ditching Machines
4330 thru 4350	Excavators
4410 thru 4420	Graders
4530 thru 4531	Loaders
4610 thru 4640	Rollers
4730 thru 4750	Scrapers
4760 thru 4805	Off-highway Trucks, Trailers, & Tractors
4820 thru 4851	Tractor, Crawler
4872 thru 4894	Tractor, Wheel
5700 thru 5745	Sweepers
5750 thru 5757	Snowplows
5820 and 5835 thru 5842	Refuse Trucks
6210 thru 6240	Car Railroad, Self-propelled, all types
6530 thru 6580	Locomotives, Railway
8160 thru 8235	Cranes, Truck Mounted
8241 thru 8244	Cranes, Crash
8245 thru 8254	Cranes, Hydraulic
8410 thru 8430	Cranes, Railway

Figure 3-2

c. Physical Defects or Emotional Instability. Notwithstanding the required physical examination, evidences of physical defects, poor attitude, or emotional instability which would render applicants a hazard to themselves and others, or which in the opinion of the examiner would interfere with an applicant's safe or efficient performance of duties, are sufficient cause to disqualify an applicant. For an operator who has previously established qualifications to operate, deviations from the physical requirements are not necessarily totally disqualifying. However, where such deviations exist, competent medical and management authorities will give special consideration to each individual case and may recommend waivers. Waivers may be approved by the activity commanding officer. Waivers will not be granted for applicants who have never before established operator qualifications. Any limitations imposed by reason of physical defects will be noted on the license and record (NAVFAC Forms 11260/2 and 11260/3).

(1) Grounds for Disqualification. Justification for disqualification of the applicant on the grounds of physical defect or emotional instability may be derived by the examiner from interviews, reference to the applicant's medical and personnel records, analysis of accident reports involving the applicant, and the results of specialized clinical tests. Specialized clinical tests by the examiner may consist of the use of devices to indicate the applicant's depth perception, brake reaction time, field of vision, manual dexterity, tendencies to dizziness, or similar pertinent characteristics.

d. Language Ability. Applicants should be able to write essential words in English or the prevailing language in the area of operation. Applicants must be able to speak English or the prevailing language and must be able to read and understand signs and orders applicable to the operation of the equipment.

e. Other Qualifications. Commanding officers of naval activities may require the applicant to meet additional personal and physical qualifications for operating specific items of equipment.

3.9.3 ***Prerequisite Safety Instruction, Written Examinations, and Performance Qualification Tests***. All applicants for initial licensing shall be instructed and tested on all applicable procedures of Safety Precautions, activity safety guidance, and specific safety instructions for the equipment for which the applicant is to be licensed. Initial applicants must pass the written tests and demonstrate operating proficiency by passing the performance qualification test. Written tests may be obtained from the TEMC. Tests for equipment not covered shall be developed in writing and prescribed by each activity.

3.9.4 ***Acceptance of Construction and Railroad Equipment Operator License***. The Construction Equipment Operator License, NAVFAC 11260/2 (Appendix H, Figure H-18), is to be honored throughout the Navy. The standards of the operator's testing and licensing programs covering construction and railroad equipment should be such that only qualified operators are issued licenses regardless of where the licenses are issued.

3.9.5 ***Use and Limitations of Licenses***

a. Significance. The Construction Equipment Operator License, NAVFAC 11260/2, is official evidence that the person named therein has been officially accepted as qualified to operate the types of equipment specified on the license.

b. Authorized Operation. Possession of the Construction Equipment Operator License, NAVFAC 11260/2, does not of itself constitute authorization to operate this equipment. Such authorization must be specifically obtained from the cognizant supervisor charged with responsibility for equipment operations.

c. Use and Possession of Licenses. Operators who have been issued a valid Construction Equipment Operator License, NAVFAC 11260/2, shall have such license on their person when operating construction or railroad equipment.

d. Equipment Unit Familiarity Checkouts. The Navy's construction and railroad equipment inventory consists of a wide variety of equipment types, makes, and models and innumerable variations in the control mechanisms and operational characteristics. For this reason, it is not economically feasible to devise and administer examinations and issue licenses to cover each equipment variation. The objective of the licensing program is to ensure that operators are qualified to operate equipment having the same essential basic functional characteristics. Possession of a valid Construction Equipment Operator License, NAVFAC 11260/2, means that the person holding such license is qualified to operate any unit of equipment with the characteristics of the equipment types authorized on his license provided the operator has been checked out on the specific unit to be operated. Satisfactory checkout is the responsibility of the cognizant equipment operations supervisor.

3.9.6 ***Testing and Licensing Program Administration***

a. Organization. Each activity commanding officer shall designate the official and organization responsible for the management and administration of the program for instructing, testing, and licensing of construction and railroad equipment operators. Normally this shall be the activity public works officer and/or the transportation organization head who is normally responsible for the operation and maintenance of this type equipment. This individual is also responsible for testing and licensing of motor vehicle operators at naval activities.

b. Designation of Qualified Instructors/Examiners. The head of the activity organization responsible for licensing shall select, designate, and train instructors/examiners. These shall be selected from the best qualified licensed equipment operators. Qualified instructors/examiners must hold a license for the specific equipment for which they are conducting operator testing and be completely familiar with all aspects of its safe and effective operation. Further, they shall be competent to effectively instruct, examine, and test license applicants. This includes

the capability to develop and conduct formal courses of classroom instruction on the various aspects of equipment operation and safety.

c. Instructor/Examiner Training. There is no prescribed formal or required course of instruction for training operator instructors/examiners. All manufacturers of equipment which the Navy procures provide operator instruction. It is desirable that operator instructors/examiners and operators attend these manufacturers' schools where available. A list of recommended courses of instruction may be obtained from the appropriate Transportation Equipment Management Center (TEMC).

NCF and SOU License Examiners will be designated in writing by their Commanding Officers and should hold PRCP Skill 590.1 which is obtained by successful completion of the course at either Naval Construction Training Center (NCTC), Port Hueneme, CA, or NCTC Gulfport, MS.

3.10 ***Testing of Construction and Railroad Equipment Operators***

3.10.1 ***Application for Test and License***

a. Purpose of NAVFAC Form 11260/1. A sample format is shown in Appendix H, Figure H-19. This form provides a progressive presentation of facts and developments pertinent to applying for and issuing or denying licenses to applicants.

b. Use of NAVFAC Form 11260/1. Part I of the application is prepared by the applicant and sponsor. Part II is endorsed by the applicant's supervisor. Parts III and IV are prepared by the license office. The use of appropriate spaces in Parts III and IV and the preparation and routing of copies needed simplify and reduce paperwork.

3.10.2 ***Status Control of Applications for Tests and Licenses***. Use of a status control sheet will enable visual progress control of individual applications by means of brief entries for each step in the application, test, and license process. Its use enables follow-through action and facilitates scheduling tests and examinations. Following are some of the items which might be included on a status control sheet:

a. Applicant's name.
b. Description of equipment license requested.
c. Date of supervisor's request for test and license.
d. Date and status of action notice to supervisor.
e. Date and results of physical examination.
f. Date and results of written test and prerequisite information if required.
g. Date and results of performance qualification test.
h. Date and status of license issuance or denial.

3.10.3 ***Physical Examinations and Clinical Tests***. The form and content of physical examination certificates may be determined by the medical office making the examination, with due consideration for the provisions of this publication. The United

States Civil Service Commission Certificate of Medical Examination, Standard Form 78, is an acceptable form for this purpose. Clinical test results may be presented in narrative form or graphically as devised locally.

3.10.4 ***Written Examinations***

a. Formats. Test formats have been prepared in question and answer form. These formats, complete with approved questions and correct answers, are available from the TEMC. These test formats cover a variety of the most commonly used equipment. Tests for equipment not covered will be developed locally using the prescribed test formats as a guide.

b. Use of Written Examinations. The testing procedure seeks to determine whether the applicant knows the answers to questions asked in the written examination involving nomenclature, equipment application, safety, operator maintenance, and similar data.

c. Evaluating and Scoring Written Examinations. Answers should not be marked wrong if the response is substantially correct but not well stated. Although the answers that are provided with the tests have been screened and approved, equipment operation is not an exact science. Some answers, however, are matters of fact and are not subject to interpretation. In cases of dispute, the judgment of the examiner will be final.

d. Grading of Examination and Record. Incorrect answers should be circled. The required percentage of correct answers is 70 percent. The latest graded examination shall be filed in the operator license jacket and shall not be returned to the applicant; however, the applicant should be notified of the grade attained and all incorrect answers critiqued.

3.10.5 ***Training Program for NCFs/SOUs***. Poor equipment operating practices and habits cause mishaps and premature equipment breakdowns. An effective training program on the procedures for issuing or renewing a license reduces poor practices, mishaps, and habits. In addition to being supervised by the license examiner, this training program must be supervised by the equipment officer, safety officer, the applicant's supervisor, and other qualified operators.

a. Training License. Equipment training licenses are issued to personnel who meet all the required physical and mental qualifications to be licensed, but need more on-the-job training on a piece of equipment. The training license expiration date should not exceed 30 days from the date of issue and must have the work learner stamped on the face. The license is only valid when the trainee is accompanied by a qualified instructor or when the trainee is using Navy equipment in a controlled training environment. Training licenses are not required to operate Navy equipment as part of formalized training programs given at the Naval Construction Training Centers.

b. Course of Instruction. In addition to learning how to operate equipment, a trainee is required to study a course of instruction. This locally prepared course must include, but need not be limited to, the following subjects.

(1) Fundamentals of vehicle operation, including the functions and proper use of major assemblies and attachments and equipment limitations.

(2) Operator responsibilities before, during, and after operation maintenance.

(3) Safety precautions and accident prevention through safe driving practices.

(4) Traffic laws, rules and regulations, hand signals, traffic signs, signals, and markings.

(5) Accident reporting procedures and other forms and reports that an operator is responsible for completing.

3.10.6 ***Performance Qualification Tests***

a. Formats. Formats have been prepared to conform to functional groups, corresponding to operational characteristics of the specific types of construction or railroad equipment involved. These test formats cover a variety of the most commonly used equipment. Tests for equipment not covered will be developed locally using the prescribed test formats as a guide. These formats, complete with notes to the instructor on evaluation criteria, are available from the TEMC.

b. Use of Performance Qualification Tests. The purpose of the performance qualification testing procedure is to enable a qualified examiner to evaluate the operating skills of an applicant. It is assumed that the applicant, because of experience and/or training, is sufficiently capable of performing the various tasks called for by the problem situations described in the tests. These situations have been carefully devised to reflect typical equipment operations so that they can be set up and administered with the most economical use of funds, facilities, man-hours, and equipment time.

c. Evaluating and Grading Performance Qualification Tests. Performance qualification tests will be graded as satisfactory or unsatisfactory. If subsequent "make-up" tests are authorized, only those items that were checked adversely need be tested again. The examiner shall initial and date each "group" on the performance qualification test to denote completion of that group. In evaluating these tests, examiners must be guided by the applicant's performance rather than his experience, background, and history. The latest graded performance test shall be filed in the operator's license jacket.

d. Notation on Failures. A short line is provided before each item on the performance qualification test form. The examiner will make a check mark to denote that the applicant has correctly performed and/or answered the question. The examiner will indicate by zero or circle where applicant fails to perform or answer correctly. The examiner shall provide a short written explanation of all failures. Items on test forms not applicable will be marked N.A.

3.11 ***Test Facilities and Equipment***

3.11.1 ***Test Facilities***. Test facilities include course sites, flags, barricades, and similar items or actual working conditions. These are described in detail in each performance qualification test under the operating problem or situation requiring such facilities. Figures provided with the tests illustrate suggested course layout, equipment positioning and operation, and related items for certain performance qualification tests.

3.11.2 ***Test Equipment***. Test equipment refers to units of equipment in use for testing purposes. Ordinarily these units are used for other work and assigned for test purposes as required. Caution should be exercised to ensure that the test equipment is in a safe operable condition when furnished to an applicant for operation. The unit of construction or railroad equipment furnished to the applicant must conform to the same basic functional characteristics, attachments, types of control, and similar details as the equipment noted in the application for test and license, NAVFAC 11260/1. See sample form in Appendix H, Figure H-19.

3.12 ***Licensing***

3.12.1 ***Essential Elements of Construction Equipment Operator License (NAVFAC Form 11260/2).*** The essential elements of NAVFAC 11260/2 and the Construction Equipment Operator License Record, NAVFAC 11260/3, are identification, qualification, limitation, authorization, and validity. See sample forms in Appendix H, Figures H-18 and H-20.

a. Identification. The principal identifying entries are the name of the operator and the license number.

(1) Name. The operator's name, as contained in official personnel records, should be noted in this space. Use of permanent personnel identification numbers is optional.

(2) License/Card Number. The entry in this space calls for a sequential number not likely to be duplicated and one that can be issued by any naval activity. It incorporates a two part figure. The initial part is the activity number or unit designation of the original license issuing activity. The second part is the appropriate sequential number in order of issue. The license number remains in force, no matter where the operator is serving, until the operator's military or civilian service is terminated.

b. Qualification. Entries in this category are grouped under the general heading "Equipment Type Data." These comprise descriptions of the functional characteristics of the types of equipment that the operator is licensed to operate.

(1) Basic Unit. Typical notations in this space are grader, crawler tractor, and front end loader. Also included is the type of controls, such as hydraulic, mechanical, and air.

(2) Attachment. Typical notations in this space are bucket, backhoe, blade, forks, and concrete breaker.

(3) Type of Control. Where this is a variable, typical entries may be hydraulic (H), electrical (E), and mechanical (M).

c. Physical Limitation. Entries in this category are shown only on the license and license record cards, NAVFAC Forms 11260/2 and 11260/3, as application under the headings "Vision" and "Hearing" and so annotated on the license.

(1) Vision. Typical notations for deviations from normal may be "glasses" and "daytime."

(2) Hearing. A typical notation for deviation from normal may be "hearing aid."

d. Authorization. Evidence of official authorization, as a duly licensed construction equipment operator, is contained in the initial heading under "Licensing Data."

(1) Issuing Activity. The proper entry under this heading is the abbreviated name of the issuing activity. For example, WPNSTA Yorktown or NAVSHIPYD Norfolk.

(2) Examiner. The proper entry under this heading is the printed name and full signature of the examiner.

(3) Date Issued. Abbreviated entries of the issuing date, month, and year are to be made.

e. Validity. License to operate equipment type as noted specifically under "Equipment Type Data" remains in force until revoked. If the license to operate some equipment types is revoked, the license to operate whatever unrevoked equipment types are shown on the license remain valid. As noted in paragraph 3.13.3 of this publication, the operator must turn in the license (NAVFAC 11260/2) to the licensing activity when all equipment types have been revoked.

(1) Date Revoked, NAVFAC 11260/3. Abbreviated entries of the date, month, and year of revocation are to be made.

(2) Birth Date. Abbreviated entries of the date, month, and year of the operator's birth are to be made.

3.12.2 ***History Record and License***. The Construction Equipment Operator License Record, NAVFAC 11260/3 (Appendix H, Figure H-20), is sufficient in size to include the several types of equipment one operator is licensed to operate. This form should be retained in the file as a permanent record and backup data for the preparation and issuance of the Construction Equipment Operator License, NAVFAC 11260/2.

3.13 *License Issuance, Renewal, Suspension and Revocation*

3.13.1 ***License Issuance***. The Construction Equipment Operator License, NAVFAC 11260/2, shall be issued or validated only when all requirements for the specific license are complied with and attested to, in writing, by an authorized examiner.

3.13.2 ***Renewal***

a. Expiration and Renewal Frequency. The Construction Equipment Operator License, NAVFAC 11260/2, shall be renewed every two years for all equipment types authorized on the license. Expiration dates for all authorized equipment shall not exceed two years from the date of initial issuance.

b. Procedure. The licensing office of the activity holding the operator's license file will use a tickler file to flag renewal action approximately 90 days before the expiration date. Arrangements for renewal examinations and tests must be made early enough to enable all items to be cleared before the expiration date. Expiration and renewal or issue dates shall be noted on NAVFAC Forms 11260/2 and 11260/3.

c. Requirements for Renewal. The following elements of the examination and test complex are required every two years:

(1) Physical examination.
(2) Clinical tests for reaction time, etc.

3.13.3 ***Suspension and Revocation***. Licenses may be suspended or revoked for cause at any time by the licensing office. Licenses will be automatically suspended when the operator is charged with a reportable accident as defined in OPNAVINST 5102.1, Accident Investigation and Reporting. In such cases, the requirements for renewal shall consist of those elements in paragraph 3.13.2.c considered necessary by management after investigation and consideration of the circumstances relating to the accident and any additional factors devised by the examiner after review of the accident report. In cases of suspension for chargeable accidents, the renewal examination and tests shall be given not later than 15 days after suspension where practical.

a. Date Revoked Justification. Notations in the "Date Revoked" column of NAVFAC 11260/3 should be initialed by the examiner. Supporting justification for this action shall be kept in the equipment operator's license file.

b. Revoked License Return. When all equipment types are revoked, the operator license (NAVFAC 11260/2) shall be returned to the license office without delay.

3.14 ***Construction Equipment Operator License Jacket***. All relevant forms and supporting data shall be kept in the operator's license jacket. There shall be an individual jacket kept for each applicant and operator. Each operator's license jacket shall contain the following as a minimum:

a. Application for Construction Equipment Operator License, NAVFAC 11260/1 or equivalent.

b. Construction Equipment Operator License Record, NAVFAC 11260/3 or equivalent.

c. Copy of Construction Equipment Operator License, NAVFAC 11260/2.

d. Certificate of Medical Examination CSC Standard Form 78 or equivalent and any clinical tests.

e. Written test (graded and signed by examiner and dated).

f. Performance test (graded and signed by examiner and dated).

g. Training records pertinent to licensing.

3.15 ***Use of Government-Owned Transportation Equipment by Commercial Contractors***. DoD policy is for contractors to provide all necessary transportation equipment needed for contract performance when an activity transportation function or subfunction is to be contracted (service contract), or when an entire Government-owned facility is to be contractor operated (GOCO). However, when excess Government-owned equipment is available, and it is determined to be in the best interest of the Government for the contractor to use the equipment, it will be released to the contractor in an "as is" condition and used by the contractor for contract performance. All equipment furnished to a contractor should be identified/listed in the contract by registration number, type (description), and status code.

3.15.1 ***Equipment Replaced by the Government***. Government furnished equipment (GFE) provided to a contractor that will be replaced by the Government will be assigned status code "E". An IO will be established to properly validate these requirements.

3.15.2 ***Equipment Not Replaced by the Government***. All Government-owned transportation equipment provided for use by commercial contractors, that will not be replaced by the Government will be assigned status code "C". An IO will not be established for this equipment.

3.15.3 ***Vehicle Identification in Contract Use***. Transportation equipment acquired for official purposes by a naval activity and operated by a contractor will be marked to indicate U.S. Government ownership in accordance with the DoD 4500.36-R and this publication. For "C" status equipment, special markings such as contract number, name of firm, etc., may be used when approved by the cognizant TEMC.

3.16 ***Motor Fuel Security Measures.*** The increasing cost and scarcity of motor fuel may require special security measures in certain areas to prevent theft. A list of suggested fuel security measures for various areas is available from the TEMCs. A Fuel Automated Dispensing System (FADS) can function both as a theft deterrent and as an inventory control system.

3.17 ***Recording Fuel Issues by Service Stations and Fuel Trucks***. Procedures shall be established at each activity responsible for fuel management to ensure adequate fuel accountability. Methods existing for dispensing and accounting for fuel issues vary among activities from totally manually operated to fully automated systems.

3.17.1 ***Systems***. Activities interested in updating or changing their system of dispensing and/or control of fuel may request assistance from their cognizant EFD/TEMC.

3.17.2 ***Records***. Each activity shall maintain accurate records of fuel issues by equipment registration/identification number. Dispensing pump meters shall be checked daily and reconciled with issue records to ensure fuel dispensed is accounted for. Records of fuel issue by equipment registration/identification number will be maintained by the Transportation Department/Division for management evaluation. Records of bulk issues to fuel servicing tank trucks and the subsequent issues to equipment shall similarly be recorded and reconciled.

3.18 ***U.S. Government Fleet Services Cards***. U.S. Government Fleet Services Card and commercial credit cards have been authorized for use by U.S. Government agencies in obtaining commercial service station motor vehicle fuel and services. Although the use of Fleet Services Cards is not mandatory and you are free to arrange for an alternative method of paying for fuel if you so choose, GSA strongly encourages you to take advantage of this new technology. The U.S. Government Fleet Services Cards may provide the following:

* Fuels: Regular unleaded, premium unleaded, special unleaded, regular leaded, premium leaded, aviation grade, unleaded for boats, diesel and diesel marine fuel, fuel oil, and aviation turbine fuel. Alternate fuels: methanol, ethanol, gasohol, liquefied petroleum gas (LPG) (Propane/Butane), and compressed natural gas (CNG).

* Lubricating services and lubricants (including differential and transmission lubricants).

* Ethylene glycol antifreeze.

* Oil filter elements and servicing.

* Air filter service.

* Battery charging.

* Tire and tube repairs.

* Washing and cleaning.

* Mounting and dismounting snow tires and chains.

* Emergency replacement of spark plugs, fan and generator belts, windshield wiper arms and blades, lamps, etc.

3.18.1 ***Application***. The U.S. Government Fleet Services Card must only be used when motor pool or similar type facilities are not readily available. Detailed information on the acquisition, accounting, and control of U.S. Government Fleet Services Cards may be obtained by faxing to 1-800-817-8846 or writing to Wright Express Corporation, 97 Darling Avenue, South Portland, MA 04106.

3.18.2 ***Use of Self-Service Gasoline Stations***. Operators of Navy motor vehicles who purchase gasoline with the Fleet Services Cards are required to use service stations that will accept Government cards. Listings of these service stations are available through Wright Express Corporation. When the Fleet Services Card is used for the purchase of gasoline, operators shall be instructed to use self-service gasoline pumps in order to reduce costs by avoiding the fuel dispensing labor cost resulting from full service. Unless specified by the engine manufacturer, regular grade unleaded gasoline will be used.

3.19 ***Payment of Highway Tolls***. Procedures shall be established at each activity for the payment, or reimbursement of payments, for highway tolls. The head of the transportation division is responsible for ensuring the established control procedures are followed and, as a minimum, will document the monetary value, date of issue, purpose, valid receipts, and the signature of the person payment was issued to for each transaction. The procedure must contain all required information for audit purposes.

3.20 ***Fire Extinguishers on Transportation Equipment***. Except for the items listed in paragraph 3.20.1, it is the Navy's policy to eliminate fire extinguishers on automotive vehicles operated on Government property or within the confines of municipal or metropolitan areas contiguous thereto where fire protection is normally provided.

3.20.1 ***Exceptions***. Fire extinguishers shall be installed on the following types of vehicles.

* Buses.

* Ambulances.

* Vehicles regularly used to carry explosives, acids, compressed gases, fuel, or other hazardous/dangerous materials.

* Police and patrol vehicles.

* All emergency vehicles of structural and crash fire departments.

* Vehicles dispatched on trips where fire protection is not readily available; vehicles occasionally used to carry explosives and other dangerous articles; and vehicles hauling equipment/cargo covered with tarpaulin in the body of the truck are to be provided with fire extinguishers on an incidental basis, dependent upon the type of cargo and environmental conditions.

* In an emergency where it is considered essential that a fire extinguisher be temporarily installed in an automotive vehicle other than those listed in the preceding paragraph. The extinguisher is to be removed when the emergency has expired.

3.21 ***Use and Installation of Seat Belts***. Policy and guidance pertaining to the use of seat belts in Navy motor vehicles (excluding tactical and combat vehicles) are provided in OPNAVINST 5100.12. Installation of seat belts and vehicle modification shall meet Federal Motor Vehicle Safety Standards 208, 209, and 210 (49 CFR).

3.21.1 ***Motor Vehicle Seat Belt Requirement***. Federal Motor Vehicle Safety Standard Number 208, Occupant Crash Protection, (49 CFR 571.208) requires the installation of occupant restraint systems for designated seating positions in all new vehicles manufactured for sale in the United States. The term "designated seating position" does not include auxiliary seats, such as jump seats.

a. Passenger Cars. Each new passenger car manufactured after January 1, 1968, must have a lap/shoulder belt at the driver's seat and at the right front passenger's seat and either a lap belt or a lap/shoulder belt at all other seats.

b. Trucks and Multipurpose Passenger Vehicles with a gross vehicle weight rating of 10,000 pounds or less. [A multipurpose passenger vehicle (MPV) is a motor vehicle with motor power designed to carry **16** persons (including the driver) or less which is constructed on a truck chassis, such as a van/carryall, or with special features for occasional off-road use.] Except for the vehicles listed below, each new light truck and MPV manufactured on or after January 1, 1976, must have a lap/shoulder belt at

the driver's seat and at the right front passenger's seat and must have either a lap belt or a lap/shoulder belt at all other seats.

- Open-body type vehicles, such as a Jeep.
- Walk-in van-type trucks, such as the GMC step van.
- Convertibles.
- U.S. Postal Service vehicles.
- Vehicles with chassis-mounted campers.
- Motor homes.
- Forward control vehicles, such as Chrysler, GM, and Ford vans.

c. Trucks and Multipurpose Passenger Vehicles with a gross vehicle weight rating greater than 10,000 pounds.

(1) Each new heavy truck and MPV manufactured after July 1, 1971, must have either a lap belt or a lap/shoulder belt at all seats.

(2) Buses manufactured after July 1, 1971, must have either a lap belt or a lap/shoulder belt for the driver. No belts are required at other seating positions. (A bus is a vehicle specifically designed and manufactured to carry more than 16 seated occupants.)

d. Commercial vehicles of foreign manufacture purchased for use outside the United States, its territories and possessions, shall meet all applicable safety requirements of the country in which they are to be used.

3.21.2 ***Special Requirements***

a. Individuals shall not ride in seating positions where safety belts have not been installed or are inoperative, except as specified herein.

b. Passengers (e.g. work crews) shall not ride in the cargo areas of motor vehicles except when the vehicle has been modified (e.g. side-facing seats) for such purposes in accordance with Federal Motor Vehicle Safety Standards (FMVSS) 208, 209, and 210. Seat belts that are installed on side-facing seats in accordance with Motor Vehicle Seat Belt Assembly Installations (SAE J800c), are not subject to the strength tests of FMVSS 207, paragraph S4.2 or FMVSS 210, paragraphs S4.2 and S5. If the vehicle is not equipped to carry passengers in a seated position with properly installed safety belts, then a second vehicle shall be requested to transport the work crew. However, per CNO message 171757Z of July 86:

"When operational requirements dictate, on a case by case basis, the commanding officer may authorize transportation of work crews in cargo vehicles providing the following criteria are met:

(1) The sides and the end must be enclosed with stakes measuring 36 inches from floor of the truck; and

(2) Only the exact number of workers may be transported that are required to do the job."

Note: NCF and SOUs are exempt from the above regulation under CNO Ltr 11200 Ser N09F/500814 of 29 Aug 94 when transporting troops in Tactical Vehicles designed to transport troops and designated as essential transport by the unit Commanding Officer.

c. The driver or operator of any Navy motor vehicle is responsible for informing all passengers of safety belt requirements.

d. It is the responsibility of the senior occupant or rider of the vehicle to ensure compliance by all passengers with these requirements.

3.22 ***Installation and Use of Warning Lights and Sirens***

3.22.1 ***Application***

a. Warning Indicators. Warning or right-of-way indicators are required in certain vehicle and equipment operations. The installation of warning lights and sound devices shall in all cases comply with local and state regulations and laws controlling the application of such devices. Normally, such devices are procured as original equipment by COMNAVFACENGCOM on certain special application vehicles and equipment. The requirement for and the installation of warning devices on vehicles and equipment not so equipped by COMNAVFACENGCOM will be approved in writing by the Commanding Officer.

b. Responding to Emergency Calls. Military services police, fire, rescue vehicles and ambulances responding to emergency calls will use sirens and emergency warning devices only in accordance with standard operating procedures as set forth in pertinent directives, local regulations, and civil laws of the locality in which the vehicle is operated. To ensure safe operation, regardless of permissible speed limits, vehicles will be operated within the limits dictated by road or traffic conditions.

3.23 ***Radio-Dispatched Taxi and Material Transportation Systems***

3.23.1 ***Radio-Dispatched Taxi Systems***. Installation of radio-dispatched taxi systems in highly populated or widely dispersed activities is encouraged. Taxi service to supplement mass transportation service for official business will contribute to reductions in Class B requirements and provide for greater availability of equipment assets. The cognizant TEMC can provide assistance in determining the feasibility of installing radio-controlled taxi service.

3.23.2 ***Radio-Dispatched Material Transportation Systems***. The use of radio-dispatched trucks and vans to pick up and deliver material, parts, and supplies is usually feasible in industrial and congested areas. These systems have potential for reducing the number of vehicles, fuel consumption, and general costs by greater utilization. The general procedures that apply to radio-dispatched taxis also apply to material systems.

3.24 *Vehicle Size, Weight, and Load Limitations*

3.24.1 ***Highway Use***. It is the policy of the Navy to conform to state and local laws, regulations, and ordinances relating to motor vehicle weight and size limitations. Limitations on the weight and dimensions of vehicles that move over public highways are determined independently by each state and may vary considerably. Where interstate movements are involved, activity transportation directors or equivalents should ensure that they have a current vehicle size and weight limitation publication from state authorities of the states in which they plan oversize or overweight movements.

3.24.2 ***State Laws***. State laws provide that no vehicle exceeding any legal limitation of weight or dimension may move over public highways unless prior permission for such movement is granted by the state or states concerned. Limitations on the weight and dimensions of vehicles are necessary to ensure safe passage over the roads and bridges and to prevent damage to highway facilities.

3.24.3 ***Permits***. Vehicles exceeding the legal weight or size limitations shall not be moved over public highways by or for any agency of the Navy unless prior permission is granted by the state or states concerned.

3.24.4 ***Navy Representatives Authorized To Obtain Permits***. The activity Commanding Officer shall designate an activity representative (normally the Transportation Superintendent of the Public Works Department) to maintain liaison and direct communication with the authorized state representative for the purpose of obtaining permits for movement of overweight, oversize, or special military loads in vehicles owned, leased, or rented by the Navy.

a. The authorized representative of the activity shall, when contacting the state representative in regards to an oversize, overweight, or other special Navy vehicular movement, furnish the necessary information for a reasonable evaluation of the effects the movement will have on the highway facilities involved. The information furnished shall include, but not be limited to the following:

(1) Type of equipment, with manufacturer's name if available, pertinent accessories, gross weight, axle or track loads, spacing, and the height, width, and length of the loaded or unloaded vehicle.

(2) The U.S. Navy identification number of the unit(s).

(3) Origin and destination of the movement.

(4) Proposed date and time of the movement.

(5) Nature of the cargo (within security limitation).

b. In cases where the local activity cannot make satisfactory arrangements for a movement permit, the problem shall be referred to the cognizant TEMC for further assistance. When unsuccessful in obtaining the necessary movement permit, the TEMC shall refer the problem to COMNAVFACENGCOM (Code 134).

3.24.5 ***Records.*** Documentation of all negotiations with state representatives on movement permits shall be maintained in activity files.

3.24.6 ***Truck, Truck Tractor, and Trailer Load Ratings***

a. Gross Vehicle Weight Rating (GVWR). Commercial trucks, including those procured by the Navy, are rated by the manufacturer by GVWR. The GVWR of a truck is the total weight of the loaded vehicle on the tires at ground contact. The GVWR is the sum of the weights of chassis, body, cab, accessories, equipment, tires, fuels, lubricants, coolants, driver (estimated at 175 pounds), and the payload.

b. Curb Weight (CW). The CW of a truck is the scale weight of the vehicle fully equipped, ready to operate, but without driver or payload. The CW includes the weights of chassis, body, cab, accessories, equipment, tires, fuels, lubricants, and coolants.

c. Payload (PL). The PL of a vehicle is the allowable rated load that a vehicle can transport. The PL is computed by subtracting the sum of the CW and the weight of the driver from the GVWR.

d. Gross Combination Weight Rating (GCWR). The GCWR rating of a tractor and trailer is the total weight of a fully loaded tractor-trailer unit on the tires at the ground. The GCWR includes the sum of the weights of the truck tractor chassis, cab, accessories, equipment (including fifth wheel), tires, fuels, lubricants, coolants, driver (175 pounds), with the semitrailer and its payload included. In the case of a truck in combination with a towed full trailer, the GCWR is the rated GVW of the truck plus the weight of the trailer and its payload.

3.24.7 ***Payload Weight Distribution***. It is important that the PL weight be properly distributed over the body so that the percentage of weight carried by the front axle and that carried by the rear axle will be in the ratio for which the vehicle was designed (see Figure 3-3).

CORRECT LOADING PRINCIPLES

Figure 3-3

3.25 ***Operation of Construction and Weight Handling Equipment***

3.25.1 ***Equipment Management***. Sustained productive use of assigned construction and weight handling equipment is necessary to justify continued retention and ownership. Satisfactory productivity of an equipment fleet is principally achieved as a result of organized action directly controlled by technically competent and informed supervision. The details and forms of management control of an equipment fleet and its operating personnel are not specified herein because of the varied conditions and types of maintenance and construction work performed throughout the Navy. It is the basic responsibility of each transportation division to have equipment available, and to assign equipment and operating personnel to accomplish job performance.

3.25.2 ***Work Plan***. The work plan must be based on the priority and type of work to be accomplished. Initial and continuing surveys by management are necessary to determine foreseeable equipment needs. A useful planning tool for this purpose is a graphic chart of projected work adjusted each month to show the probable work demands over the next three months. It is expected that long range projects and work of a recurring nature will constitute most of the projected work. Scheduling equipment and operator requirements must be closely coordinated between the transportation and other departments concerned with work accomplishment. Equipment and operators must be available to respond to emergency situations.

3.25.3 ***Equipment and Personnel***. Obtaining and furnishing the proper equipment and qualified personnel to accomplish the workload is a basic function of the transportation department. Knowing the location, availability, and suitability of these resources is a practical and continuing requirement. Such information can be displayed visually on a control board or similar device. The following items are related to this control technique:

a. Inventories of equipment reflected by up-to-date record cards.

b. Properly marked and identified equipment.

c. Locator devices for personnel and equipment.

d. Direct and rapid means of communication, responsive to the nature of the workload.

3.25.4 ***Work Generation***. The daily requirement for construction and weight handling equipment man-hours and equipment-hours of service are generated by the needs of various organizational elements of each naval activity. A current list of organizational representatives authorized to request work involving the use of equipment will be available to those who authorize or supervise equipment operations. The procedure for requesting services and channeling such requests shall be clearly written and made available to all personnel concerned. This procedure shall be specific and concise for both routine and emergency situations.

3.25.5 ***Work Requests***. Requests for work must be exact and complete. If the work is well defined, a measure of control and planning assistance is provided by outlining the time, dimensions, and extent of each job. Omissions, errors, and vague statements will be rectified by direct contact with personnel concerned or by inspection of the job site before the work is authorized. A test of the clarity and usefulness of a work request is whether an equipment supervisor can use its contents, without other explanation, to plan and perform the required service.

3.25.6 ***Work Classification***. The work of the equipment fleet is, in most cases, related directly to the needs of organizational elements of the naval activity or supported activities involving operations, production, supply, ordnance, public works, and similar functions. The nature of the work of these organizational elements is predominantly routine, scheduled, and orderly. There is no reason why the same emphasis on routine, scheduled, and orderly work can not be reflected by the equipment fleet management serving these elements. The three appropriate classifications of work to be accomplished by the construction and weight handling equipment fleet can be described as "scheduled jobs," "immediate unscheduled jobs," and "deferrable unscheduled work."

a. Scheduled Jobs. If the priority of authorized work is not classified and handled as "scheduled jobs," intelligent planning and effective control of the equipment operating force is made more difficult. Although most construction and weight handling equipment is mobile or portable, its uncoordinated shifting from one job site to another on an unscheduled basis is costly and wasteful. The application of priorities to scheduled jobs is necessary. Often equipment supervisors prefer to arrange for the order and the time in which jobs should be done to conform to the best interests of their own organization and the environmental factors at the job site. Although this viewpoint is understandable, it shall be tempered by the needs and related commitments and schedules of the requesting group. A complex system of priorities is discouraged.

b. Immediate Unscheduled Jobs. Management must expect the occurrence of unforeseen situations, including some of an emergency nature. These situations may require immediate and perhaps around-the-clock use of one or several units of the equipment fleet for a short period of time. The classification of "immediate unscheduled jobs" shall apply only to unforeseen and unscheduled jobs requiring immediate performance and not likely to continue for a prolonged period. If such continuance is indicated the jobs can be included with the "scheduled jobs" and designated as such. Management must be experienced with the role of construction and weight handling equipment and operators in emergency and contingency plans and be prepared to commit them on an "immediate unscheduled" basis.

c. Deferrable Unscheduled Work. Special circumstances may temporarily defer essential work. Temporary lack of funds, unavailability of equipment or operators, and unfavorable environmental conditions are typical causes of deferment. Essential work shall not be deferred indefinitely. The circumstances dictating deferment shall be reviewed periodically to determine whether they are still valid. Deferrable unscheduled

work shall not be confused or identified with the normal backlog of scheduled jobs not started, or with scheduled jobs where progress has been stopped temporarily.

3.25.7 ***Job Authorization***. The concept of action through the chain of command applies particularly to job authorization. Written delegation of authority (whereby supervisory personnel are authorized to approve jobs involving construction and weight handling equipment and operators) shall be a matter of record. The authorizing signature on a job order or movement order means the signer is authorized to commit those resources, is fully informed on all aspects of the job, and has approved the actions ordered. No job shall be performed without proper job authorization. When circumstances require verbal authorization, this shall be followed immediately with a written confirmation.

3.25.8 ***Job Planning***. The job plan is the framework for placement, operation, flow, support, and interaction of the equipment. A job plan must be well thought out to avoid confusion and delay and shall be structured to conserve material, time, and money. Some of the elements of a job plan are as follows:

a. Exact specifications of the work to be done. A job order attached to the job plan will suffice if the job order is sufficiently detailed and complete.

b. Sequence of all job phases.

c. Scheduled completion time for each phase and the overall job.

d. Equipment requirements for each phase. These requirements can be best obtained through consultation with the transportation supervisor or his/her designated representative.

e. Personnel requirements and estimated man-hours for each phase.

f. Material requirements and estimated cost for each phase.

g. Clearance permits, special licenses, and similar items pertinent to the job.

h. Environmental conditions such as climate, wind, terrain, drainage, soil mechanics, visibility, access roads, unusual hazards, and similar items.

i. A record of progress when units of equipment operate individually to perform routine or repetitive tasks can render a job plan unnecessary. In such cases, the job order authorizing and defining the work can be considered the job plan for that operation.

3.25.9 ***Job Supervision***. There is no substitute for competent supervision. This is especially true when field supervisors know the job plan and are technically competent to direct its accomplishment as smoothly and safely as the resources under their control

permit. This on-the-scene level of management control does not relieve the operators and operating crews of their specific responsibilities. It does provide a more assured working climate and an accepted point of referral for needed decisions beyond those required by operators and work crews. The supervisor in the field may be considered the focus around which otherwise independent equipment units and operators unite to form an operating team. As an aid to job supervision and management control, each activity is required to keep a record of starting and stopping time for each job; including travel time, idle time, downtime, and fuel consumption for each unit of equipment.

3.25.10 ***Equipment Selection and Application***

a. Importance of Proper Equipment Selection. The ideal basis for equipment selection and application is to acquire the most suitable equipment to accomplish each job undertaken. Economic restrictions on this ideal line of action, however, must be recognized. The high acquisition cost of construction and weight handling equipment, and the different types and conditions of work to be accomplished, inhibit the use of the most suitable equipment for every job. Nevertheless, it is not economically sound to undertake jobs without reasonably suitable equipment. Commercial contracting firms, for example, seek jobs that can be handled effectively with their on-hand equipment inventory. Such an option is not open to naval activities which must perform their tasks without the privilege of accepting or rejecting the assignments. As a result, selection of the basic equipment fleet for naval activities must be made on a sound basis with regard for overall utility, flexibility, and cost. Another option available is short term rental or leasing of equipment for specific work and time frames.

b. Criteria for Equipment Selection. The essential considerations for justifying the acquisition of construction and weight handling equipment on a regularly assigned basis are as follows:

(1) Predictable continuing requirements must exist over a considerable period of time for stated quantities of specific types and capacities of the equipment.

(2) The continuing requirements cannot be satisfactorily and economically supplied by suitable loaned, rented, or leased items.

(3) The equipment acquired will efficiently perform various recurring jobs of primary importance to the activity, through the quantity, types, capacities, and attachments of the acquired units. It is of secondary importance that this equipment have the flexibility to satisfactorily perform other jobs of a nonrecurring nature.

c. Application Criteria for Specific Jobs. The process of selection requires a knowledge of the characteristic advantages and disadvantages of equipment units and attachments, the nature of the jobs they were designed to perform, and the proper size and capacity of the equipment. Compromises can be expected because of the several factors involved. The overall utility and flexibility of construction and weight handling equipment, however, can be increased by the inclusion of proper attachments and

effective work procedures. Consideration shall be given to the use of general purpose equipment of the most versatile, multi-use type available. As an example, a tractor with front-end loader, back-hoe, auger, and trencher attachments offers maximum use of the power unit which is the primary cost factor in the procurement. Generally, the following apply to application criteria:

(1) Functional characteristics of equipment and attachments.

(2) Applicability to workload.

(3) Size and capacity of equipment for job performance.

(4) Cost.

(5) Standardization.

CHAPTER 4. MAINTENANCE

SECTION 1. SHORE MAINTENANCE MANAGEMENT

This section pertains to shore activities' CESE maintenance management. Units assigned to the Naval Construction Force (NCF) or designated as Special Operating Units (SOU) should refer to Section 2 for guidance on maintenance management.

4-1.1 ***Basic Maintenance Objectives***. The basic objectives of the Transportation Maintenance Management Program are to provide at the lowest possible cost:

a. Maximum availability of safe and reliable equipment, thus reducing the capital investment needed for providing effective and efficient transportation service.

b. Ensure the maximum economic service life of the equipment, thus reducing the capital replacement cost.

4-1.2 ***Program Elements***. To accomplish the basic maintenance objectives efficiently and effectively, the application of management principles, procedures, and techniques for maintenance planning, organization, direction, coordination, control, and evaluation have been incorporated into the Transportation Maintenance Management Program. These have been included in the following basic program elements which are provided in this section.

a. Planning and Scheduling. Provides for the establishment of a complete and accurate inventory of the equipment to be maintained; an inspection and preventive maintenance schedule that will ensure safe, serviceable equipment, and a uniform shop workload.

b. Organization and Facilities. Establishes the necessary organizational structure to ensure efficient accomplishment of the maintenance workload through proper direction, supervision, environment, and control of the work force.

c. Coordination. Provides for the necessary coordination with the supply and fiscal organizations for material support and accounting service, and with other organizations for coordination support.

d. Control. Provides procedures and standards for the control of work input, direct labor productivity, overhead, material, downtime, and overall maintenance cost.

e. Reports and Performance Evaluation. Provides a uniform system of cost and statistical accounting, together with management indices to evaluate all phases of the program in sufficient detail to determine those elements needing corrective action, and provides a data base for transportation maintenance budget projections.

4-1.3 ***Levels of Maintenance***

It is the policy of the Navy to require efficient and uniform maintenance management policies, procedures, plans, and programs. COMNAVFACENGCOM administers a Service Life Extension Program (SLEP) for various items of high cost equipment. The purpose of this program is to perform a complete rebuild of selected items that will significantly extend the useful life of this equipment. Repairs at this level are normally accomplished by contract or at designated facilities under the control of the TEMC. The levels of maintenance within DoD are:

a. Organizational Maintenance. That maintenance which is the responsibility of and performed by using organizations on its assigned equipment. Phases normally consist of inspecting, servicing, lubricating, and the adjusting and replacing of parts, minor assemblies, and subassemblies.

b. Intermediate Maintenance. That maintenance which is the responsibility of and performed by designated maintenance activities for direct support of using organizations. Phases normally consist of calibration, repair, or replacement of damaged or unserviceable parts, and providing technical assistance to using organizations. Intermediate maintenance is normally accomplished in fixed shops, tenders, shore-based repair facilities, or by mobile field teams. (For CESE this is the normal maintenance provided by Public Works Departments or Public Works Centers.)

c. Depot Maintenance. That maintenance which is the responsibility of and performed by designated maintenance activities to augment stocks of serviceable material and to support organizational maintenance and intermediate maintenance activities by the use of more extensive shop facilities, equipment, and personnel of higher technical skill than are available at the lower levels of maintenance. Phases normally consist of inspection, test, repair, modification, alteration, modernization, conversion, overhaul, reclamation or rebuild of parts, assemblies, subassemblies, components, and equipment end items. The manufacture of critical nonavailable parts and providing technical assistance to intermediate maintenance organizations and other activities also fall under this category. Depot maintenance is normally accomplished in fixed shops, shipyards, and other shore-based facilities, or by depot field teams. (For CESE, this level of maintenance is not performed unless specifically authorized by the appropriate TEMC.)

4-1.4 ***Commercial Contract Maintenance***. It is the Navy's policy to perform maintenance in its own facilities or by commercial contract, whichever is the most economical method consistent with the optimum availability of equipment. The use of commercial contracts shall be evaluated periodically using the commercial industrial evaluation procedures set forth in the Office of Management and Budget (OMB) Circular A-76 (see paragraph 2.17.1 herein). The use of commercial contracts should be considered for the repair and rebuild of repairable components such as engines, transmissions, rear axles, electrical components, and cooling system components

where specialized skills, tooling, and equipment are required, and the volume generated by the activity is not sufficient to support the specialized capability.

4-1.5 ***Maintenance at Small Activities***. Small activities having vehicle and equipment inventories too small to economically justify the specialized skills, tools, and equipment to properly maintain the equipment should arrange to have the maintenance performed either by another Government activity or by commercial sources. The using activity is responsible for funding all maintenance. Where maintenance is of a recurring nature, interservice/intraservice support agreements should be established with the performing Government activity. Where the activity cannot obtain maintenance from a Government activity, or service is not responsive, the procedure should be to procure services from commercial sources.

4-1.6 ***Maintenance Organization and Staffing***

a. Standard Organization. Effective maintenance at an activity requires an organizational structure with duties, responsibilities, and authority clearly defined. Supervision can then effectively direct and control the accomplishment of work. In addition, the organization must be staffed and provided with facilities and resources required to perform in the most cost effective manner. The general organization and functions of the Transportation Division, including the Operations and Equipment Maintenance Branches, are described in paragraphs 2.15 through 2.15.2. A detailed description of the Equipment Maintenance Branch follows.

b. Equipment Maintenance Branch. The Equipment Maintenance Branch Head reports to the Transportation Division Director. Briefly, the Branch Head's responsibility is to ensure all vehicles and equipment are maintained in a safe and reliable condition, and the time during which vehicles and equipment are out of service (downtime) is kept to a minimum. Further responsibility is to ensure maintenance is performed in a cost effective manner, and the cost of such maintenance is accomplished within the Transportation Division's budget plan. The Maintenance Branch is organized into a work input and records section and one or more repair sections. Each section head reports to the Maintenance Branch Head. Functional responsibilities of these sections are:

(1) Work Input and Records Section

(a) Maintains the inventory, schedules maintenance, receives all equipment, makes basic repair descriptions on Shop Repair Orders (SROs) (NAVFAC Form 11200/3A) and routes all maintenance work and SROs to the repair section supervisor(s) for work accomplishment.

(b) Meets with the customer to identify complaints, performs simple safety inspections, and describes in writing on the SRO the work to be accomplished.

(c) Allocates on an SRO the job operation time standards (flat rate) to be used in measuring the repair section's productivity.

(d) Performs all shop accounting functions, including completion of labor distribution cards' reconciliation with time cards.

(e) Maintains all equipment history record files.

(f) Provides the Equipment Maintenance Branch Head with status reports such as downtime status, labor expended against standards, productivity of the repair section(s), and performance against maintenance input and overhead standards.

(g) Develops, revises, and adjusts all preventive maintenance schedules, including items to be inspected, frequency, and necessary depth and detail.

(h) Expedites work through the shop(s), including parts for vehicles out of service awaiting parts (OSP).

(i) Advises customers when work has been accomplished, and provides necessary status information.

(2) Repair Section(s)

(a) Performs work described on SROs. Brings to the supervisor's attention, for further work authorization, added deficiencies requiring correction disclosed during accomplishment of work.

(b) Accomplishes work on SROs within established job operation time standards (flat rate).

(c) Keeps overhead and indirect time at a minimum, allocating such time within established standards.

(d) Restricts the use of repair parts to a level necessary to achieve effective repairs, holding material costs within overall established budget standards.

(e) Performs final inspection and testing to ensure that the work has been properly accomplished and that the equipment is safe and reliable.

c. Staffing. Staffing requirements can be determined from the maintenance man-hour input standards set forth in Appendix G. These factors, applied to the miles or hours operated by the activity, can be used to develop the required staffing needed to maintain the vehicle and equipment in a safe and serviceable condition. Applying labor rates and material cost factors to these man-hours can develop funding requirements.

4-1.7 ***Maintenance Coordination***

a. Coordination Requirement. Management attention and action must be constantly directed to the important function of coordination, both within the Transportation Division and Public Works Department and with other departments within the activity. A failure of proper coordination can result in a serious breakdown in the effectiveness of the maintenance program and result in excessive costs.

b. Supply and Comptroller Department Coordination. The Supply and Comptroller Departments provide material support and cost accounting services to the Transportation Division. Paragraph 4-1.9.4 describes in detail the necessary coordination in the area of repair parts support. NAVCOMPT Manual, Volume 3, Chapter 7, Transportation Equipment Cost Accounting, presents the responsibilities of the Supply and Comptroller Departments with respect to cost accounting and report preparation. The Transportation Division Director shall be completely familiar with the NAVCOMPT Manual, Volume 3, Chapter 7 and maintain necessary liaison with the Supply and Comptroller Departments to ensure accurate and timely data and reports. In addition, the Transportation Division Director shall review the operation of the service stations if operated by the Supply Department to ensure that the service stations are performing certain preventive maintenance functions correctly.

c. Operations Branch and Other Using Departments. Proper preventive maintenance and efficient shop loading programs require maintenance schedules be met. However, such schedules must be compatible with the equipment requirements of the Operations Branch and other using organizations. The Transportation Division Director shall ensure the schedules are realistic and coordinate them through the using organizations. Schedules shall be flexible to the extent that operational requirements are met.

4-1.8 ***Maintenance Planning***

a. Requirement. Effective and economic preventive maintenance services require a systematic scheduling program that will make equipment available for mechanical and safety inspections, lubrications, adjustments, and necessary repairs at predetermined intervals. Thus, downtime is reduced as well as the resultant costly disruptions of transportation operations work schedules because of equipment failures. In addition, effective planning and scheduling will ensure that the major portion of the shop workload will be uniform and balanced, reducing the required work force and increasing the application of the work force to productive effort. It should be recognized that there is an economical point at which the random failure of equipment can be reduced by preventive maintenance.

b. Management Action. The Transportation Division Director shall review actual performance against planned schedules and take appropriate corrective action in the following cases:

(1) Where actual miles or hours between inspections indicate equipment is being inspected or serviced too frequently or not frequently enough, resulting in over or under maintenance.

(2) Where analysis of unscheduled work indicates faulty inspection or driver abuse.

(3) Where activities are not turning in vehicles for inspection and service on scheduled dates.

4-1.8.1 ***General Plan***. The basic policies and procedures for the financial management of the Navy are prescribed by the Comptroller of the Navy and set forth in NAVSO P-3006, Financial Management of Resources. This system is designed to provide the department heads of activities and their subordinates with the basic information necessary to develop an operating plan (including a transportation plan) which will efficiently manage the O&M,N resources made available. Effective transportation management depends on the development, approval, and execution of a realistic and cost effective budget plan. In order to execute such a plan, all levels of management require timely and frequent feedback reports on the basic elements of transportation maintenance and operations, such as:

a. IO to inventory balance;

b. Equipment downtime;

c. Equipment utilization;

d. Maintenance man-hour input;

e. Direct labor productivity;

f. Indirect labor (overhead);

g. Repair parts and material expenditures.

The foregoing elements must be monitored constantly to ensure that the budget plan is being followed and the mission of providing safe, reliable, and efficient transportation support services is being accomplished.

4-1.8.2 ***Budget Plan***. Each transportation director shall be responsible for developing the Transportation Division (or Department) portion of the activity budget. Appendix G provides guidance on a uniform system for the preparation of a transportation maintenance direct and indirect labor and material budget. Figure G-1, Appendix G, is a sample worksheet which should be used in preparation of the budget plan. Preparation of the operations portion of the plan should be based on historical data and projected operational requirements. The standards presented in Appendix G, Table G-1, provide

the direct labor necessary to maintain units in a safe and reliable condition throughout their economic service life. These standards include the necessary labor hours to lubricate, service, clean, wash, install tires and batteries, remove, repair, and replace major/minor components, subassemblies, parts, and accessories, except those resulting from accidents. The standards do not cover extensive one-time major repair or overhaul of a complete unit of equipment.

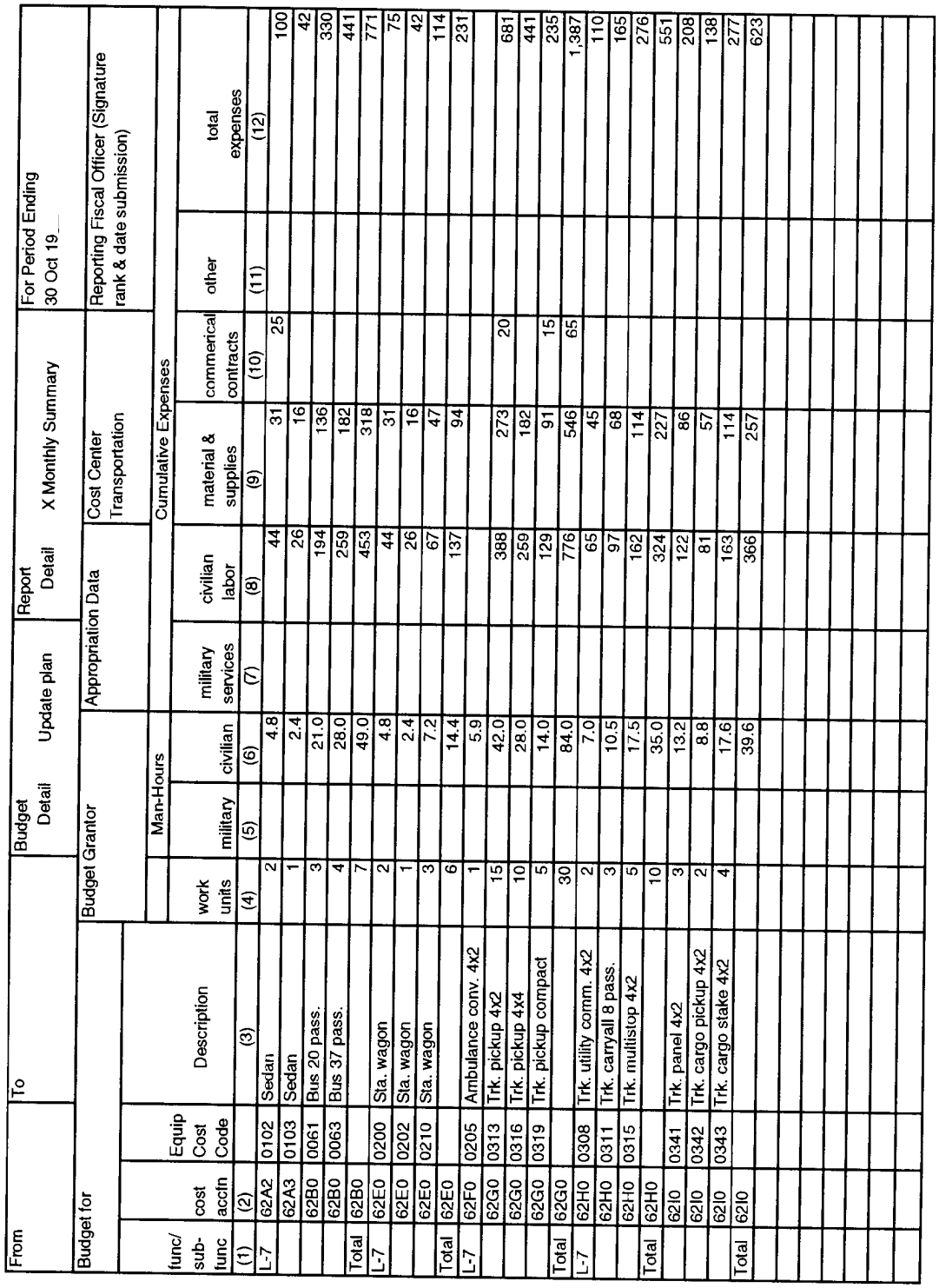
4-1.8.3 ***Transportation Reports***. The primary formal information systems available to transportation management are the NAVCOMPT Form 2168, Operating Budget/Expense Report (Figure 4-1-1) and the NAVCOMPT Form 2169, Performance Statement (Figure 4-1-2). Details of these reports are provided in NAVSO P-3006. These or other similar reports should be provided monthly by the activity comptroller/fiscal officer from the activity accounting system as required by NAVSO P-3006. The essential information provided by these reports and their recommended functional use by the transportation managers are as follows.

4-1.8.4 ***Evaluation of Reports***

a. Operating Budget/Expense Report, (NAVCOMPT Form 2168). The NAVCOMPT Form 2168 provides management with details as to work units completed, man-hours, and accrued expenses, cumulative-to-date by cost account code. Using the monthly NAVCOMPT Form 2168 and records maintained by the activity transportation organization, i.e., IO, inventory, work units, downtime, etc., an analysis can be made to determine if the transportation organization is meeting the plan and what elements may be causing a deviation from the approved budget plan. A suggested budget troubleshooting chart (Figure 4-1-3) is provided to aid the transportation director in analyzing the budget performance.

b. Performance Statement, (NAVCOMPT Form 2169). The NAVCOMPT Form 2169 (Figure 4-1-2) is designed to provide management with the actual fiscal year to date totals for accrued expenses and work units which are compared with the approved annual operating budget for each cost account code. In theory, a uniform expenditure rate is about 8.3 percent per month. While the actual expenditures for individual cost accounts may vary from the uniform rate, the transportation director should analyze the significance of any variance from the uniform rate and take corrective action when appropriate. Similarly, the report provides the number of work units performed for each cost account code and the to-date percentage of the planned work units related to the budget. For example, in theory if 8.3 percent of funds for maintenance were expended in the first month, then in theory 8.3 percent of the planned work units (miles/hours) should also have been accomplished, since this was the basis of the budget amount. Here again the transportation director must analyze the variance and take necessary corrective action.

Sample Operating Budget/Expense Report



OPERATING BUDGET/EXPENSE REPORT

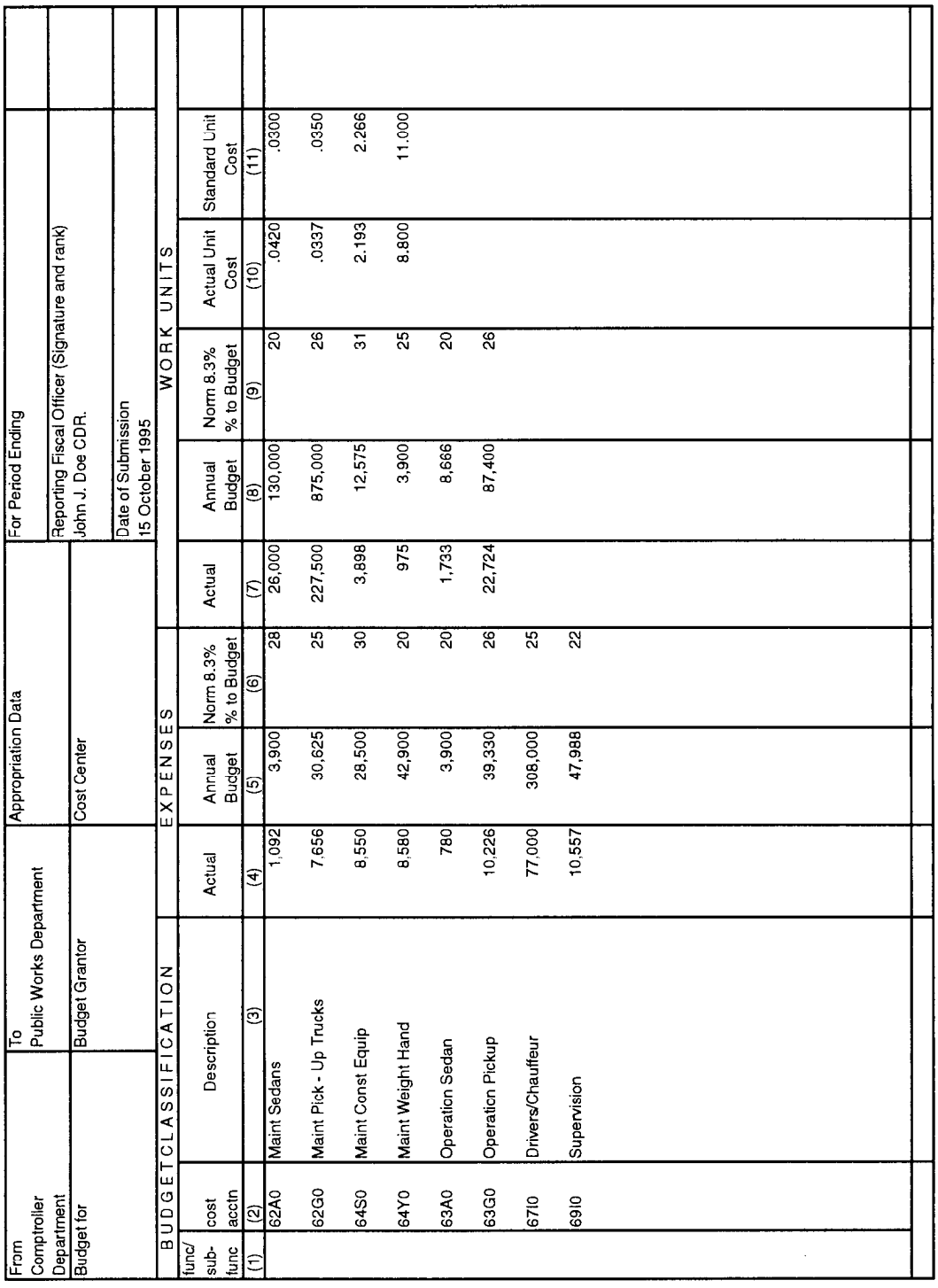
From	To	Budget Detail	Update plan	Report Detail	X Monthly Summary	For Period Ending 30 Oct 19__

Budget for	Budget Grantor	Appropriation Data	Cost Center Transportation	Reporting Fiscal Officer (Signature rank & date submission)

						Man-Hours		Cumulative Expenses					
func/ sub-func	cost acctn	Equip Cost Code	Description	work units	military	civilian	military services	civilian labor	material & supplies	commerical contracts	other	total expenses
(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
L-7	62A2	0102	Sedan	2		4.8		44	31	25		100
	62A3	0103	Sedan	1		2.4		26	16			42
	62B0	0061	Bus 20 pass.	3		21.0		194	136			330
	62B0	0063	Bus 37 pass.	4		28.0		259	182			441
Total	62B0			7		49.0		453	318			771
L-7	62E0	0200	Sta. wagon	2		4.8		44	31			75
	62E0	0202	Sta. wagon	1		2.4		26	16			42
	62E0	0210	Sta. wagon	3		7.2		67	47			114
Total	62E0			6		14.4		137	94			231
L-7	62F0	0205	Ambulance conv. 4x2	1		5.9						
	62G0	0313	Trk. pickup 4x2	15		42.0		388	273	20		681
	62G0	0316	Trk. pickup 4x4	10		28.0		259	182			441
	62G0	0319	Trk. pickup compact	5		14.0		129	91	15		235
Total	62G0			30		84.0		776	546	65		1,387
L-7	62H0	0308	Trk. utility comm. 4x2	2		7.0		65	45			110
	62H0	0311	Trk. carryall 8 pass.	3		10.5		97	68			165
	62H0	0315	Trk. multistop 4x2	5		17.5		162	114			276
Total	62H0			10		35.0		324	227			551
	62I0	0341	Trk. panel 4x2	3		13.2		122	86			208
	62I0	0342	Trk. cargo pickup 4x2	2		8.8		81	57			138
	62I0	0343	Trk. cargo stake 4x2	4		17.6		163	114			277
Total	62I0					39.6		366	257			623

Figure 4-1-1

Sample Quarterly Performance Statement



From Comptroller Department	To Public Works Department	Appropriation Data		For Period Ending		
Budget for	Budget Grantor	Cost Center		Reporting Fiscal Officer (Signature and rank) John J. Doe CDR.		
				Date of Submission 15 October 1995		

BUDGET CLASSIFICATION			EXPENSES				WORK UNITS			
func/ sub-func	cost acctn	Description	Actual	Annual Budget	Norm 8.3% % to Budget	Actual	Annual Budget	Norm 8.3% % to Budget	Actual Unit Cost	Standard Unit Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	62A0	Maint Sedans	1,092	3,900	28	26,000	130,000	20	.0420	.0300
	62G0	Maint Pick - Up Trucks	7,656	30,625	25	227,500	875,000	26	.0337	.0350
	64S0	Maint Const Equip	8,550	28,500	30	3,898	12,575	31	2.193	2.266
	64Y0	Maint Weight Hand	8,580	42,900	20	975	3,900	25	8.800	11.000
	63A0	Operation Sedan	780	3,900	20	1,733	8,666	20		
	63G0	Operation Pickup	10,226	39,330	26	22,724	87,400	26		
	67I0	Drivers/Chauffeur	77,000	308,000	25					
	69I0	Supervision	10,557	47,988	22					

Figure 4-1-2

Budget Troubleshooting Chart

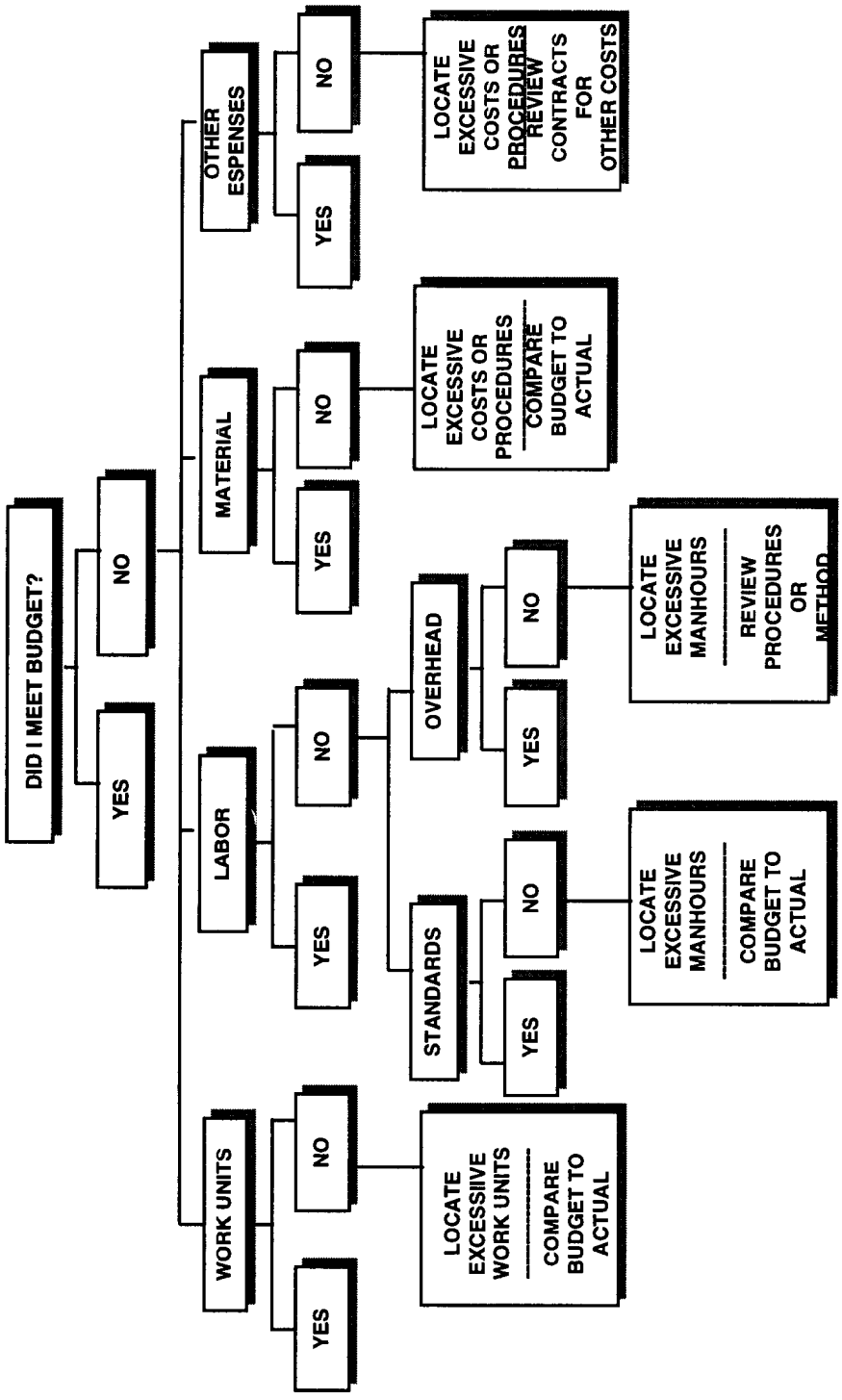


Figure 4-1-3

4-1.8.5 ***Inventory Objective (IO) Control***. Control of inventory to IO is necessary if the transportation director is to function within the operating plan and established standards. Maintenance and operating costs for equipment in excess of the approved IO places undue strain on the O&M,N budget. Since the approved equipment IO is the basis for the transportation budget, every effort must be taken to remove equipment from service within 15 days after replacement equipment is received. Retaining equipment in excess of IO also adversely affects COMNAVFACENGCOM's position in justifying the procurement of replacement equipment.

4-1.8.6 ***Equipment Downtime***. Transportation equipment downtime is based on a 24-hour day and a 365-day year. The maximum acceptable standard downtime is normally 10 percent of the total hours, which equates to 10 percent of the fleet out of service (OS) for maintenance at any given time. The demand hours based on a 24-hour day, 365-day year, is 8,760 hours per year. Within the 10 percent downtime, some 3 percent can be expected to be out of service awaiting maintenance (OSM), another 3 percent out of service being worked on (OSW), and some 4 percent out of service awaiting parts (OSP). The term "deadline" is often used when referring to equipment out of service awaiting parts (OSP). The terms "out of service" and "downtime" have identical meaning. For transportation cost reporting purposes, the total downtime will be shown. Downtime hours shall begin when the vehicle/equipment is removed from service and end when the user is notified that the vehicle/equipment is ready to return to service. An Out of Service Analysis form, such as that illustrated in Appendix H, Figure H-21, can be used by the maintenance manager on a daily basis to monitor the status of equipment out of service. Corrective action should be taken when the analysis indicates planned out of service levels are exceeded.

4-1.8.7 ***Maintenance Man-Hour Input***. Maintenance man-hour input standards listed in Appendix G are the basic elements used by management in determining O&M,N funding and staffing requirements for the maintenance of CESE. It is therefore essential that the Transportation Division Director, through Maintenance Branch Head and inspectors, control the amount of maintenance man-hours authorized for accomplishment of SROs. An analysis in the format suggested in Figure 4-1-4 can be compiled on a monthly basis (by data processing or manually) which will provide the budgeted/standard maintenance man-hour versus actual expended man-hours to date. This simple analysis will alert management if the expenditure of maintenance man-hours is not being controlled within the budget plan. Activities that prepare the transportation budget in accordance with the guidelines contained in Appendix G will have the total annual budgeted/standard maintenance man-hours projected for each cost account already computed. Other activities should follow the guidelines contained in paragraph 2.c of Appendix G in computing the total annual standard maintenance man-hours for each cost account. The Operating Budget/Expense Report, NAVCOMPT Form 2168, or similar tabulated report, will provide the actual direct labor man-hours expended for each cost account. The percentage of the budgeted or standard maintenance man-hours direct labor should not exceed 8.3 percent per month.

SAMPLE MAINTENANCE MAN-HOUR INPUT AND SHOP PRODUCTIVITY ANALYSIS

Period 30 October 199

Equip. Code	Cost Account Number	Annual Budgeted Man-Hours	Applied Standard Man-Hours	Actual Man-Hours Expended To Date	Percentage of Budgeted Hours (Col 5 : Col 3 x 100)	Percent of Productivity (Col 4 : Col 5 x 100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0102	62A2	576	43	56	9.7	85.7
0103	62A3	192	14	21	10.9	66.6
0104	62A4	480	32	46	9.5	69.5
0200	62E0	576	40	37	6.4	108.1
0202	62E0	288	24	20	6.9	120
Sub Total	62E0	864	64	57	6.5	112.2
0311	63H0	840	70	70	8.3	100
0313	62G0	672	56	52	7.7	107.6
0319	62G0	336	28	34	10.1	82.3
Sub Total	62G0	1.006	84	86	8.5	97.6
0441	62J0	1.152	80	90	7.8	88.8
0580	62M0	331	20	18	5.4	111
Total	A-N	5.443	412	444	8.1	92.7
0325	6420	175	14	14	8.0	100
0880	64P0	8	6	1	12.5	60
0756	64Q0	46	4	6	13.0	66.6
0887	64Q0	4	0	0	0	0
0891	64Q0	14	2	3	21.4	66.6
Sub Total	64Q0	247	20.6	24	9.7	85.8

Figure 4-1-4

4-1.8.8 ***Direct Labor Productivity***. Direct labor hours expended for the month are shown on the NAVCOMPT Form 2168; however, there are no provisions for containing standard (flat rate) hours. A work center productivity record showing standard flat rate hours should be maintained at the shop level. A Vehicle/Equipment Direct Labor Productivity and Downtime Record, prepared on a weekly basis, will provide the Maintenance Branch Head with timely, concise information for analyzing the overall performance of each work center, highlighting areas requiring attention. The form should include the following information: USN, SRO number, job order number, date and time in and out, action date, start and stop time, SRO labor hours (standard and actual), and downtime hours (OSW, OSM, OSP, and total). The information for the report should be compiled daily and the direct labor data can be taken from the labor record maintained on each SRO. This form, if used, should be originated in conjunction with and attached to the copy of the SRO maintained by the cost clerk for posting of actual hours expended on each job.

4-1.8.9 ***Indirect Labor (Overhead).*** Indirect maintenance labor (overhead) is reported on NAVCOMPT Form 2168 under Cost Account Codes (CACs) 6910 and 6950, and summarized under CAC 6900. CAC 6910 represents labor and material expenses incurred by personnel performing indirect duties or services relating to functions in the transportation maintenance shop. CAC 6950 represents costs incurred for allowed time, standby time, training, safety meetings, and tardiness. It is the responsibility of the Transportation Division Directors to ensure that the total overhead hours under CAC 6900 do not exceed 32 percent of the direct productive standard hours for the Maintenance Branch. The formula for computing maintenance overhead is provided in paragraph 2.f., of Appendix G.

4-1.8.10 ***Material Management***. The Transportation Division Director, through the Maintenance Branch Head and section supervisors, must exercise control over expenditures for parts and materials to ensure they do not exceed the planned budget figure. The budget for parts and materials is normally based on an average parts and materials cost per standard labor hour (Appendix G). Management should use the monthly NAVCOMPT 2168 to review parts and materials expenditures. As a customer of the Supply Department, transportation management should expect and receive a complete, current, updated material status report reflecting the status of all outstanding requisitions on active/open SROs. The Maintenance Branch Head shall establish a simple system for recording all outstanding requisitions and arrange with the Supply Department an agreeable follow-up time frame. The system developed should be structured to allow for comparison with reports provided by the Supply Department.

4-1.8.11 ***Maintenance Evaluation and Quality Control***. The control of the quality of maintenance performed by the shop forces is exercised by the Maintenance Branch Head through section supervisors. The section supervisors are responsible for checking the work of each mechanic through the various stages of repair and at completion. Work completed to the supervisor's satisfaction will be attested to by his signature on the SRO. The Transportation Division Director, accompanied by the

Maintenance Branch Head, will make unannounced audits, at least quarterly, following the procedures set forth below:

a. Select SROs that have been estimated, but on which work has not been started.

b. Inspect equipment.

c. Review findings immediately with the original inspector (over/under maintenance) (clear descriptive entries on SRO).

d. Review standard time authorized by checking the flat rate manuals.

e. Take random sampling of SROs, check for repeat work.

f. Breakdown plus interim repair hours should be compared to scheduled preventive maintenance repair hours. The ratio should not exceed 20 percent.

g. Take corrective action as appropriate.

Findings of the audit should be documented and retained for record purposes. Problem areas should be discussed with the appropriate levels of management to provide corrective action.

4-1.8.12 ***Equipment History Record Requirements***. The Transportation Division Director is responsible to ensure that individual equipment history record files are established for each unit of CESE assigned to the activity. This record file shall be maintained in complete and up-to-date status from the time the equipment is acquired until it is transferred for disposal or excess. History record files may be maintained in hard copy and/or computer media. History record files will accompany vehicles transferred from one activity to another. As a minimum, the equipment history record files shall contain the following:

a. Certificate of origin (or vehicle title/ownership certificate).

b. DoD Property Record Form DD 1342 or other computer generated form.

c. SROs covering all inspection, maintenance, and repair items accomplished to date (government or contractor work).

d. Current annual safety inspection.

e. Accident reports.

f. Manufacturer recalls or notices.

g. Copies of any applicable quality deficiency reports (QDRs).

h. Copies of any vehicle modification requests or work completed.

i. Other appropriate documentation considered necessary for further reference purposes, such as warranty work and unsatisfactory equipment reports.

4-1.8.13 ***Transportation Cost Report (TCR).*** The NAVCOMPT Manual, Volume 3, Chapter 7, provides the system of uniform cost accounting and external reporting. This requirement is consistent with the Federal Property Management Regulation requirement for transportation operation and maintenance (O&M) expenses and management performance data in the Transportation Cost Report (TCR) (Figure 4-1-5) which is a byproduct of the NAVCOMPT Form 2168. All activities with an IO and inventory of 50 or more units of transportation equipment, excluding forces afloat, attachés, and missions, shall submit the TCR in sufficient time to be received at the cognizant TEMC by 6 November of each year with a copy to COMNAVFACENGCOM (Code 134). The TCR should be reviewed by the Transportation Director prior to submission to the cognizant TEMC to ensure accuracy/validity of data supplied by the Transportation Division/Department. A computer generated report containing all TCR information may be submitted to meet this requirement.

4-1.8.14 ***Transportation Equipment Management Evaluation Summary (TEMES).*** The TEMES will provide the Transportation Director and subordinates with timely information on fleet operations and maintenance. By closely observing the change in values in each category from the previous quarter(s) (or months), trends will be established from which corrective action shall be taken. The TEMES (Figure 4-1-6) should be completed each quarter, and preferably each month, by the Transportation Division. The latest TEMES report shall be readily available for the TEMC representatives to review during the regularly scheduled TMAV. An annual TEMES report, NAVFAC Report Control Symbol 11200-16, shall be forwarded in sufficient time to be received at the cognizant TEMC by 6 November of each year with a copy to COMNAVFACENGCOM (Code 134). Activities are also requested to submit a 5-1/4" or 3-1/2" disk containing an IBM PC compatible text file (ASCII format) of their TEMES data along with the hard copy. A computer generated report containing all TEMES information may be submitted to meet this requirement. The report does not currently meet submission requirements of the TCR report. From this evaluation sheet the Transportation Director and his/her subordinates will have at their disposal a comparison of:

Sample Transportation Cost Report

TRANSPORTATION COST REPORT (TCR)

From (AAA of activity being reported)		To NAVFACENGCOM		Budget Detail Update plan		Report X Detail X Summary		For Period Ending 30 Sep 19__		
Budget for (Activity being reported)				Budget Grantor (Major Claimant of activity being reported)		Appropriation Data		Cost Center Transportation cost report		Reporting Fiscal Officer
				manhours			cumulative expenses			
func/ sub-func	cost acctn	average inventory	downtime hours	work units	military	civilian	military services	civilian labor	material & supplies	commerical contracts	other	total expenses
(1)	(2)	(3A)	(3B)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	62A2	26	18221	195		1457		20398	10199	130	150	30877
	62B0	7	4906	37		317		4438	2219	97		6754
	62E0	3	2102	47		156		2184	1092	109		3385
	62I0	5	3504	26		195		2730	1365	12		4107
	6290									527	2308	2835
	63A2			16273					17087			17087
	63B0			616					647			647
	63E0			4710					4946			4946
	63I0			4507					4732			4732
	6420	100	70080	100		3958		55412	27706	292		83410
	64S0	32	22426	14647		1524		21336	10668	1541		33545
	6520			2100					2205			2205
	65S0			13500					14175			14175
	6611	9	3942	119		234		3276	1638	1731		6645
	6612			11201					11761			11761
	6615									37800		37800
	6650									78450		78450
	6710					31828		98400				98400
	6740					42730		135300				135300
	6810					1800		9400	550			9950
	6870								1705			1705
	6910				3440	1728	15600	6900				22500
	6950					705		8460				8460
	Total	182	125181		3440	86632	15600	368234	112,695	120689	2458	619676

Figure 4-1-5

a. Average inventory levels;

b. Miles traveled for the period;

c. Percentage of utilization;

d. Fuel miles per gallon and cost per mile;

e. Actual maintenance man-hour input versus P-300 standard;

f. Downtime hours;

g. Lease/rental vehicle cost;

h. Indirect operations and maintenance costs;

i. Total actual maintenance cost;

j. Maintenance cost per mile;

k. Accidents and costs.

Listed data may be available at various detail levels and can assist in isolating areas causing any digression from the management plan and enable corrective action before major financial problems develop.

4-1.8.15 ***TEMES Preparation***. Procedures for preparing the TEMES for submission are included in Figure 4-1-6. The following additional information applies:

a. Report Period. Enter the period of the report; month ending, quarter ending, or fiscal year ending date.

b. Activity. Enter the name and UIC of the reporting activity.

c. Line Item Entries:

(1) Enter required data in the appropriate column for each Alpha/Sort Code as shown in Figure 4-1-6.

(2) Do not total commercial and/or GSA leased vehicle data with Navy-owned (N) vehicle costs in the Alpha lines of data; show as three separate data lines.

(3) Total all leased and Navy-owned vehicle costs for the summary box data at the end of the report.

(4) Cost Account Codes (CACs) not directly associated to a specific Navy-owned (CESE) item should be shown as a line entry, after the Alpha "O thru Z" subtotal lines of data (see Figure 4-1-6). These CACs include, but are not limited to, 6460 (Reimbursable Maintenance), 6560 (Reimbursable Operations), 6650 (Service Contracts), 6290 and 6490 (Accident costs), and 6870 (Gas Tax refund). These special CAC line entries plus Column 22 (SLEP) costs are shown to provide specific man-hour and cost data for budgeting and accounting purposes, but are not considered part of routine transportation maintenance and operations. CACs in the 6600 series (leased vehicles) are subtotaled at the CAC level for summary information at Alpha Groups "A-N" and "O-Z".

(5) Run totals of each column as shown.

Note: 6?Z0 and 6?Z1 accounts will be ignored since gross values (vice net values) are required.

4-1.9 ***Maintenance Scheduling***

4-1.9.1 ***Scheduling and Shop Control***. An effective and efficient maintenance program requires the establishment and upkeep of a preventive maintenance scheduling system and a sound shop control procedure. Vehicles and equipment shall be scheduled for inspection and servicing in accordance with the time, mileage, and operating hours prescribed in paragraph 4-1.10.4. As a minimum, the schedule shall ensure that each vehicle is inspected for safety in accordance with paragraph 4-1.10.4.a at least every 12 months or 12,000 miles, whichever occurs first. The schedule can be formulated by determining each vehicle's estimated annual miles, then divide by the manufacturer's recommended service interval. This will determine the number of service intervals per year for each vehicle. Dividing the number of working days per year (250) by the number of service intervals per year will develop the number of working days between each inspection or the designated inspection group for each vehicle. From this determination a schedule can be established providing a quota of vehicles for inspection daily that will provide a balanced shop workload. A Vehicle/Equipment Service Record form should be used to record service intervals and service performed. This form should include: USN, EC, make, model, year, estimated annual miles/hours; and columns for type of service, date, cumulative mileage or hours, miles or hours of operation, and miles or hours operated or a specified interval.

4-1.9.2 ***Shop Workload***. Adequate control demands positive direction of shop workloads. The best method for accomplishing positive direction of shop workload is to identify and keep current the following information:

a. Available work force by work center;

b. Vehicles/equipment awaiting input by work center;

SAMPLE TRANSPORTATION EQUIPMENT MANAGEMENT EVALUATION SUMMARY (TEMES)

DATE: 1 October 1992 *** TRANSPORTATION EQUIPMENT MANAGEMENT EVALUATION SUMMARY (TEMES) *** PAGE: 1

PERIOD: QUARTERLY CUMULATIVE FOR FY92 ACTIVITY: U. S. NAVAL STATION ANYWHERE UIC: Hxxxxx

ALPHA	AVG INV	OPERATIONS: MILES (000)/ HOURS	OPERATIONS: UTIL %	OPERATIONS: FUEL (GAL)	OPERATIONS: MPG GAL /HR	OPERATIONS: COST/ M_H_U	MAINTENANCE, DIRECT: MAN HRS STD / ACTUAL	MAINTENANCE, DIRECT: COST$ LABOR MAT'L	MAINTENANCE, DIRECT: COST$ CONTR OTHER	MAINTENANCE, DIRECT: DOWN-TIME HOURS	MAINTENANCE, DIRECT: TOTAL DIRECT MAINT	MAINTENANCE, DIRECT: MAINT COST M_H_U	TOTAL DIRECT COST	FUEL& MAINT COST M_H_U	ACCIDENT NUMBER / COST	SLEP IN-HOUSE HOURS / COST
1	2	3	4	5	6	7	8/9	10/11	12/13	14	15	16	17	18	19/20	21/22
A A	6.0	50		5580		.09	110		700		5886		10490		0	0
							126		0						0	0
								2041		4217		.12		.21		
								3145								
A G	1.0	7	100.0	600	9.0	.00	0		0		0		0		0	0
							0		0						0	0
								0		0		.00		.00		
								0								
A N	23.0	82	100.0	3840	0.0	.04	197		18		8474		11642		0	0
							260		0						0	0
								4266		8170		.10		.14		
			80.1		21.4			4190								
B N	3.3	11		993		.07	75		0		810		1629		0	0
							20		0						0	0
								328		419		.07		.15		
			91.9		11.1			482								
G A	1.0	10		462		.04	27		0		153		534		0	0
							8		0						0	0
								123		155		.02		.05		
			159.9		21.6			30								
G N	58.2	230		9019		.03	641		47		10075		17516		5	0
							352		0						1937	0
								5864		9440		.04		.08		
			65.9		25.5			4164								
TOTAL A N A	7.0	60		6042		.08	137		700		6039		11024		0	0
							134		0						0	0
								2164		4372		.10		.18		
			130.0		9.9			3175								
A-N G	1.0	7		0		.00	0		0		0		0		0	0
							0		0						0	0
								0		0		.00		.00		
			100.0		0.0			0								
A-N N	84.5	323		13852		.04	913		65		19359		30787		5	0
							632		0						1937	0
								10458		18029		.06		.10		
			79.3		23.3			8836								

Figure 4-1-6

SAMPLE (TRANSPORTATION EQUIPMENT MANAGEMENT EVAULATION SUMMARY (TEMES)

DATE: 1 October 1992 *** TRANSPORTATION EQUIPMENT MANAGEMENT EVALUATION SUMMARY (TEMES) *** PAGE: 2

PERIOD: QUARTERLY CUMULATIVE FOR FY92 ACTIVITY: U. S. NAVAL STATION ANYWHERE UIC: NXXXXX

			OPERATIONS				MAINTENANCE, DIRECT									SLEP
ALPHA	AVG INV	MILES (000)/ HOURS	UTIL %	FUEL (GAL)	MPG GAL /HR	COST/ M_H_U	MAN HRS SID ACTUAL	COST$ LABOR MAT'L	COST$ CONTR OTHER	DOWN-TIME HOURS	TOTAL DIRECT MAINT	MAINT COST M_H_U	TOTAL DIRECT COST	FUEL& MAINT COST M_H_U	ACCIDENT NUMBER COST	IN-HOUSE HOURS COST
1	2	3	4	5	6	7	8/9	10/11	12/13	14	15	16	17	18	19/20	21/22
O A	22.5	55		4837		177	141		0		1162		5153		0	0
							46		0						0	0
								746		1418		52		229		
			0.0		11.4			416								
O N	30.5	67		6141		168	325		925		11153		16219		0	0
							279		0						0	0
								4548		8394		366		532		
			60.8		10.9			5680								
S N	14	1240		3806		224	253		737		21287		24427		0	0
							333		0						0	0
								5348		6145		1521		1745		
			25.3		3.1			15202								
Z N	16.0	0		6		0	0		0		73		78		0	0
							5		0						0	0
								73		134		5		5		
			0.0		0.0			0								
TOTAL O-Z A	22.5			4837			141		0		1162		5153		0	0
							46		0						0	0
								746		1418						
								416								
O-Z N	60.5			9953			578		1662		32513		40724		1	0
							617		0						65	0
								9969		14673						
			70.8					20882								
CAC	6290							82	1046	859			891		5	
							5	809	0						1937	
CAC	6616										26328		26328			
CAC	6617										60750		60750			
CAC	6626										1746		1476			
											926		926			

Figure 4-1-6 (cont'd)

SAMPLE TRANSPORTATION EQUIPMENT MANAGEMENT EVAULATION SUMMARY (TEMES)

DATE: 1 October 1992 *** TRANSPORTATION EQUIPMENT MANAGEMENT EVALUATION SUMMARY (TEMES) *** PAGE: 3

PERIOD: QUARTERLY CUMULATIVE FOR FY92 ACTIVITY: U. S. NAVAL STATION ANYWHERE UIC: NXXXXX

			OPERATIONS				MAINTENANCE, DIRECT									SLEP
ALPHA	AVG INV	MILES (000)/ HOURS	UTIL %	FUEL (GAL)	MPG GAL /HR	COST/ M_H_U	MAN HRS STD ACTUAL	COST$ LABOR MAT'L	COST$ CONTR OTHER	DOWN-TIME HOURS	TOTAL DIRECT MAINT	MAINT COST M_H_U	TOTAL DIRECT COST	FUEL& MAINT COST M_H_U	ACCIDENT NUMBER COST	IN-HOUSE HOURS COST
1	2	3	4	5	6	7	8/9	10/11	12/13	14	15	16	17	18	19/20	21/22
TOTAL																
A-Z A	29.5			10879			278		700		7201		16176		0	0
							180	2910	0	5790					0	0
			130.0					3591								
A-Z G	1.0			0			0		0				0		0	0
							0	0	0	0					0	0
			100.0					0								
A-Z N	145.0			23805			1491		1727		51872		71511		6	0
							1249	20627	0	32702					2002	0
			75.8					29718								
TOTAL	175.5			34684			1769		3473		148553		178058		6	0
							1434	23337	0	38692					2002	0
			75.8					33309								

	OPS DIRECT LABOR		OPS INDIR LABOR		OPS INDIR MAIL	TOTAL FUEL COST	TOTAL OPERATIONS
	$	HRS	$	HRS	$	$	$
	4791	322	1184	101	102	28614	34691
	23		24		25	26	27

	MAINT INDIR LABOR		MAINT INDIR MAIL	TOTAL MAINT COST	TOTAL TRANS BUSINESS	
	$	HRS	$	$	$	HRS
	989	73	264	149806	273977	1930
	28		29	30	31	

RECORDS SELECTED: 375
RECORDS READ: 456

Figure 4-1-6 (cont'd)

SAMPLE TRANSPORTATION EQUIPMENT MANAGEMENT EVAULATION SUMMARY (TEMES)

Col 1. Alpha/Sort Code (source of registration/title). Enter each Alpha Code in alpha order, followed by: "A" for commercial leased/rental vehicles, "G" for GSA leased/rental vehicles, and "N" for Navy-owned vehicles/equipment. Alpha/Sort Code data shall be subtotaled at the "A thru N", "O thru Z", and "A thru Z" level. Data for Columns 3, 4, 6, 7, 16, and 18 should not be shown for subtotal lines of data where there is a mixture of meter types (miles, hours or units). CACs which are not related to any one Alpha Code, e. g., 6290, 6490, and 6600 series shall be listed after the Alpha "O thru Z" subtotal lines of data. The Alpha "A thru Z" subtotal data and block summary data shall follow the CAC lines of data.
Col 2. Inventory. Enter the average inventory for the period of the report for each Alpha/Sort Code the activity had on board during any part of the report period. The average is obtained by adding the beginning and ending inventories and dividing by two, with fractional numbers rounded to one decimal place.
Col 3. Miles/Hours. Enter the miles to the nearest thousand, i.e., 120,500 is rounded to 121. Enter operating hours as whole numbers without rounding. (Equipment in Alpha Codes P, T, V and Z will be blank).
Col 4. Utilization. Enter the utilization percent calculated from the actual mileage accumulated for the Alpha/Sort Code when compared to the activity approved/TEMC validated target; i.e., actual miles accumulated, divided by the mileage target for the period, multiplied by 100 and rounded to one decimal place. Utilization for Alpha Codes F, O, P, Q, T, V, X and Z are excluded (para 3.6.5).
Col 5. Fuel Gallons. Enter gallons of fuel used for the period.
Col 6. Miles Per Gallon (MPG) Gallons Per Hour/Unit. Enter the calculated miles per gallon carried to one decimal place for the period derived from the miles accumulated, divided by the gallons used. For Alpha/Sort Codes with hour meters, divide gallons used by hours operated. For all units that do not record miles or hours, divide the gallons used by the average inventory.
Col 7. Operations Cost Per Mile/Hour/Unit. Enter the calculated cost per mile/hour. Use the fuel cost divided by the miles/hours accumulated. For vehicles that do not record miles/hours, divide the fuel cost by the average inventory and show the result carried to two decimal places.
Col 8. Man-hours - Standard. Enter the total standard man-hours per 1000 miles (man-hours per hour or man-hours per unit) for each Alpha Sort Code, obtained by using the methods described in Appendix G.
Col 9. Man-hours - Actual. Enter the actual productive maintenance man-hours expended.
Col 10. Labor Cost. Enter the actual labor cost related to the man-hours expended, which is determined by multiplying the direct labor hours by the shop labor rate. Input from the Public Works Fiscal Office or the Comptroller will be used to establish the shop labor rate and should include acceleration for employee benefits.
Col 11. Material Cost. Enter direct material cost.
Col 12. Contract Costs. Enter the sum of direct maintenance costs to include labor and material costs associated with work performed by commercial contractors. Do not enter costs for accident repairs performed by contractors in this column, use Col 20.
Col 13. Other Government Costs. Enter the sum of direct maintenance costs for work performed by other Government agencies/ shops. Do not enter costs for accident repairs performed by other Government agencies/shops in this column, use Col 20.
Col 14. Downtime Percent. Enter the percentage obtained by dividing the downtime hours by (average inventory [Column 2] x 8760 hours), multiplying the result by 100, and then rounding the answer to one decimal place. NOTE: 8,760 hours represent the available hours in a year, per unit.
Col 15. Total Direct Maintenance. Enter the sum of Columns 10, 11, 12 and 13.
Col 16. Maintenance Cost per Mile/Hour/Unit. Enter the calculated cost obtained by dividing the total maintenance direct cost (Column 15), by the miles accumulated or hours operated (Column 3), carried to two decimal places. For the vehicles that do not record miles/hours, divide by the average inventory (Column 2).
Col 17. Total Direct Cost. Enter the sum of the fuel cost, and direct maintenance costs.
Col 18. Fuel and Maintenance Cost per Mile/Hour/Unit. Enter the calculated cost obtained by dividing the total direct cost (Column 17), by the miles accumulated or hours operated (Column 3), carried to three decimal places. For the vehicles that do not record miles/hours, divide by the average inventory (Column 2).
Col 19. Accident - Number. Enter the number of accidents associated with the accident cost in Column 20. All accidents should be documented whether the repair is accomplished or not.
Col 20. Accident - Cost. Enter the total cost associated with the number of accidents reported in Column 19. Vehicles damaged beyond economical repair (totaled) should have fair market value or the balance of depreciation applied to this column, i.e., a six-year life expectancy vehicle which is totaled in its third year would have half the acquisition cost written off in this column.
Col 21. Service Life Extension Program - Hours. Enter the hours associated with the one time repairs on vehicles/equipment. These hours are not included in Column 9.
Col 22. Service Life Extension Program - Costs. Enter all costs associated with the one time repairs on vehicles/equipment. These costs are not included in Column 15.
Box 23. Operations - Direct Labor. Enter the hours and cost of direct labor for drivers, trainmen, and operators, CAC 6700 series.
Box 24. Operations - Indirect Labor. Enter the hours and cost of indirect labor for CAC 6800 series.
Box 25. Operations - Indirect Material. Enter the costs for indirect material for CAC 6800 series.
Box 26. Total Fuel Cost. Enter the total fuel cost.
Box 27. Total Operations Cost. Enter the total operating costs from Boxes 23, 24, 25 and 26.
Box 28. Maintenance - Indirect Labor. Enter the hours and costs of indirect labor for CACs 6910 and 6950.
Box 29. Maintenance - Indirect Material. Enter the cost of material for CAC 6900 series.
Box 30. Total Maintenance Cost. Enter the total maintenance costs of Column 15, and Boxes 28 and 29.
Box 31. Total Transportation Business. Total operations, maintenance and contract costs. Enter the total of Boxes 27 and 30

Figure 4-1-6 (cont'd)

c. Vehicles/equipment in process by work center;

d. Vehicles/equipment deadlined for parts;

e. Vehicles/equipment awaiting outgoing inspection;

f. Vehicles/equipment awaiting customer pickup;

g. Work performed by outside contractor.

4-1.9.3 ***SRO Flow Procedures***. Figure 4-1-7 illustrates recommended SRO flow procedures. See paragraph 4-1.9.5 for details on preparing SRO.

4-1.9.4 ***Supply Support***

a. Purpose. For a maintenance organization to perform effectively, it is essential that it receive responsive repair parts support. This support requires a high degree of cooperation and communication between the management and staff of the shop and the shop store, and between the Public Works Officer and the Supply Officer. The responsibilities involved must be understood and fulfilled. COMNAVFACENGCOM and COMNAVSUPSYSCOM have recognized these understandings and promulgated them as policy outlined in the following paragraphs.

b. Public Works Responsibility to the Supply Department

(1) The Public Works Department shall ensure that all initial support repair parts received in Public Works are turned over to the Supply Department for inventory control and accountability. Initial support repair parts intended for activity stock shall not be retained in the Public Works Department spaces without the prior knowledge and consent of the Supply Officer. By mutual agreement between the Public Works Officer and the Supply Officer, and when local conditions warrant, designated initial repair parts may be retained in the physical custody of the Public Works Officer, but shall remain on the records of the Supply Department until issued to the end user for inventory control and accountability purposes.

(2) Provide information regarding repair parts requirements needed to support vehicles/equipment on hand or for any new vehicle/equipment received. (Requirements would normally be generated from actual operational experience or through normal routine inspection of equipment.)

(3) Furnish advance information regarding repair parts requirements for scheduled overhauls. (Requirements would be generated in the same manner outlined in paragraph 4-1.9.4.b(2).)

Flow Chart for Shop Repair Orders

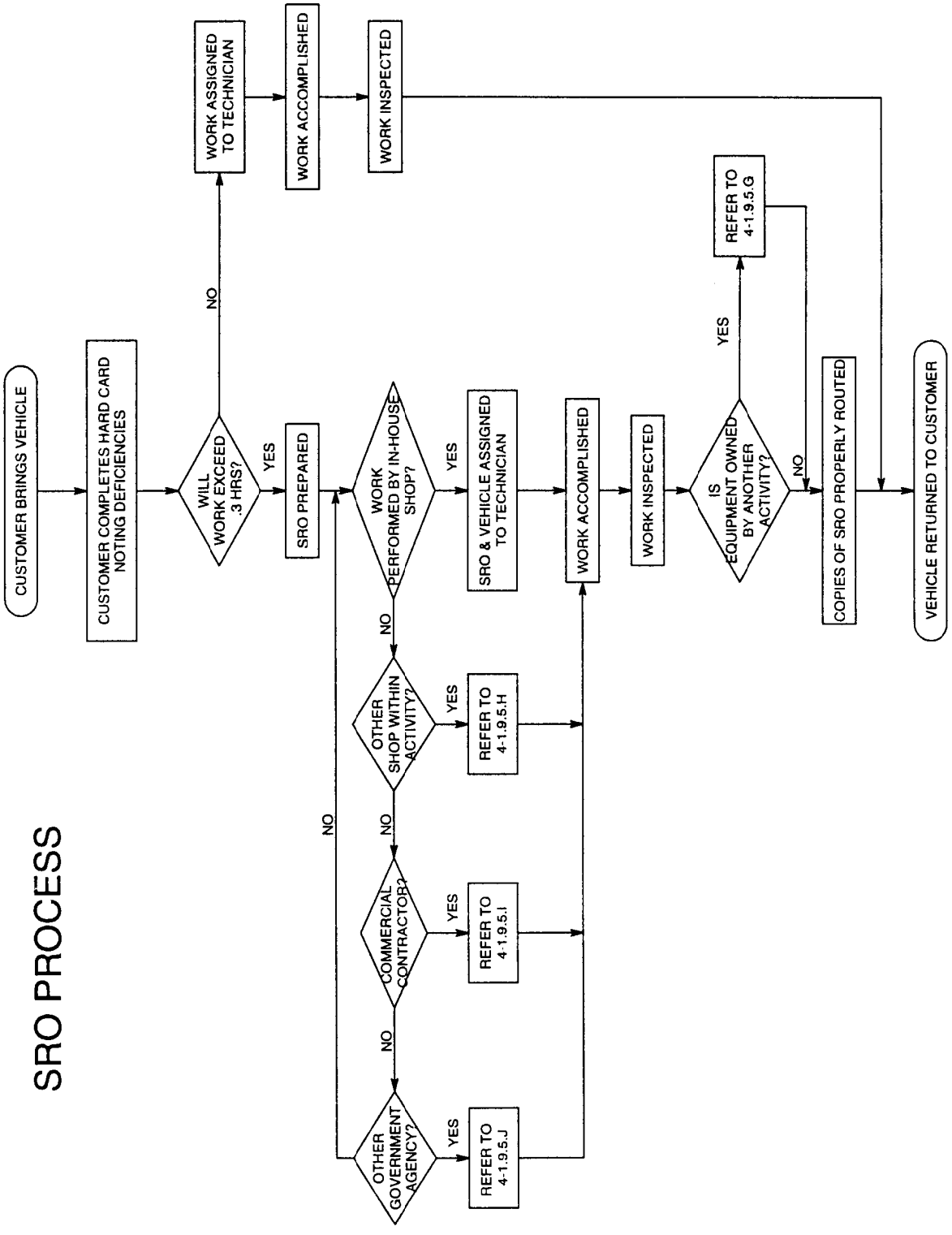


Figure 4-1-7

(4) Provide technical assistance to the transportation shop store in identifying parts and insurance items, and in determining parts interchangeability.

(5) Advise the transportation shop store of equipment scheduled for disposal or phaseout, and assist in identifying stocked items which should be eliminated from the shop store.

(6) In the absence of stock items, provide end use O&M,N funds to permit procurement and delivery of repair parts required for work in progress, or for subsequent scheduled services and repair for which job orders have been issued.

(7) Conduct periodic follow-up of shop store parts orders (after required delivery date has passed) to ensure that appropriate action has been taken to reduce further delay.

(8) Encourage active coordination/communications between Public Works and Supply Department personnel.

c. Supply Department Responsibility to Public Works (Transportation)

(1) Provide for the most timely method of repair parts support through the use of available stock, system stocks, or purchase action using imprest fund or blanket purchase authority and indefinite delivery parts contracts (IDTC) when practical.

(2) Perform technical research for parts identification and to determine part numbers, interchangeability, and cross-referenced parts numbers.

(3) Collaborate with Public Works in establishing stock levels in support of current and projected vehicle/equipment inventories.

(4) Record parts usage data for subsequent stock range and depth adjustments.

(5) Expedite local procurement action for immediate issue requirements when parts required are not readily available in the shop store or main supply department (e.g., BPAs, COPARS, IDTC).

(6) Review outstanding requisitions regularly to ensure that status received indicates satisfactory supply action is in progress. Follow-up as necessary to obtain delivery status.

(7) Advise Public Works personnel promptly indicating delivery date(s) of requested repair parts.

(8) Assume responsibility for staging of material by segregating material receipts applicable to specific repair jobs and advising the shop maintenance supervisor of material status.

(9) Encourage active coordination/communications between Supply Department and Public Works personnel.

d. Technical Parts Ordering Data. Surveys conducted by COMNAVFACENGCOM into the breakdown of repair parts support have revealed that much delay and downtime is caused by the mechanic's failure to provide adequate technical data when requesting parts. It shall be standard practice in all maintenance shops to provide shop stores with the following information for all but common hardware and bulk material.

(l) Description of Major Unit. Describe the vehicle or equipment unit for which the part is applicable, such as Truck, l/2 ton, 4 x 2, 5,000#GVW.

(2) Manufacturer of Major Unit. Give the make.

(3) Model of Major Unit. Give manufacturer's model designation.

(4) Year of Manufacture or Model Year. Determine from nameplate.

(5) Vehicle Identification Number (VIN). Determine from nameplate.

(6) Description of Component. Describe major component for which the part is required. For example: Engine V8 260 cubic inches; Transmission, Automatic, 5 speed, Allison, Model AT-545. Component identification can be determined from manufacturer's component line set lists provided with all new equipment. (Manufacturer's line set lists should be filed in the equipment history record jacket.)

(7) Manufacturer of Component. Give make of major component when other than make of major unit.

(8) Serial Number of Component. Give serial number from component nameplate where applicable.

(9) Description of Part. Give full description of part using standard nomenclature with noun name first followed by descriptive modifiers such as sprocket, camshaft; kit, carburetor. Provide the part name when available; however, the correct part name is the responsibility of the parts person and should be verified. Part numbers should be recorded on the SRO for future reference. This practice saves research time for the parts person.

4-1.9.5 **Preparation of Maintenance Forms**

a. Operator's Inspection Guide and Trouble Report (NAVFAC 9-11240/13). The Operator's Inspection Guide and Trouble Report is used by operators of motor vehicles to indicate the items they are required to inspect before and after operation. It also serves as a means of transmitting information regarding deficiencies detected during inspection or operation. The following procedures are prescribed for field application of this form. (See Appendix H, Figure H-22.)

(1) The operations dispatcher issues a form to the operator at the time of vehicle assignment.

(2) The operator inspects each item listed on the form before, and after operation.

(3) The operator indicates by a check mark any item that does not function properly. The "Remarks" space may be used for items not listed, or for additional information concerning deficiencies indicated by a check mark.

(4) The operator turns in the form to the operations dispatcher at the end of each day unless a deficiency is discovered that would require immediate attention by a mechanic.

(5) The operations dispatcher forwards the forms that indicate deficiencies to the maintenance branch for appropriate action. Other forms may be destroyed.

(6) The work input section refers the NAVFAC 9-11240/13 (Operators Report) to the service writer or maintenance supervisor who determines if the deficiencies noted on the form require immediate attention, or if correction may be safely deferred until the next scheduled inspection. If the correction is deferred, the form is attached to the Service Record Card so that the deficiency may be described on the SRO (NAVFAC 9-11200/3A) at the time the SRO is prepared for the next scheduled inspection.

b. Shop Repair Order (SRO). NAVFAC 11200/3A (Shop Repair Order) is a three-part set (see Appendix H, Figure H-23). Each SRO set consists of an original white, green, and yellow copy. Activities utilizing computer generated SROs (i.e., PCTransport, NFTS, etc.) shall develop local procedures for SRO copy distribution. Space is provided for indicating description and identification of equipment, statistical and cost coding, standard and actual hours, and scheduling and dispatching information. The SRO is used to:

(1) Specifically authorize and control repair work on all types of CESE, including authorization to requisition necessary repair parts from shop stores;

(2) Furnish basic information for management analysis;

(3) Authorize work on equipment when work is performed in a shop other than the activity transportation shop;

(4) Authorize a specific job under a Work Request (NAVCOMPT Form 140) issued by the ordering activity;

(5) Support the Order for Supplies or Services (DD Form 1155) as source material for the preparation of reports at small activities wholly serviced by a commercial facility.

c. SRO Preparation. An SRO will be prepared each time labor or materials are expended for the maintenance, repair, modernization, alteration, or improvement of an item of equipment except for minor work that does not exceed 18 minutes (0.3 hours). The SRO shall clearly and specifically describe the work to be performed in terminology generally used in commercial flat rate manuals. Maintenance personnel are not authorized to perform work not specified on the SRO. The SRO will be considered complete at the time the control section releases the equipment to the using organization's representative. In cases where items on the SRO must be deferred because of a lack of parts, and it is determined that the equipment can be safely returned to service, the remaining repair operations shall be entered on a new SRO and accomplished as scheduled work at a later date. Under no circumstances shall the original SRO be held open pending completion of repairs once the vehicle is released for use. The white copy of the SRO shall be completed showing all labor and material expended and totaled in the lower right hand block.

d. Preliminary Entries. A designated person in the work input and records section shall complete the heading entries, Blocks (1) through (14) of the SRO for each piece of equipment prior to the inspection due date shown on the preventive maintenance schedule.

e. Work Input and Records Section. Upon receipt of the SRO and related equipment, the service writer shall enter mileage or hours of operation, inspect the equipment, and make minor adjustments. As repair requirements are identified, each repair operation shall be entered on the SRO and standard job operation time (flat rate hours) applied to each separate repair operation to be accomplished. The SRO is then passed to the records section which issues the white copy to the appropriate repair section supervisor for work accomplishment. The green copy is routed to the cost clerk. The record section retains the yellow copy for tracking control and expediting until work is completed. The repair section supervisor assigns work to a mechanic, reviews and approves parts/material requirements, checks work in progress, checks work upon completion and signs Block 37 on the SRO indicating the work has been satisfactorily completed, and returns SRO to the work input and records section.

f. Work Accomplishment. The mechanic, upon receipt of the assigned SRO from his supervisor, checks in with the cost clerk, proceeds with the work, initials the completed repair operations specified on the SRO, and returns the SRO to his repair branch supervisor, and checks out with the cost clerk when work is completed or work is delayed for any reason. The cost clerk records the mechanic's start time on the labor job card, clips the card to the green copy of the SRO, and files it with the active repair work file. When the work is stopped for any reason, the cost clerk pulls the green copy of the SRO and the labor job card and records the stop time. Delayed SROs shall be held in the cost clerk's pending file until again activated. When work is completed, the cost clerk shall compare the white original and the green copy of the SRO, record actual time, compute downtime, and advise the Operations Branch or customer that the vehicle is ready for pick up. The date, miles/hours, and type of service is then posted on the service record. The original copy of the SRO is filed in the vehicle history jacket for the life of the vehicle; a copy shall be forwarded to the Public Works Administrative Section if the work is for a customer, and a copy is to be forwarded to the station safety office if the work is the result of accident damage.

g. Work on Equipment Owned by Other Activities. Upon completion of shop work on equipment owned by another activity, disposition of the SRO shall be as follows:

(1) The original shall be priced and forwarded to the Comptroller Department or Fiscal Office of the performing activity for attachment to a bill or report and subsequent transmission to the ordering activity.

(2) A copy shall be forwarded with the vehicle for filing in the equipment history jacket.

(3) A copy shall be retained for the performing shop's records, or destroyed, as desired.

h. Work Performed by Other Shops Within the Activity. When work on equipment is to be performed by another shop within the activity, an SRO identifying the equipment and work to be performed, together with the appropriate transportation job order number, shall be prepared and distributed as follows:

(1) The original to the other shop for work listed on the SRO to be performed by that shop; the other shop shall perform designated repair operations, record elapsed time, price labor and material issues, and return the original with the equipment.

(2) A copy shall be retained by the records section when all work is performed by the other shop, or forwarded to the cost clerk when work will be performed by both the transportation shop and other shop(s).

(3) A copy shall be retained by the records section until the original is returned.

i. Work Performed by Commercial Contractors. An order for supplies or services (DD Form 1155, supported by an SRO) is used when equipment maintenance work or service is performed by a contractor, or when occasional work is ordered from a commercial facility. The Work Input and Records Section shall ensure the SRO covering equipment scheduled for contract work is properly documented with the necessary preliminary data and turned over to the Repair Section Supervisor. The supervisor shall list on the SRO the necessary repair operations and apply manufacturer's flat rate standards for each operation listed; then return the SRO to the records section for entry of final data. The SRO will indicate the contract labor rate and amount, contract number, order number, and necessary accounting data. The SRO shall then be forwarded to the Contracting Officer who will prepare an original and six copies of the DD Form 1155; one copy shall be forwarded to the Comptroller or Fiscal Officer, where the estimated amount shall be entered on allotment records as an obligation. The original and four copies, together with both copies of the SRO, shall be returned to the shop dispatcher for delivery with the equipment to the contractor. The person delivering the equipment to the contractor shall obtain a custody receipt and return it to the records section. Upon completion of repairs, the contractor shall return the equipment with the original and one copy of the SRO, four copies of the DD Form 1155, and the original plus three copies of the contractor's bill. Upon completion of the inspection and approval of the work performed by the contractor, the repair section supervisor shall certify the bill for payment. The original of the SRO, three copies of the DD Form 1155, and three copies of the contractor's bill shall then be forwarded to the appropriate office for final processing and payment. One copy of the SRO, one copy of the DD Form 1155, and one copy of the contractor's bill shall be filed in the vehicle history jacket for the life of the vehicle.

j. Work Performed by Other Government Agencies. Procedures for the performance of work or services by other Government departments or agencies, military or nonmilitary, are basically the same as for work performed by a commercial contractor. An appropriate order for work or services (Project Order, NAVCOMPT Form 2053 for other military departments; Order for Supplies or Services, DD Form 1155, or NAVCOMPT Form 2053 for nonmilitary departments) is prepared from data cited on the SRO supporting the order. Procedures for preparing the necessary documents are contained in the NAVCOMPT Manual, Volume 3, Chapter 5. After completion of the work or services, the other Government department shall indicate the actual hours worked and the actual material cost on the SRO. The original and a copy of the SRO shall be returned to the requesting activity with a Voucher for Transfer Between Appropriations and/or Funds, Standard Form 1080. After inspection, approval, and certification of the work, the original of the SRO and attached documents shall be forwarded to the Comptroller or Fiscal Officer for payment. A copy of the SRO shall be filed in the vehicle history jacket for the life of the vehicle.

4-1.9.6 ***Maintenance Inspection/Service Record***. The Maintenance Inspection/Service Record, NAVFAC 11200/46 (Appendix H, Figure H-24), is an adhesive-type sticker which is placed on the windshield, dash, or other conspicuous section of the equipment after each scheduled PM service. The purpose of the form is to remind the operator of the date the equipment is scheduled for the next PM service. It also provides information on the dates of the last oil and filter change and lubrication.

4-1.9.7 ***Operator's Daily PM Report (Construction and Allied Equipment)***. The Operator's Daily PM Report, Construction and Allied Equipment, NAVFAC 11260/4 (Appendix H, Figure H-25), is used by operators of construction and allied equipment (except weight handling equipment) as a guide when performing daily PM services, and when reporting equipment deficiencies, hours operated, and fuel issued. (See NAVFAC P-307, for Operator's Daily Check List of weight handling equipment.) The following procedures are prescribed for field application of NAVFAC 11260/4:

a. The operations dispatcher issues a form to the operator when the equipment is assigned.

b. The equipment operator performs pre-service maintenance checks and indicates findings on the form.

c. The equipment operator records malfunctions of other items requiring attention as observed during the working day.

d. The equipment operator records the number of gallons of fuel issued to the equipment while in his custody and enters hours operated at the end of the day. Hour readings shall be taken from the equipment hour meter. Actual operating hours shall be estimated for those units not equipped with hour meters.

e. At the close of business each day, the form is turned in to the operations dispatcher, who reviews the form to ensure that the entries are valid and to take note of any deficiencies reported. The form is then forwarded to the maintenance dispatcher for further processing.

4-1.10 ***Preventive Maintenance Procedures for Automotive Vehicles***

4-1.10.1 ***Purpose of Preventive Maintenance***. An important element of the Transportation Maintenance Management Program is the periodic performance of scheduled preventive maintenance (PM) inspections, lubrication services, and adjustments. The purpose of PM is to keep equipment in a safe and reliable condition, with maximum equipment availability and minimum cost of maintenance and capital equipment.

Sample Vehicle Safety Inspection Sticker

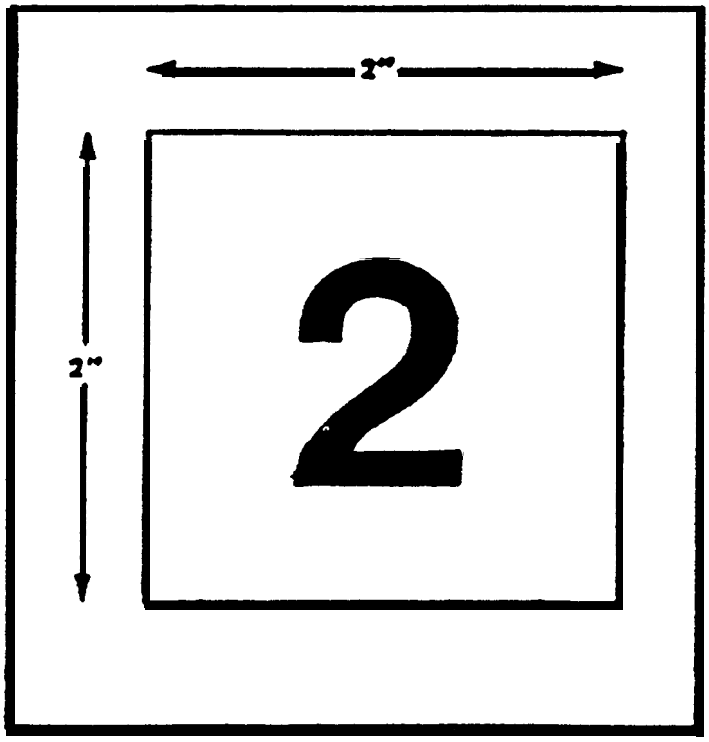


Figure 4-I-8

4-1.10.2 ***Operator Preventive Maintenance***. Operators are the first line of defense against equipment wear, failure, and damage. Equipment must be inspected by the operator on a daily basis before, during, and after operation so defects or malfunctions can be detected before they result in serious damage, failure, or accident. Defects detected during these inspections, or during operation of the equipment, shall be noted on the Operator's Inspection Guide and Trouble Report, NAVFAC 9-11240/13, and reported as soon as operation has ceased. The operator must stop operation immediately when a deficiency develops that renders the equipment unsafe, or could damage the equipment.

4-1.10.3 ***Service Station Servicing***. The following services shall be performed by the operator, service station attendant, or maintenance personnel during each refueling:

a. Check the oil level in crankcase and fluid levels in transmission and power steering pump;

b. Check the tires for proper inflation and condition;

c. Check the electrolyte level in battery (maintenance-free batteries should be a visual check; DO NOT REMOVE TOP);

d. Check the coolant level and antifreeze.

NOTE: When the preceding functions are performed by other than the operator, it is still the operator's responsibility to supervise the performance, ensure that the required services have been accomplished, and determine that the equipment appears to be in safe operating condition. If the vehicle is not displaying a currently valid inspection sticker (Figure 4-1-8), it must not be operated unless approved by the Operations Supervisor.

4-1.10.4 ***Scheduled Preventive Maintenance for Automotive Vehicles***. Automotive vehicles shall be inspected periodically by qualified automotive inspection personnel for safety and reliability as follows:

a. Safety Inspection. Each motor vehicle shall be inspected for safety at intervals not to exceed 12 months or 12,000 miles, whichever occurs first. To avoid unnecessary downtime, the safety inspection shall be performed at the time of the scheduled reliability inspection in accordance with the manufacturer's recommendations. The safety inspection shall include all the items set forth in paragraph 4.1.10.5. Any deficiencies detected shall be corrected before returning the vehicle to an operational status. For commercial motor vehicles, documentation of an annual safety inspection shall be in compliance with 49CFR396.17. This documentation may be in the form of a report or a sticker or decal (e.g., NAVFAC 11200/46, Appendix H, Figure H-24) that contains the following:

(1) Date of inspection
(2) Name and address of maintenance facility holding report
(3) Vehicle I.D.
(4) Certification of successful inspection

b. Reliability Inspection. In addition to the safety inspection prescribed, vehicles shall be inspected and serviced in accordance with the manufacturer's prescribed services and service intervals, such as miles or time as set forth in the manufacturer's shop manual and lubrication chart furnished with the vehicle. Corrective adjustments and repair actions taken as the result of serviceability inspections shall generally be limited to only those items prescribed by the manufacturer and only to the extent necessary to restore the vehicle to a degree of serviceability consistent with achieving the highest degree of cost effectiveness. Repairs shall be authorized by the inspector only after a thorough diagnosis and detection of malfunction, wear, or deterioration has been determined. When repairs are to be accomplished by commercial contract, only the contracting officer has the authority to authorize work, and the request must be in writing unless deemed an emergency or specified within the maintenance contract. Where the manufacturer specifies optional adjustments, such as "engine tune-up," such adjustments shall be made. Adverse local conditions may require more frequent routine maintenance inspections of a preventive nature to reduce road failure service calls. In such cases, the requirement shall be determined by management and the action shall be a policy matter directed by management in writing.

c. Development of Specifications for Scheduled Inspections and Services. Each activity shall develop an inspection specification and schedule in accordance with manufacturers' specifications. The inspection, lubrication, and adjustment functions and frequencies shall be determined from those recommended in the manufacturer's maintenance manual provided with the vehicle. A separate specification and schedule shall be developed for each make and model where different. These specifications and schedules shall be developed under the direction of the Transportation Director and shall be approved in writing.

d. Unscheduled Maintenance Service. Unscheduled maintenance service is the correction of deficiencies reported by the vehicle operator that occur between scheduled safety or other inspections and services as prescribed by the manufacturer. Unscheduled maintenance services will generally be limited to the correction of only those specific items reported as being deficient by the operator and confirmed by qualified inspection personnel. Other unreported deficiencies observed by the inspector at the time of an unscheduled service that affect safety, or could cause damage to the equipment, shall be corrected prior to releasing the vehicle for service.

e. Air Conditioner Maintenance Operations. Chlorofluorocarbons (CFCs) have been identified as ozone depleting substances. Automotive vehicle air conditioners have been identified as a controllable source of CFC-12 (Freon R-12) atmospheric emissions. Per OPNAVINST 5090.2, emissions of ozone depleting substances are prohibited.

(1) All air conditioning servicing shall include the requirement to recycle/reclaim CFC-12.

(2) All service contract bidders shall have equipment certified to recycle/reclaim CFC-12.

(3) Only equipment certified by Underwriters Laboratory Inc. (U.L. 1963) shall be used by certified technicians to recover, recycle, or reclaim CFC-12.

f. Retrofit of Ozone-Depleting Substances (ODS). Class I ozone-depleting substances (ODS), including CFC-12 used in most air conditioning systems of vehicles manufactured before model year 1994, were phased out of production in December 1995. To ensure Navy vehicle fleet managers are making appropriate plans to support existing vehicle fleets, the following policy applies to all Navy vehicle inventory holders:

(1) Vehicle retrofits will not be performed on functioning MVAC systems.

(2) Should major repair of an air conditioning system be required prior to the end of the useful life of the vehicle, retrofit should be considered as an option and the retrofit should be the most economical system available.

(3) Retrofits will be in accordance with OPNAVINST 5090.1B, Chapter 6.

(4) Use only products recommended by original equipment manufacturers (OEMs), and products which are EPA Significant New Alternatives Program (SNAP) approved.

4-1.10.5 ***Automotive Vehicle Safety Inspection Checklist***. The following inspection shall be performed every 12 months or 12,000 miles, whichever occurs first, or simultaneously with the manufacturer's recommended service interval and services.

a. Brakes

(1) Test to determine if brakes are functioning properly.

(2) Check brake pedal free travel as required.

(3) Remove a front wheel (alternate sides each safety inspection); inspect brake drum or rotor for wear or cracking; inspect linings or pads for excessive wear; check wheel cylinders for leaks and evidence of deterioration. (Remove opposite rear wheel and repeat the process.)

(4) Check fluid level and all hydraulic brake lines for leaks.

(5) On air brake systems, inspect air brake accessories and all air lines and air tanks for leaks and deterioration; check air brake instruments, control air valves, trailer hose, and glad hands.

b. Lights

(1) Check all lights, signals, and reflectors.
(2) Check condition of trailer jumper cable.
(3) Check headlights for proper alignment.

c. Instruments, Controls, and Warning Devices. Check instruments, gages, mirrors, switches, controls, and warning devices for proper functioning and damage.

d. Exhaust System. Check muffler, exhaust and tailpipes, and all connections for leaks.

e. Steering System. Check steering devices and linkage for wear and damage.

f. Seat Belts. Check all safety belts for wear and proper mounting.

g. Fifth Wheel and Trailer. Check trailer kingpin for wear and damage. Check tow bars, tongue sockets, and safety chains.

h. Tires. Check all tires for damage or excessive wear. Remove and replace tires on front wheels of buses, trucks, or truck tractors when the tires in use have less than 4/32-inch of tread at any point on a major tread groove. Tires shall be replaced when any tread groove pattern measures less than 2/32-inch.

i. Windshield Wipers, Glass, and Defrosters. Check wipers, glass, and defrosters for proper operation, wear, damage, and deterioration.

j. Other Items. Check all other components required by the states in which the vehicle is operated.

k. Exhaust Emission. Check exhaust emission for compliance with local restrictions.

l. Exhaust Emission Controls Tampering Check. Check for the presence of, or damage to, the catalytic converter, fuel filler inlet restraint, exhaust gas recirculation valve, air pump, air pump drive belt, and other pollution control devices which are readily visible. Check also for plugged or disconnected vacuum lines.

4-1.10.6 ***Maintenance of Vehicle in a Fuel Efficient Condition***. To achieve maximum fuel economy, the vehicle engine must efficiently convert the fuel into horse-power. This power, in turn, must be efficiently transmitted through the drive train to the wheels.

Finally, the vehicle must roll freely on the road. The following maintenance actions must be taken to ensure the total vehicle is maintained to achieve the top fuel efficiency for which it was designed.

a. Emission Inspection and Maintenance

(1) Under the Clean Air Act, as amended, the DoD is required to comply with state and local programs to improve air quality. All DoD components shall conform with the state and local standards to monitor and analyze emissions from commercial vehicles and shall utilize state and local guidelines in conducting such analysis.

(2) Section 203 of the Clean Air Act also prohibits DoD personnel or contractors from removing or rendering inoperative any emission control device or element of design on automotive vehicles operated within the United States. The civil penalty for violation of this provision is $2,500 per vehicle. Violations of the unleaded fuels regulations can result in penalties of up to $10,000 per violation. When performing corrective adjustments and repair actions or tune-ups, engine settings shall not be accomplished outside of the manufacturer's recommended specifications, nor shall pollution control related equipment, such as the catalytic converter, exhaust gas recirculation valve, or heated air intake system, be removed or rendered inoperative.

b. Engine. Tune the engine as required by the manufacturer's recommended specifications using modern diagnostic and test equipment. Especially check to ensure that the following systems and components are functioning correctly.

(1) Ignition timing
(2) Emission control system
(3) Automatic choke is fully released when engine is warm
(4) Exhaust system is unrestricted
(5) Air cleaner is unrestricted
(6) Thermostat is closing/opening at specified coolant temperatures

c. Power Train Chassis, Wheels/Tires. Abnormal power train and chassis friction and other rolling resistance requires excessive fuel consumption which can be eliminated or reduced by the following actions:

(1) Adjust service and parking brakes to ensure there is no drag;
(2) Adjust wheel bearings to proper torque rating;
(3) Check wheel alignment to ensure proper camber, castor, and toe-in;
(4) Inspect springs and hangers to ensure vehicle is tracking correctly;
(5) Inspect motor and transmission mounts and drive shaft to ensure drive train is not distorted;
(6) Lubricate chassis at frequencies recommended by manufacturer;
(7) Maintain tire manufacturer’s rated air pressure. This will reduce rolling resistance and prolong tire life. Under-inflated tires are also a safety hazard.

4-1.10.7 ***Tire Maintenance***. Tire and tube maintenance procedures outlined in Rubber Manufacturers Association (RMA) publications for passenger, truck and bus, off-highway, industrial, special purpose, and farm tires shall be used in maintaining Navy vehicle and equipment tires. Tires shall be inspected and removed from service in accordance with the safety standards prescribed in RMA publications. These publications are available from the Rubber Manufacturers Association Inc., 1400 K Street NW., Washington, DC 20005.

a. Retread Tires. Retreaded tires shall be used as replacement tires in accordance with the EPA Guideline for the Federal Procurement of Retreaded Tires and must be listed on the current issue of GSA's Qualified Products Lists (QPL); QPL-22-T-381, QPL-22-T-410, QPL-22-T-1083, QPL-22-T-1619, for the particular tire type. Worn tires that have been inspected and the casings found to be structurally sound shall be retreaded for further use in accordance with the procedures established below. Retreaded tires shall not be used on the front wheels of Buses, Ambulances, or Aircraft Rescue Fire Fighting (ARFF) Vehicles. Re-grooving on tires is prohibited.

b. Tire Retreading Program. The use of retread tires can produce substantial reduction in operating expenses of vehicles and equipment. Retreading services are available in most areas under the prevailing GSA Federal Supply Schedule (FSG-26). In areas where GSA schedules are not available for retreading services, it is recommended that a contract be awarded for such service under competitive bidding procedures. Retreading is a labor-intensive workmanship-oriented process and must be monitored closely and frequently. The following procedures shall be followed in assuring quality retreads.

(1) Specification of Work. Tire retreading, repair, and material shall be in accordance with Federal Specification ZZ-T-441H (6-13-89) entitled "Tire Pneumatic: Retreaded and Repaired." Contractors shall furnish documentation showing their facility is certified under GSA's Quality Assurance Facility Inspection Program (QAFIP). The QAFIP certification shall be displayed in the contractor's business office and inspected by the activity's representative to insure the certification is updated as required.

(2) Scope of Work. As in any retreading system, a retread is only as good as its basic casing. Therefore, careful selection and stringent inspection procedures must be followed. Inspection of the casings before and after retreading is of prime importance for good quality control. Quality assurance shall be in accordance with applicable paragraphs of Sections 3 and 4 of specification ZZ-T-441H, with the following additional requirements:

(a) Before Retreading. Select premium tires for retreading that have been well maintained during operation and have been pulled for retreading when tread depth is not less that 4/32 of an inch deep on front-mounted tires and not less than 2/32 of an inch on all other tires. Casings, as furnished to the contractor, shall be identified as Navy-owned and shall be further inspected by the contractor in accordance with paragraph 3.3 of ZZ-T-441H before acceptance for retreading.

(b) During and After Retreading. As set forth in paragraph 4.1 of ZZ-T-441H, the Government reserves the right to perform any of the inspections as provided in the specification for compliance with prescribed contract requirements. A representative of the user activity should establish the inspection procedure with the Contracting Officer in order that quality checks of the contractor's plant can be arranged. A visit to the retreading plant to observe craftsmanship, process controls, condition of processing equipment, quality of the rubber used, and cleanliness of the shop provides the necessary confidence level for quality assurance. When the retreaded tires are returned to the user, the activity's representative who has become familiar with the contractor's retreading process should inspect each tire. Retreaded tires found to be defective should be returned to the contractor (at the contractor's expense) for corrective action. Activity inspections shall verify that the newly delivered retreaded tire is on the original Navy casing. Also, additional visual inspections are to be performed as outlined in Tables II and III of Specification ZZ-T-441H, to determine any defective material used, poor processing, or poor workmanship.

c. Tire Marking/Identification. Tire labeling of ownership shall be established by user activities in the following areas:

(1) On tire casings furnished to a contractor for retreading/repair service.

(2) On popular size tires under specific conditions.

(a) To improve local control and accountability.

(b) As a deterrent to pilferage.

Tire labeling/marking shall be by either patch or branding for permanent identification and shall be made up of enough lettering to spell out "USN activity". This label is to be located on or into the area of the tire side wall (but not in the scuff ribs) and shall not interfere with other DoT required markings. Branded letters shall be approximately 1/16 to 1/8 inches deep, measured from the surface immediately surrounding the lettering.

4-1.11 ***Preventive Maintenance Procedures For Construction And Allied Equipment (Less Weight Handling Equipment)***

4-1.11.1 ***General***. Preventive maintenance (PM) principles and general procedures set forth in paragraphs 4-1.9 through 4-1.13 are equally applicable to all construction equipment. (See the NAVFAC P-307 for weight handling equipment.) Maintenance inspections and services shall be performed as prescribed by the manufacturer in the maintenance manual provided with the equipment and at the recommended frequencies. The frequencies shall generally be based on hours of operation as recorded on an hour meter, rather than fixed time intervals, except for the daily services performed by the operator.

4-1.11.2 ***Operator's Daily Inspection***. All equipment shall be given a daily inspection and service by the assigned operator before, during, and after operation. The operator shall complete this daily requirement in accordance with the procedures set forth in paragraph 4-1.9.7 and NAVFAC 11260/4, performing all inspections, services, and adjustments specified. The Transportation Director shall augment these procedures with any additional daily services to be performed by the operator, as recommended by the manufacturer; such instructions shall be explicit and in writing. The operator shall turn in a completed NAVFAC 11260/4 (operators report) to the equipment dispatcher or his supervisor daily. It shall be the operator's responsibility to ensure that the equipment is safe and reliable. The operator shall stop the equipment immediately when a deficiency develops that renders the equipment unsafe or could damage the equipment.

4-1.11.3 ***Development of Specifications for Inspections and Services***. Each activity shall prepare a specification that will set forth, in writing, the inspection and service operation, and frequency with which that operation shall be performed. Data for the specification and schedule shall be obtained from the manufacturer's maintenance manual provided with the equipment. If data is not provided by the manufacturer, it shall be established locally, with frequencies expressed in terms of operating hours. Similarly, adverse local conditions may require the specification of additional operations or frequencies by the activity, beyond or different from those recommended by the manufacturer. Emphasis shall be placed on the inspection and servicing of all control and safety devices. A separate specification and schedule format shall be prepared for each make and model where different. These specifications and schedules shall be approved in writing by the Transportation Director. The TEMC can provide assistance in preparing the specifications.

4-1.11.4 ***Lubrication Schedule***. Equipment shall be lubricated in accordance with recommendations provided by the manufacturer's maintenance shop manual or operator's manual provided with the equipment. When this data is not available, the data shall be obtained from the manufacturer by the activity. Contact the TEMC for assistance if unable to obtain the necessary data.

4-1.11.5 ***Maintenance and Testing of Boom, Hi-Lift and Aerial Service Trucks/Equipment***

a. Applicability. This section applies to vehicle mounted elevating and rotating aerial or lifting devices; boom supported elevating work platforms which either telescope, articulate, rotate or extend; self-propelled, vertically adjustable work platforms; airline ground-support vehicle-mounted lift devices; ammo handling trucks with hydraulic booms; stake trucks with hoists or booms installed; and maintenance trucks with hydraulically operated extension ladders that raise, lift, move, or support personnel and/or material. Including, but not limited to, the following ECs: 0343, 0525, 0603, and any other type of equipment when modified to include a boom, hi-lift, or other lift equipment; ECs 0704, 0723, 0725, 0729, 0731, 0735, and 5460 have to be tested because equipment is procured as elevating or lift equipment.

(1) Operation. Operators shall have a valid OF-346 in their possession when operating any of the equipment described above. The OF-346 must show each type of equipment the licensee is authorized to operate. Applicable guidelines pertaining to policy and procedure to be followed for testing and licensing equipment operators are provided in Chapter 3 of this publication. These procedures shall be used when issuing an OF-346

(2) Maintenance. Maintenance and lubrication [includes regularly scheduled preventive maintenance (PM) type inspections] shall be performed per manufacturers' recommendations and guidelines. If the manufacturers' maintenance and lubrication frequency and inspection requirements are not available, the activity shall develop and accomplish its own maintenance, lubrication and/or inspection requirements and schedules based on available guidelines and past local experience. An equipment history record file shall be developed and maintained for each individual unit of equipment. Each equipment history record file shall contain the current, and immediate prior documentation for all types of inspections, test reports, and certifications. The file shall also contain all prior SROs, equipment specifications, and modification/alteration approvals.

(3) Inspection

(a) Daily. Each operator shall perform a check of the equipment prior to placing the equipment in service and again when securing the equipment. Using the manufacturer’s manual and past local experience, each activity shall develop a daily check list for the operators' use. The completed daily check lists shall be kept on file for a minimum of 60 days. If the operator detects any condition that would indicate the equipment to be unsafe or unreliable for use, the equipment shall be removed from service until the suspect condition is corrected.

(b) Annual. A condition inspection, an electrical insulation test (when applicable), and a load test shall be performed annually. Certification of these inspections and tests shall be the responsibility of the designated (in writing) activity certifying official who will certify the equipment safe and reliable for use. A copy of the certification shall be posted on the equipment, in full view of the operator, with the original certification form being filed in the equipment history record file. A locally developed condition inspection, load test, and certification format shall be used.

(4) Testing

(a) Load Testing. Prior to any load testing, a complete condition inspection shall be performed. Any items found to be unsatisfactory, which will render the equipment unsafe (including warning devices) or unreliable, shall be corrected prior to conducting the load test. Nondestructive testing (NDT) methods shall be used where there are questionable structural components. In addition to visual inspections, all load lifting hooks shall be removed and nondestructively tested every five years (i.e., EC-0704). All hooks shall be measured for hook throat opening before and after each

load test. A permanent tram point base measurement shall be established across the hook throat opening and hooks shall be discarded if the throat opening varies more than five (5) percent of the base measurement. Test loads can vary from 100 to 150 percent (based on type of equipment being tested) with a tolerance of +5%/-0% of the manufacturer's rated capacity. Outriggers or stabilizers (if so equipped) shall be fully deployed on a firm level surface prior to lifting test loads or working loads. Unless restricted by the manufacturer, the following test loads shall be used as a minimum:

EC	TEST LOAD (PERCENT OF RATED CAPACITY)
0704	110
0723	100
0725	150
0731	133
5460	150

The weight of all handling gear shall be included as part of the test load. The reference material listed in paragraph 4-1.11.5.b shall be used to establish test procedures for the particular type (EC) of equipment being tested, including the load testing of hydraulically and electrically operated tail-gates used for lifting.

(b) Electrical Insulation Test. All aerial devices/equipment shall be clearly marked and readily visible to inform the operator whether the aerial device is insulated or non-insulated. In the case of insulated aerial devices, the voltage for which the aerial device has been satisfactorily tested shall be posted and readily visible to the operator. Aerial devices/equipment that are not rated for use as an insulated device, and operating near any electrical transmission lines, shall maintain the following minimum required clearances:

VOLTAGE (KV)	MINIMUM REQUIRED CLEARANCE (FT.)
TO 50	10
51 TO 200	15
201 TO 350	20
351 TO 500	25
501 TO 750	35
751 TO 1000	45

Operators of aerial devices that are rated for use as an insulated device must know the rated line voltage of energized power lines in order not to exceed the insulation test voltage of their aerial device. Insulation testing equipment shall meet the requirements of American National Standard Institute Techniques for Dielectric Tests, ANSI/IEEE STD 4-1969 and American National Standard Institute Techniques for Switching Impulse Testing, ANSI/IEEE STD 332-1972, or the latest revision thereof. A test procedure which is approved by the aerial device manufacturer or an equivalent entity shall be considered an acceptable test for certification.

(5) Certification. The certifying officer is responsible for ensuring the safety and reliability of all boom, hi-lift, and aerial service trucks/equipment at the activity. The certifying officer shall be designated in writing by the Commanding Officer of the activity. The certifying officer shall, in turn, designate the authorized test directors and inspection and test personnel. Certifications shall be based on the condition inspection and load tests or other appropriate proof test prescribed in paragraphs 4-1.11.5.a(3) and (4). These inspections and tests shall be performed by technically competent inspection and test personnel under the direction of a designated test director. Upon successful completion of the condition inspection and load test or other appropriate proof test, a Certification of Load Test and Condition Inspection shall be signed by the test director, inspection and test personnel, and the certifying officer. All certifications are automatically void after one year, after exceeding the certified rated capacity during operation, or after an adjustment, repair, disassembly, replacement, or alteration/modification of a load bearing or load controlling part or component.

(6) Modifications. No modification or additions which affect lifting capacity, stability, the mechanical, hydraulic or electrical integrity, or safe operation of the aerial device shall be made without the written approval of the manufacturer or an equivalent entity (e.g., EFD/TEMC). Upon the approval and completion of such modifications, and after repairs or adjustments to load bearing/controlling components, the equipment shall be load tested and certified.

(7) Markings/Instructions/Warnings. As a minimum, the following information shall be permanently affixed, clearly understandable and readily visible to the operator.

(a) Equipment identification number (USN);

(b) The function of each control;

(c) Rated load capacities at all configurations;

(d) Annual certification and date of load test;

(e) Whether insulated or non-insulated;

(f) Voltage and date of insulation test;

(g) Any operational or electrical hazards involved during operation.

b. References. In addition to the foregoing instructions, the current edition/revision of the following references shall be used to establish a program for the inspection, maintenance, and testing of related aerial lifting devices/equipment:

(1) Manufacturers' technical manuals/instructions;

(2) ANSI A92.2-1979, Vehicle-Mounted Elevating and Rotating Aerial Device;

(3) ANSI A92.3-1980, Manually Propelled Elevating Work Platforms;

(4) ANSI A92.5-1980, Boom-Supported Elevating Work Platforms;

(5) ANSI A92.6-1979, Self-Propelled Elevating Work Platforms;

(6) ANSI A92.7-1981, Airline Ground Support Vehicle-Mounted Vertical Lift Devices;

(7) ASME/ANSI B30.22-1987, Articulating Boom Cranes (Commercial Truck-Mounted);

(8) NFPA 1914-1988, Testing Fire Department Aerial Devices (Ladder Trucks/Platforms);

(9) NAVFAC P-307, Maintenance and Certification of WHE.

4-1.11.6 ***Inspection and Testing of Fire Department Aerial Devices***

a. General. All fire department aerial devices shall be inspected and tested in accordance with the current edition of the National Fire Protection Association (NFPA) 1914 Standard for "Testing Fire Department Aerial Devices." The NFPA 1914 specifies minimum inspection and testing requirements and shall be used to supplement, not to replace or modify, any instructions recommended by the aerial device manufacturer. Aerial devices shall include fire apparatus equipped with aerial ladders, elevating platforms, and water towers designed to position personnel, handle materials and/or discharge water as specified in NFPA 1901, Standard on Automotive Fire Apparatus.

b. Scope. Visual inspections, operational tests, and load tests specified in NFPA 1914 shall be conducted at least annually; after major repairs or overhaul; when the aerial device may have been subjected to unusual operating conditions of stress or load; or when there is reason to believe that usage has exceeded the manufacturer's recommended operating procedures or capacity limits.

(1) Inspection Personnel. Most of the inspections and tests outlined in NFPA 1914 are intended to be performed by "qualified" fire department personnel. "Qualified" is defined as a person who, by possession of a recognized degree, certificate, professional standing, skill, knowledge, training and experience has demonstrated the ability to deal with problems relating to the subject matter, the work, or the project. However, if the fire department prefers, the inspections and tests can be performed by a third-party testing company or the manufacturer.

(2) Load Testing. Test loads shall be equal to the manufacturer's specified rated load capacity. The handling gear, supporting hangers, containers, etc. shall be calculated as part of the test load and the total test load shall not exceed the rated load capacity. Tests shall be conducted when wind velocity is less than ten miles per hour (MPH). The test load shall be sustained by the unsupported aerial device for FIVE Minutes.

(3) Nondestructive Testing (NDT). In addition to the required annual inspections and tests, a nondestructive test shall be performed at least every five years. Several methods of NDT are used to inspect structural components without physically altering or damaging the materials. Nondestructive testing procedures shall be conducted in accordance with "American Society for Testing and Materials (ASTM)" standards. The person actually performing the NDT shall be certified as an "American Society for Nondestructive Testing (ASNT)" Level II Testing Technician. Structural welds shall be inspected in accordance with the American Welding Society (AWS) Standard AWS D14.4 and comply with a Class IV weld as outlined in Table 7-17.4 of AWS D14.4. Nondestructive testing may be desirable on a more frequent basis than every five years, depending on the service the aerial device is subject to (i.e., extensive use over rough roads that rack the device in its bed). Whenever structural damage is detected, the aerial device shall be removed from service, and the condition shall be reported, in writing, to the manufacturer with a copy of the report going to the cognizant area fire marshal. The aerial device shall be repaired to an acceptance level in accordance with the manufacturer's standard and tested for full operational use before it is placed back in service.

c. Procedures. Every aerial device shall be inspected and tested in accordance with the NFPA 1914 Standard. However, since each manufacturer's unit will be somewhat different, specific attention shall be given to the manufacturer's instructions concerning periodic maintenance and inspection checks. Also, specific written checklists should be developed by each fire department for their style and brand of apparatus, combining the manufacturer's recommended checks with the procedures outlined in the NFPA 1914 standard.

d. Records and Reports. The aerial devices' service records shall always be checked for any reports that may indicate defective conditions. A report form, which will include, as a minimum, the information required by NFPA 1914, shall be completed for each inspection/test performed and signed by the person responsible for the test. All inspection and test records shall be maintained in the equipment history record file for the respective aerial device. A copy of all test report forms shall be forwarded to the cognizant area fire marshal.

4-1.12 ***Corrosion Prevention***. Vehicles and equipment at many shore activities are subject to severe corrosion due to atmospheric conditions or the contact of salt from ice removal operations. Corrosion damage causes excessive maintenance expenditures to correct the damage, or significantly reduces the economic service life of the vehicles and equipment. Corrosion can be economically controlled by the proper application of

protective coatings and adequate maintenance of these coatings. Vehicle and equipment manufacturers have been responsive in applying corrosion treatment to vehicles at the factory. Manufacturers' extended warranties and state-of-the-art procedures minimize the need for additional corrosion protection. All new vehicles should be examined to determine if corrosion treatment has been applied. If corrosion treatment is needed, it usually is more economical to utilize commercial sources as they are properly equipped and will provide warranty service.

4-1.13 ***Technical Information And Procedures***

4-1.13.1 ***Technical Publications***. Technical publications are an essential tool of the Transportation Maintenance Management Program. There is a continuing need for both management and maintenance personnel to refer to authoritative sources of technical data. Maintenance management shall be able to refer readily to competent technical authority in support of decisions that pertain to technical procedures. It is the responsibility of maintenance management to constantly review and disseminate to maintenance personnel the latest technical data pertaining to the maintenance of the assigned equipment.

a. Equipment Manufacturers' Technical Publications. Each equipment manufacturer is required under the provisions of the purchase contract to furnish operator manuals, lubrication charts, parts manuals, and shop repair manuals with each purchase. NOTE: Only one set of manuals will be provided to each consignee regardless of the number of vehicles/equipment delivered. If new equipment arrives without the required manuals, the receiving activity should report this fact directly to CBC Port Hueneme (Code 1574) immediately. Unless otherwise specified in this publication, the manuals provided by the manufacturer are the authoritative technical guides for maintenance of the equipment. Replacement manuals, additional manuals, or manuals for equipment transferred from one activity to another without manuals, can be stocked by CBC Port Hueneme upon letter request; CBC Port Hueneme (Code 15741) will provide any ordering instructions required. Original equipment manufacturers periodically publish service bulletins that provide further information concerning recommended modifications applicable to Navy-purchased equipment. Such service bulletins shall be considered the necessary authority to effect such modifications without further reference to COMNAVFACENGCOM or the cognizant TEMC.

b. Military Technical Publications. Technical publications covering specific equipment of military design, such as U.S. Army Technical Manuals (TM) and Modification Work Orders (MWOs), constitute the authoritative technical information sources for maintenance procedures applicable to an item of equipment unless otherwise prescribed in this publication. Technical modifications to equipment recommended by the cognizant military service shall constitute all the necessary authority to effect such modifications.

c. Job Time Standards. Job time standards [otherwise known as "engineered performance standards" (EPS) or "flat rate standards"] shall be applied by the service writer on all SROs. The standards set forth in the following subparagraphs are the approved sources of standards for all general purpose vehicles covered by the referenced publications. COMNAVFACENGCOM (Code 134) shall be notified via the appropriate TEMC of any standards in approved publications that appear to be unrealistic.

(1) Job Time Standard Publications

(a) Motor's Flat Rate and Parts Manual, Motor, 250 W. 55th Street, New York, NY 10019.

(b) Chilton Flat Rate Manual, Chilton Company, Chilton Way, Radnor, PA 19089.

(c) Mitchell Manuals, "Mechanical Parts/Labor Estimating Guides" P.O. Box 26260, San Diego, CA 92126.

(2) Equipment Manufacturers' Job Time Standards. Job time standards published by the equipment manufacturer may be used in lieu of any of the foregoing.

(3) Equipment Not Covered by Job Time Standards. Job time standards for equipment not covered by the foregoing shall be developed locally and approved in writing by the Transportation Division Director.

4-1.13.2 ***Procedures for Obtaining Technical Publications***. Normally, commercial publications are procured by local purchase. Overseas activities without commercial sources of supply shall forward requisitions to the Fleet and Industrial Supply Centers at Oakland, CA or Norfolk, VA, as appropriate, via the activity Supply Department.

4-1.13.3 ***Manufacturers' Service Representatives***. The transportation equipment industry generally has service representatives available throughout the world. These representatives are trained specialists with technical knowledge of their particular fields and are a valuable source of information to an equipment maintenance organization. As a general rule, the services of these representatives are provided without cost to the Government. The EFDs/TEMCs are focal points for contact with such representatives, and can assist an activity in arranging for their services.

4-1.14 *Facilities Layout For Transportation Shops*

4-1.14.1 ***General Criteria***. Standard criteria for transportation shop layouts have been developed by COMNAVFACENGCOM. These standard criteria shall be used as guidelines in developing the most economical and efficient shop configuration. New construction shall combine the maintenance and operations functions for automotive, construction, weight handling, and railway equipment. Maximum accessibility of

support areas to production bays, centralized administrative areas, and drive-through general repair bays that eliminate wasteful traffic aisles are typical of improved shop layout features. Activities planning new or modified facilities shall obtain assistance from the appropriate EFD/TEMC.

4-1.14.2 ***Shop Facilities Requirements Planning***. Planning factors and other planning data for developing and reviewing requirements for transportation maintenance and operations facilities have been provided in Section 2, Chapter 3 of NAVFAC P-80, Facility Planning Criteria for Navy and Marine Shore Installations.

4-1.14.3 ***Shop Layout Details***. Definitive drawings and design criteria have been developed for shop layouts. See NAVFAC P-272, Definitive Designs for Naval Shore Facilities, Part 1, Volumes 1 and 2, and NAVFAC DM-28, Design Manual for Maintenance Facilities.

4-1.14.4 ***Additional Factors to be Considered***

a. The Transportation Director/Superintendent of the planned new Facility should be included in all planning phases.

b. In addition to activity-owned equipment, consideration must be given to the maintenance and servicing of customer-owned equipment when determining the square footage of the facility.

c. Collateral functions that may be unique to a particular facility must also be considered when determining square footage and lay-out plans. These functions could include, but not be limited to:

(1) Supply Room/Shop Stores;
(2) Tire Shop;
(3) Welding Shop;
(4) Battery Shop;
(5) Body Shop;
(6) Paint Shop;
(7) Car/Vehicle Wash Bay;
(8) Hazardous Material Storage/Disposal.

SECTION 2. NCF/SOU EQUIPMENT MAINTENANCE

This section pertains to those units assigned to the Naval Construction Force (NCF) or designated as Special Operating Units (SOU). These units are deployable.

4-2.1 Maintenance Organization

a. Organization. The organization of equipment maintenance shops varies in such areas as number and types of assigned equipment, number and experience of personnel, work hours, number of shifts, environmental conditions, and the activity's mission. The following organization is based on a typical Naval Mobile Construction Battalion (NMCB) operation, but the functions are applicable to small shops where one person may perform several functions.

b. Maintenance Supervisor. The Maintenance Supervisor is usually the senior mechanic assigned to an activity. The supervisor is responsible for the maintenance program for all assigned CESE and personally supervises the inspectors, cost control clerks, technical librarian, and parts expediters. Some of the Maintenance Supervisor's responsibilities are to enforce all established maintenance policies, approve all repair actions prior to their accomplishment, approve all requisitions for procurement of Not In Stock (NIS) and Not Carried (NC) material, maintain the shop workload files, make all decisions that concern deadline CESE, control all CESE transfers and disposals, supervise the preventive maintenance program and live storage, and control all construction mechanics and shop tools and kits. The Maintenance Supervisor will initiate appropriate action when, during maintenance procedures, equipment abuse or misuse is suspected.

Shop Supervisor. Each maintenance section has a Shop Supervisor who is responsible for the quality of maintenance performed in the shop. A typical NMCB maintenance organization is divided into three sections: (1) Service Shop, (2) Repair Shop, (3) Support Shop. The Service Shop will perform preventive maintenance and make minor repairs to CESE providing the repairs do not exceed one hour, or as scheduled by the Shop Supervisor if time permits. The Repair Shop Supervisor usually acts as the Field Maintenance Supervisor. The Repair Shop will perform major repairs and make minor repairs to CESE providing the repairs exceed one hour. The Support Shops usually include facilities such as the Machine Shop, Tire Shop, Chassis/Body/Fender and Radiator Shop, Battery Shop, and the Electric Shop.

d. Inspector. Inspectors examine equipment for needed repairs and services. Inspectors, who work directly for, and are responsible to, the Maintenance Supervisor, should be mechanics who are knowledgeable and proficient in their rating and able to describe clearly each repair action on the Equipment Repair Orders (ERO). All work must be listed. Each piece of equipment is inspected after the completion of repairs to ensure that the work is done correctly. Thorough final inspection increases reliability and, in turn, reduces the mechanic's workload. Inspectors may perform minor

repair work that pertains to inspection procedures only. Inspectors shall immediately notify the Maintenance Supervisor when suspected equipment abuse or recurring failures are discovered.

e. Cost Control Clerk. The Cost Control Clerk controls the Preventive Maintenance Program as directed by the Maintenance Supervisor. He should be a senior mechanic, knowledgeable in his rating and possess proficient administrative skills. He personally supervises the Preventive Maintenance Clerk and the Direct Turnover Clerk.

f. Preventive Maintenance Clerk. The Preventive Maintenance Clerk compiles all CESE into PM groups, prepares the PM schedule, and maintains the PM record cards with each vehicle's preventive maintenance history. The PM Clerk also controls EROs, maintains the ERO log, Equipment History Jackets, and is responsible for maintaining the Maintenance Office Equipment Status Boards.

g. Direct Turnover Clerk. The DTO Clerk maintains the maintenance shop's repair parts status and accountability records and is the liaison between the Supply Office and the shop. All requisitions for Not In Stock (NIS) and Not Carried (NC) material must pass through the DTO Clerk, who maintains the Direct Turnover (DTO) Log and the Repair Parts Summary Sheets. The DTO Clerk is responsible for the DTO parts and storage bins, and maintains the deadline file and the deadline status board.

h. Technical Librarian. The Technical Librarian, who should be an experienced mechanic, is responsible for the prepacked library, which contains operational, maintenance, and parts manuals as described in Chapter 5 (if they are subcustodied from repair parts). The librarian establishes and enforces check-out procedures for all manuals and maintains all required reference materials needed to research and initiate part requisitions. The Technical Librarian usually researches and prepares the requisitions in accordance with Chapter 5, paragraph 5.5. This frees floor mechanics from administrative duties.

4-2.2 Maintenance Cateaories

a. Maintenance Objectives. Maintenance keeps equipment in constant safe and serviceable condition at minimum cost, and detects and corrects minor deficiencies before they lead to costly repairs.

b. Maintenance Levels. The CESE Maintenance System of the Naval Construction Force (NCF) and Special Operating Units (SOU) has three categories of maintenance: (1) organizational, (2) intermediate, and (3) depot. A unit's repair parts support is keyed to the authorized category of maintenance. The four levels of repair parts support that can be assigned are described in Chapter 5, paragraph 5.3.2.

(1) Organizational Maintenance. Organizational maintenance is the responsibility of the Equipment Operator, and scheduled preventive maintenance services are performed by trained personnel (paragraphs (a) and (b) below). Organization maintenance consists of proper equipment operation, safety and serviceability inspections, lubrications, minor adjustments, and services. Usually, activities accomplishing only organizational maintenance are provided with "0" level repair parts support as described in Chapter 5, paragraph 53.2.

(a) Operator Maintenance. Every operator is to detect any malfunction and maintain his vehicle in clean, safe, and serviceable condition. Operator maintenance includes daily before, during, and after operation inspections, and lubrications and adjustments. Before, during, and after operation inspections and services are described in Chapter 2, paragraph 2.15.3.f.

(b) Preventive Maintenance. Preventive maintenance (PM) is scheduled to maximize equipment availability and minimize repair costs. Preventive maintenance consists of safety and serviceability inspections, lubrication, and minor services and adjustments, in addition to operator maintenance. Operators should participate in this work, unless directed otherwise. Scheduling PM is described in paragraph 4-2.3.

(2) Intermediate Maintenance. Intermediate maintenance is the removal, replacement, repair, alteration, calibration, modification, rebuilding, and overhauling of assemblies, subassemblies, and components. These repairs are performed in a designated maintenance shop. Equipment which needs extensive or numerous assembly rebuilds require prior approval by higher authority. Maximum one-time repair costs (see Appendix F) are evaluated by the relationship of equipment age to equipment life expectancy. Because intermediate maintenance requires more skill than organizational maintenance, intermediate maintenance is authorized a larger assortment of repair parts, precision tools, and testing equipment. Usually, activity main bodies are provided "H" level repair parts support, and major detachments are provided "G" level support.

(3) Depot Maintenance. Depot maintenance is performed by designated maintenance activities to support organizational and intermediate maintenance activities that have more extensive shop facilities, equipment, and personnel of higher technical skills. Currently, NAVFACENGCOM authorized maintenance for CESE is performed under organization and intermediate levels only.

NOTE: *Amphibious Construction Battalions (PHIBCB) maintenance data for the SLWT (Side-Loadable Warping Tug), CSP (Causeway Section, Powered), and CSNP (Causeway Section, Nonpowered) will be performed and reported under 3M system, DoD Equipment Maintenance Program. Maintenance data for the ELCAS (Elevated Causeway) and ABFHS (Amphibious* Buoyant Fuel *Hose* System) remains reportable under this *publication.*

4-2.3 PREVENTIVE MAINTENANCE

a. Preventive Maintenance Program. A dynamic preventive maintenance (PM) program reduces equipment downtime and disruption of work schedules caused by equipment failures. Proper PM scheduling maintains uniform and balanced shop workload and reduces the required work force. The scheduling system outlined herein is the minimum prescribed standard for PM of all USN-numbered and USNG-numbered equipment when operating under favorable conditions. The Maintenance Supervisor determines when equipment requires more frequent inspections. Inspections are critical for low-usage equipment such as equipment in a deadline or standby status. Once the activity's PM schedule has been established, deviations must be authorized by the Maintenance Supervisor. The standard interval between PMs for NCF equipment is 40 working days, based on a 5 day work week, with services performed in accordance with manufacturer's recommendations and specifications.

b. Preventive Maintenance Groups. Preventive Maintenance groups are scheduling units in which all of an activity's equipment is evenly distributed. Each CESE item must be assigned to at least one PM group. The equipment should be evenly distributed throughout 40 PM groups so that a minimum number of similar items are out of service at any one time. Normal grouping should work like this: 1 of 10 dump trucks in the inventory should be assigned to very fourth PM group; 1 of 4 water distributors should be assigned to every tenth PM group.

Equipment should be grouped so that units that normally work together are scheduled for PM together; for example, semitrailers with truck tractors, and scrapers with tractors. Units should initially use 40 PM groups. After the system is established and operating, the Maintenance Supervisor should review its effectiveness and reduce time intervals if necessary.

The PM frequency can be increased by reducing the total number of groups or by assigning specific items of equipment to more than one group. For example, using Table 4-2-1) assume the following situation: a base taxi is assigned to PM group 30 and enters the shop for a scheduled PM on 11 April. Upon inspection, it is found that the taxi has accumulated more than the recommended miles since the last scheduled PM on 11 February. The Maintenance Supervisor would then reduce the interval between PMs by also assigning the taxi to PM group 10. Thus, the taxi receives the PM twice as often. However, suppose that in 20 working days, when the taxi enters the

shop with PM group 10, it again has been used more than the recommended miles. The Maintenance Supervisor should reduce the interval again. This would be done by also adding the taxi to PM groups 20 and 40.

NOTE: *The dispatcher should notify the PM Clerk/Maintenance Supervisor if equipment is accumulating miles/hours quickly. As a result, the schedule can be adjusted as required, rather than waiting for equipment to exceed standards.*

Preventive Maintenance Due Date Schedule. A Preventive Maintenance Due D"a,, Schedule (Table 4-2-l) shall be established annually by the PM Clerk because the schedules are based on the workdays in each calendar year. An NMCB PM schedule is set up using Operations (S3) Workday/Deployment schedule. The workdays on the schedule must correspond to the unit's actual workdays; for example, if you work a 6-day week, enter 6 days and omit holidays. The PM groups are numbered vertically down the first column. Table 4-2-l depicts the standard 40 PM group concept. The dates of workdays in January are then listed consecutively in the January column. After January's last workday is entered, start February's workdays in the February column. At completion, the schedule shows each workday that each PM group is due for inspection. For example, Table 4-2-l shows that PM group 5 is due on January 25, March 25, May 20, July 17, September 12, and November 7.

d. Preventive Maintenance Record Cards. A *Vehicle/Construction Equipment Preventive Maintenance Record Card,* NAVFAC 11240/6 (Figure 4-2-l) shall be accurately maintained for each item of assigned equipment. PM record cards contain the vehicle's preventive maintenance history in chronological order and necessary information to assist the PM Clerk to prepare Equipment Repair Orders (ERO). PM cards shall be maintained in PM group sequence in a separate file. Equipment assigned to more than one PM group shall have dummy PM record cards filed in the extra PM group(s). The PM Clerk shall record the following information on the PM record card from the completed preventive maintenance EROs: type of PM service performed, date it was performed, cumulative miles/hours. Engine oil changes or filter changes shall be indicated by entering "O/C" or "F/C." PM record cards shall be returned to the Equipment History Jacket when the vehicle is transferred.

NOTE: *CESE Attachments. The PM record cards on CESE that have Attachments are marked with a red tag to alert the PM Clerk that Attachments are listed on the back and require servicing.*

e. Preventive Maintenance Inspection Depth. The Preventive maintenance scheduling explained in paragraph 4-2.3.c describes only PM frequencies; it does not determine the extent of the PM inspection. Preventive maintenance and services required shall be determined by an inspector, based on the manufacturer's recommendations and specifications.

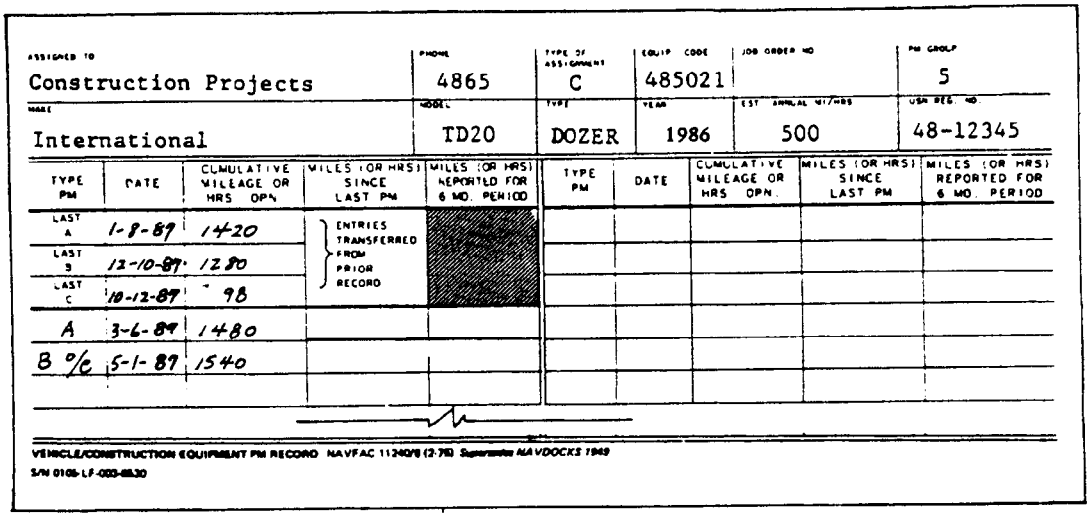
PREVENTIVE MAINTENANCE INSPECTION SCHEDULE

ACTIVITY _____

YEAR _____

PM SCHED. GROUP	MONTH AND DAY SCHEDULE											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	21		19		14		11		6		1	
2	22		20		15		12		9		4	
3	23		21		16		15		10		5	
4	24		22		17		16		11		6	
5	25		25		20		17		12		7	
6	28		26		21		18		13		8	
7	29		27		22		19		16		12	
8	30		28		23		22		17		13	
9	31		29		24		23		18		14	
10		1		1	27		24		19		15	
11		4		2	28		25		20		18	
12		5		3	29		26		23		20	
13		6		4	31		29		24		21	
14		7		5		3	30		25		22	
15		8		8		4	31		26		25	
16		11		9		5		1	27		26	
17		12		10		6		2	30		27	
18		13		11		7		5		1	29	
19		14		12		10		6		2		2
20		15		15		11		7		3		3
21		18		16		12		8		4		4
22		19		17		13		9		7		5
23		20		18		14		12		8		6
24		21		19		17		13		9		9
25		25		22		18		14		10		10
26		26		23		19		15		11		11
27		27		24		20		16		14		12
28	2	28		25		21		19		15		13
29	3		1	26		24		20		16		16
30	4		4	29		25		21		17		17
31	7		5	30		26		23		18		18
32	8		6		1	27		26		21		19
33	9		7		2	28		27		22		20
34	10		8		3		1	28		23		21
35	11		11		6		2	29		24		24
36	14		12		7		3	30		25		26
37	15		13		8		5			28		27
38	16		14		9		8		3	29		30
39	17		15		10		9		4	30		31
40	18		18		13		10		5	31		

Table 4-2-I



ASSIGNED TO: Construction Projects | PHONE: 4865 | TYPE OF ASSIGNMENT: C | EQUIP CODE: 485021 | JOB ORDER NO: | PM GROUP: 5

MAKE: International | MODEL: TD20 | TYPE: DOZER | YEAR: 1986 | EST ANNUAL MI/HRS: 500 | USA REG NO: 48-12345

TYPE PM	DATE	CUMULATIVE MILEAGE OR HRS OPN	MILES (OR HRS) SINCE LAST PM	MILES (OR HRS) REPORTED FOR 6 MO. PERIOD	TYPE PM	DATE	CUMULATIVE MILEAGE OR HRS OPN.	MILES (OR HRS) SINCE LAST PM	MILES (OR HRS) REPORTED FOR 6 MO. PERIOD
LAST A	1-8-89	1420	ENTRIES TRANSFERRED FROM PRIOR RECORD						
LAST B	12-10-87	1280							
LAST C	10-12-87	98							
A	3-6-89	1480							
B %c	5-1-89	1540							

VEHICLE/CONSTRUCTION EQUIPMENT PM RECORD NAVFAC 11240/6 (2-78) Supersedes NAVDOCKS 7949

S/N 0108-LF-000-8830

Figure 4-2-l: Vehicle/Construction Equipment PM Record Card (NAVFAC 11240/6)

(1) Deadline Inspection. The term “deadline” applies to any item of equipment that, in the opinion of the Maintenance Supervisor, parts cannot be obtained, or equipment cannot be safely operated within a period of 72 hours or more without endangering the operator or equipment performance. Inspections are critical on deadlined equipment to guard against further deterioration. The minimum deadline inspection shall ensure that all openings are covered and weathertight; machine surfaces are preserved; disassembled components are tagged, covered, and stored; no cannibalization has taken place since the last inspection; and equipment is cycled, if possible. If cycling is accomplished, represerve as needed.

NOTE: *To fulfill an operational commitment, controlled parts interchange may be authorized only by the Maintenance Supervisor, provided all parts are replaced using the nonserviceable item, replacements are promptly ordered, and all parts and labor cost related to the interchange are charged to the equipment on which the parts failed. The ERO authorizing installation of the new part on the deadline equipment must be annotated under work description “Replacement for a cannibalized part, no cost. ”*

(2) Type A (01) Preventive Maintenance. Inspections are scheduled at intervals of 40 working days and shall be performed at each scheduled PM due date until a vehicle qualifies for a Type “B” preventive maintenance. To ensure that equipment does not deteriorate, these inspections are particularly critical on low-usage equipment, such as equipment in a standby status. Type “A” preventive maintenance consists mainly of safety and serviceability inspections and lubrication. They shall be performed by using the appropriate portions of Appendix K or L.

(3) Tape B (02) Preventive Maintenance. Inspections shall be based on the equipment manufacturer’s recommended maintenance interval for mileage/hour usage. A vehicle may undergo several Type “A” PMs before accumulating the required mileage/hours for a Type “B” PM. Deviations from the recommended interval, to more

frequent intervals, shall be the decision of the Maintenance Supervisor based on extreme climate conditions, heavy dust conditions, and use of the equipment. They shall be performed by using the appropriate portions of Appendix K or L.

(4) Tape C (03) Preventive Maintenance. Inspections shall be as directed by the Maintenance Supervisor, the Civil Engineer Support Office (CESO) based on technical bulletins concerning safety of use, the responsible record holder, and/or Brigade Equipment Offices. Type "C" PM should be used to increase equipment safety and reliability and have no specified intervals.

4-2.4 Equipment Repair Order

a. ERO Purpose. The *Equipment Repair Order* (ERO), NAVFAC Form 11200/41 (Appendix H, Figure H-27), is used to specify, authorize, and control repairs to all USN-numbered and USNG-numbered equipment. Use the *ERO Continuation Sheet,* NAVFAC Form 11200/41A, when the repair items to be performed exceed the space provided on the Equipment Repair Order. Because the ERO is designed to meet the needs of different users, only applicable blocks are to be filled in.

Each month all completed original copies of EROs or SAMMS Program Computer Disks shall be forwarded by the NCF to their respective Brigade Equipment Office. SOUs submit their completed information to CESO Code 1574. Information inserted in the heavily outlined blocks is extracted and compiled; therefore, neatness, completeness, and accuracy of the information is imperative to provide historical cost and utilization data for each piece of CESE. This data provides a reliable source of information for budget planning, determining life expectancy, and predicting equipment and training requirements. The ERO flow is outlined in Appendix H, Figure H-28.

b. ERO Design. The Equipment Repair Order form and Continuation Sheet are designed as a five-part multicolored snap set. The five ERO sheets are colored white ERO (W), blue ERO (B), green ERO (G), yellow ERO (Y), and pink ERO (P). The ERO (G) copy is for use by the Construction Equipment Department (CED) and is not currently required by the NCF and SOU. The Continuation Sheets are colored the same as the ERO and follow the same flow pattern.

c. ERO Usages. The Equipment Repair Order is the sole authority to perform work on CESE in the field or in the shop. An ERO is prepared for each specific piece of equipment each time labor (more than one hour) or materials are expended on any of the following types of work:

Code for Block	Type of Repair
01	Type "A" Preventive Maintenance
02	Type "B" Preventive Maintenance

03	Type “C” (03) Preventive Maintenance/ Annual Safety inspection (ASI)
04	Interim Repairs
05	Overhaul
06	Repairs Performed in the Field (not PMs)
07	Receipt Inspections (Acceptance/BEEPS)
08	Repairs for Stock
09	Preservation of Equipment
10	Warranty
11	Rework
12	Accident
13	Shipping Inspection (CEDs only)
14	Surveillance Inspection (CEDs only)
15	Operational Test (CEDs only)

d. ERO Completion. Instructions to complete the ERO are detailed in Appendix H.

e. Job Control Number. The Job Control Number (JCN) consists of fourteen characters unbroken by hyphen or space. The first six characters are extracted from Block 3 of the ERO form (UIC and the appropriate Alpha service code prefix). The last eight characters are known as the Job Sequence Number and are extracted from the ERO Number block (upper right corner) of the ERO. This number is entered in Blocks 13, 14, and 15 of the NAVSUP Form 1250-1, as illustrated in Figure 4-2-2. Additional information can be found in Chapter 5, paragraph 5.6.2.

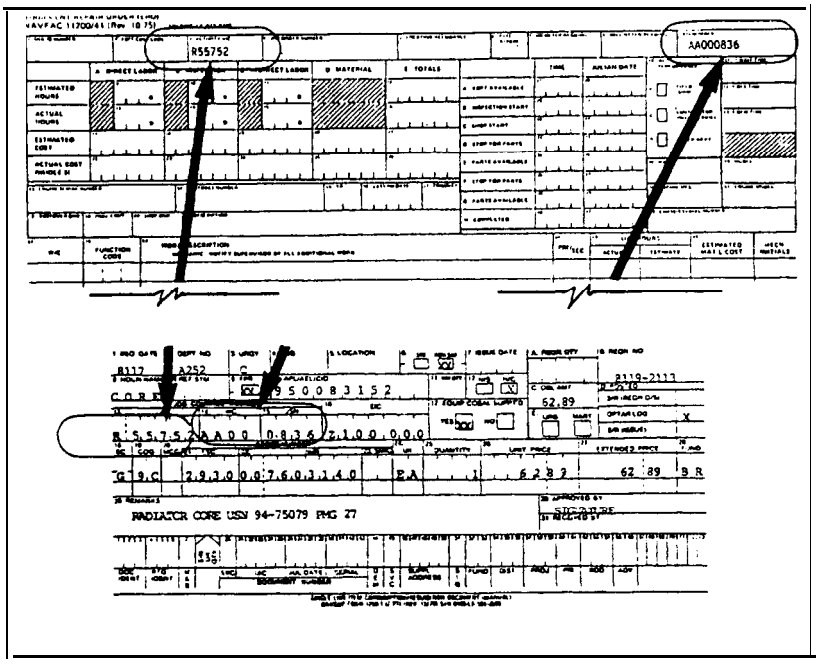


FIGURE 4-2-2. Job Control Number Entered on NAVSUP Form 1250-l

f. Equipment Downtime. Blocks 27 through 41 on the Equipment Repair Order downtime blocks (Figure 4-2-3) are used to determine the time the equipment is not available for dispatching (downtime) by recording events by time and date. A step-by-step example to complete Blocks 27 through 41 follows.

Example Situation: A vehicle has unusual engine noise during warm-up and is reported to the Dispatcher by returning the Hard Card. The Dispatcher has the vehicle parked on the shop working line and delivers the Hard Card to the PM clerk at 0730 on 10 October 1996. The Inspector workload was responsible for a 6-hour delay in starting inspection (1330). Initial inspection of the engine indicated a broken valve in No. 2 cylinder; a check at the parts storeroom indicated that the valves were not in stock (NIS). Further teardown and repair was delayed because of the shop workload. Upon receipt of the new valve at the parts storeroom (1100 hours on 17 October) and upon final teardown and removal of the head, it was found that the piston had been broken when the valve dropped into the cylinder. The piston was also NIS, so vehicle repairs were again delayed while waiting for parts. The necessary parts were received at 0900 on 28 October, and repairs were completed without further incidents.

Block	Entry

*27/28 Equipment Available. Actual time (0730) and Julian Date (96283 for 10 October 1996). The Dispatcher notified the PM Clerk that the equipment was available to the shop.

*29/30 Inspection Start. Time (1330) and Julian Date (96283). The actual vehicle inspection was started.

46/47 Shop Start. Actual time (1400) and Julian Date (96283). Mechanic started work on equipment. If .5 is entered in Block 14 for inspection time, actual work cannot start prior to that amount of time being expended. Example: Block 29 time 1315; Block 14 inspection hours 1.0; work cannot start prior to 1415.

32/33 Stop for Parts. Mechanic stopped work at 1415 on 96283 because parts were not available. Use only when all work on equipment must stop due to lack of parts/material.

34/35 Parts Available. At 1100 on 17 October (96290) the needed repair parts were available at the parts storeroom. Therefore, delay is no longer attributable to lack of parts (down for supplies) ((DFS)). Repairs should commence as soon as possible.

36/37 Stop for Parts. Mechanic stopped work at 1600 on 96290 because parts were again not available. Use only when all work on equipment must stop due to lack of parts/material for second time.

38/39 Parts Available. At 0900 on 28 October (96301) the repair parts were available at the parts storeroom and work commenced immediately.

*40/41 Completed. At 1645 on 28 October work was completed. The Dispatcher is notified that the vehicle is ready for service by asking the Dispatcher to sign Block 77, "Customer Approval," and then the time and Julian Date is entered.

	TIME	JULIAN DATE
A. EQPT AVAILABLE	27 Ø 7 3 Ø	28 9 4 2 8 3
B. INSPECTION START	29 1 3 3 Ø	30 9 4 2 8 3
C. SHOP START	40 1 4 Ø Ø	47 9 4 2 8 3
D. STOP FOR PARTS	32 1 4 1 5	33 9 4 2 8 3
E. PARTS AVAILABLE	34 1 1 Ø Ø	35 9 4 2 9 Ø
F. STOP FOR PARTS	36 1 6 Ø Ø	37 9 4 2 9 Ø
G. PARTS AVAILABLE	38 Ø 9 Ø Ø	39 9 4 3 Ø 1
H. COMPLETED	40 1 6 4 5	41 9 4 3 Ø 1

Figure 4-2-3. Equipment Repair Order Downtime Blocks

g. Equipment Histotv Jacket. An Equipment History Jacket shall be maintained for each USN numbered item of CESE and each USNG-numbered ISO container. The History Jacket shall contain the respective vehicle's pertinent descriptive data and maintenance history. The descriptive data include the appropriate *DoD* Property Record, DD Form 1342 (see Appendix H, Figure H-26), and *Equipment Attachment Registration* Records, NAVFAC Form 6-l 1200/45, if applicable. The maintenance history includes the completed *PM* Record *Cards,* NAVFAC Form 11240/6, and blue copies, ERO (B), of completed Equipment Repair Orders. When a vehicle is transferred, the current PM Record Card shall be removed from the PM group file and returned to the History Jacket. The jacket shall then be either hand carried or forwarded by mail to the receiving custodian. When a vehicle is transferred to a Property Disposal Office (PDO), the History Jacket shall accompany it. All units that receive equipment by direct delivery from the manufacturer are required to establish the initial Equipment History Jacket.

h. Equipment Repair Order (ERO) Work Sheet. The ERO work sheet is a single copy sheet and is used to document repair parts used.

42.5 Maintenance Program Evaluation

a. Maintenance Guidelines. An activity's maintenance program should be continually evaluated to ensure that it is effective. Guidelines and tools for program evaluation that the Maintenance Supervisor may use are listed below.

(1) Mechanic-to-Equipment Ratio. The ratio indicates the number of mechanics assigned compared to the number of vehicles assigned to a location. In addition to all the mechanics assigned to the shop, the title "mechanic" in this ratio includes all administrative and supervisory maintenance personnel and any personnel assigned to work with the mechanics, such as steelworkers, machinery repairmen, and electricians. The ratios can be used as a general yardstick to determine if additional mechanics may be required to maintain the unit's equipment adequately. Obviously many factors such as training, experience, environment, and equipment condition will cause the optimum ratio to vary. However, experience shows that the ratio should average approximately one mechanic to five pieces of equipment at each location. One way to improve the on-site mechanic to equipment ratio is through the use of the live storage program (see Appendix N).

(2) PM-to-Repair Ratio. This ratio shows the number of scheduled maintenance actions performed compared to unscheduled maintenance actions (interim repairs). The ratio can be used as a primary indicator of the effectiveness of a unit's preventive maintenance program. The PM Clerk can compute the PM-to-repair ratio from the ERO log. Ideally there should be many more PMs performed than interim repairs. Experience indicates that a unit, operating on a 40-day PM schedule, should average approximately three scheduled PM inspections to each interim repair: a ratio of three to one. If the ratio drops below three to one, the preventive maintenance program should be reviewed for the following problems: inadequate scheduling, not adhering to the schedule, not performing the proper depth of PM, and inadequate shop quality control. The closer the ratio comes to one to one, the more ineffective the PM program becomes.

(3) Equipment Availability. Equipment availability is the percentage that shows the time the equipment is available to be dispatched as compared to downtime. Equipment downtime is figured on a 24-hour, 7-day-week basis. Equipment availability of a unit at 90 percent is considered excellent, 85 percent is good, 80 percent is fair, and 75 percent is poor. Equipment with a fair availability record should be analyzed to determine the cause, such as overwork or abuse, inadequate COSAL (Consolidated Seabee Allowance List) or supply support, or shortage of mechanics.

b. Maintenance Schedule. Ensure that all vehicles receive maintenance. If the shop is on a 40-day PM schedule each vehicle should receive maintenance about once every 8 weeks. Frequently check to ensure that all vehicles are on the PM schedule and that the schedule is being followed.

If the vehicle is returned to the shop too soon after it has been worked on, compare the completion date of the first ERO with the available date of the next ERO when the vehicle is returned to the shop. If the time between returns is short, compare the meter reading (how much was the vehicle used).

If two or three consecutive interim repairs have been performed, it is possible that the PM frequency for the vehicle should be increased. As CESE gets older, good PMs help keep the vehicle up or allow the parts to be ordered before they actually fail. Frequent interim repairs can also mean poor shop quality control, operator equipment abuse, a deficiency in inspection procedures, and a need for additional training.

If vehicles are in for interim repairs and come back in a few days for a PM, the shop is doing unnecessary work. If a vehicle enters the shop for an interim repair within 5 working days of a scheduled PM due date, the PM should be performed. This saves inspection time and keeps the shop from processing an additional ERO. This also increases equipment availability.

(1) Shop Maintenance Efficiency. Compare the Down-for-Maintenance (DFM) time with the actual labor hours expended, and if the times are correctly recorded in the downtime block (Figure 4-2-3), a good average is three times longer in the shop than time being worked on. If the shop is much above the ratio, either Down-for-Supply (DFS) time is not correctly reported, the shop is short of mechanics, or it is inefficient. If the ratio is around one to one, either the shop is "super" efficient or it is not reporting downtime correctly. Shop efficiency is also indicated by the amount of wait time shown on the Equipment Repair Order. Excessive wait time adversely affects the DFM time and equipment availability. The person who initiates the ERO enters in Blocks 27 and 28 the time and date the Hard Card is received by the shop. The Inspector then enters the time and date in Blocks 29 and 30 when work is started on the vehicle. The time a vehicle waits between the inspector and the mechanic is charged as DFM time.

(2) Mechanics Labor Scheduling Efficiency. The ERO can be used to determine how efficiently the mechanics labor is being managed by using the following method:

(a) Compare actual labor hours used with labor hours available. Labor hours available can be computed by taking the average number of floor mechanics and inspectors multiplied by their average hours worked per month. For this comparison, count only those people whose time should be entered on the EROs and use only actual working time.

(b) Compare hours available with the total actual labor hours reported on the month's EROs. Obviously, all of the worker's time is not going to be reported; however, most should have been reported.

(3) CESE Maintenance Cost Check. The ERO should be used to check on the use of the unit's CESE maintenance money. To do this, compare the total cost listed on the month's ERO with the actual funds reported by Supply. For several reasons these totals will not be equal. However, if there is a wide variance, a check should be made. Notice where parts are installed without being reported on an ERO: DTO bins full of parts (bought but never installed), and nonmaintenance items charged to your account by mistake.

(4) Supply Response Time Check. The ERO provides an indication of supply response time. If the ERO shows more Down-for-Supply (DFS) time than Down-for Maintenance (DFM) time, check to ensure that the correct Urgency-of-Need-Designator (UND) priority is used. If the ERO shows little or no DFS time, the shop is either performing extremely well or is not completing the downtime blocks properly. To verify this, check the EROs. All EROs for deadline vehicles should have a "stop-for-parts" time entered in Blocks 32 and 33. If these blocks do not have entries, the ERO is still adding up maintenance hours.

(5) Maintenance Evaluation Guide

(a) Is an ERO used for all work in the equipment repair shop? (Not required if repair can be done in less than one hour with no repair parts.)

(b) Are EROs reviewed and work authorized by maintenance supervisor prior to commencement of work?

(c) Are all decisions to deadline equipment made by maintenance supervisor?

(d) Are formal ordering documents used to purchase spare parts?

(e) Are all pertinent publications that concern equipment maintenance available, such as NAVFAC P-300 and Technical Bulletins, and are they being followed?

(f) Are legible copies of EROs being forwarded to CESO/ Brigade monthly as per NAVFAC P-300, Chapter 4, Section 2?

(g) Is deadlined equipment being cycled, inspected, preserved, and protected from parts cannibalization?

(h) Are PM record cards used and is all up-to-date information entered in accordance with NAVFAC P-300?

(i) Is a system in effect for inventory and maintenance of mechanic's tool kits?

(j) Are maintenance shops' cleanliness and safety conditions correctly maintained? Are jack stands or blocks used, fire extinguishers available, floor clean of accumulated grease, oil, and discarded parts? Are hand tools properly maintained and power tools grounded?

(k) Do EROs reflect realistic actual man-hours and downtime for maintenance and major repairs? If downtime is excessive, does the problem lie in maintenance or supply?

(l) Are spare parts stored properly?

(m) Are maintenance personnel familiar with contents of NAVFAC P-300?

(n) Are organizational and equipment status boards maintained?

(o) Are direct turnover parts maintained according to NAVFAC P-300, Chapter 5, paragraph 5.7, and are they being installed at first PM after receipt?

(P) Is a good inspection program being used before and after repairs?

c. Equipment Condition Codes. The appearance of CESE is a quick indicator of the care it receives. Clean equipment is more likely to be well cared for and mechanical problems easier to identify. The condition of CESE can be categorized with condition codes. Coding will be in accordance with DoD Regulation 4160.21, *Defense* Disposal *Manual,* chapter 1, and NAVCOMPT Manual, *Activity Unit Identification Code,* section 036206. The code is composed of two characters: (1) an alpha Supply Condition Code, and (2) an alpha numeric Disposal Condition Code. The first position determines serviceability and is coded with an "A," "F," "G," or "S." The second position determines relative condition or degree of serviceability and is coded with "1" thru "6" for serviceability Code "A;" with a "7" thru "9" for serviceability Code "F" or "G;" and an "X" or "S" for serviceability Code "S." Refer to Appendix I for description of condition codes.

The following is a complete list of the possible codes with a brief description.

Code	Description
A l	Serviceable/Unused-Good
A2	Serviceable/Unused-Fair
A3	Serviceable/Unused-Poor
A4	Serviceable/Used-Good
A5	Serviceable/Used-Fair
A6	Serviceable/Used-Poor
F7	Unserviceable Repairable/Repairs Required-Good
F8	Unserviceable Repairable/Repairs Required-Fair
F9	Unserviceable Repairable/Repairs Required-Poor
G7	Unserviceable Incomplete/Repairs Required-Good
G8	Unserviceable Incomplete/Repairs Required-Fair
G9	Unserviceable Incomplete/Repairs Required-Poor
s x	Unserviceable Scrap/Salvage
s s	Unserviceable Scrap/Scrap

CHAPTER 5. EQUIPMENT SUPPORT FOR NAVAL CONSTRUCTION FORCE AND SPECIAL OPERATING UNITS

NOTE: This chapter applies only to the Naval Construction Force and Special Operating Units.

5.1 *Logistic Support*

5.1.1 ***Supply Support*.** The Navy Supply System is tasked to support all Naval Forces. The Supply System's basic functions include identification of requirements; procurement to meet demands; storage, stocking, and maintenance of inventory; requisitioning, issue, and shipment of needed items; and disposition of excess or unusable assets. The Supply System uses Inventory Managers to centralize procurement and management of material. These Inventory Managers ensure that there is proper balance between requirements and National Stock Number (NSN) material assets. The Inventory Manager for each NSN can be identified by cognizance symbols which precede the stock number. For example, NAVFACENGCOM manages all "2C" cognizance equipment, such as Civil Engineer Support Equipment (CESE), and ISO Containers.

5.1.2 ***NCBC Support*.** Naval Construction Battalion Centers (NCBC) are the main sources of supply support for most Naval Construction Force (NCF) units. In addition, NCBCs perform most of CESE shipping and overhauling for the NCF. A complete range of initial outfitting repair parts and peacetime operating stocks is maintained at the NCBCs under the support criteria outlined in paragraph 5.2.1. When a NCBC prepares a new unit allowance for the first time, the repair parts are assembled and packaged into reusable mount-out boxes for shipping. This initial allowance is procured by NAVFACENGCOM using Other Procurement Navy (OPN) funds. The NCBCs are normally responsible for follow-on equipment support while deployed. The unit submits its requirements to the NCBC, which will meet the need from supply stock or initiate local procurement/referral action. This routine procurement of replacement repair parts is funded from Operation and Maintenance, Navy (O&MN) funds controlled by the respective allowance holder.

5.1.3 ***Coordination with Unit Supply*.** Maintenance personnel expect repair parts to be available when requested. However, Supply cannot satisfactorily perform its support mission without coordination and cooperation between Maintenance and Supply. Maintenance personnel should understand the "repair" parts supply system and the Maintenance Supervisor should develop an information exchange. At least one mechanic should be assigned to the repair parts storeroom to provide service at the parts counter. The mechanic can also assist storeroom personnel to identify unknown items and provide parts interchangeability data. The Maintenance Supervisor

should designate one person, normally the Cost Control Clerk, to provide liaison with supply to check requisition status. Consolidated Seabee Allowance Lists (COSAL) are designed to provide support for new or like new equipment for 60 days or 1200 hours. The Maintenance Supervisor must help determine requirements for additional repair parts.

5.2. ***Table of Allowance***

5.2.1 ***Purpose.*** The Table of Allowance (TOA) identifies and quantifies the basic personnel, material, and equipment for the performance of the unit's mission(s) in contingency, wartime, and disaster recovery operations. The TOA is designed to sustain construction operations for 60 days without resupply, except that ammunition is limited to 15 days, subsistence rations are limited to five days, and fuel is limited to three days.

5.2.2 ***Authority and Responsibility.*** Commands with authority and responsibility for TOAs are as follows:

a. The Chief of Naval Operations (CNO OP-44) formulates the doctrine and policy for all Naval Construction Force (NCF) units and approves all NCF Tables of Allowance and any changes that impact on the unit's mission.

b. The Chief of Civil Engineers (COMNAVFACENGCOM) advises OP-44 in TOA matters that concern mission and state-of-the-art technological advances.

c. Fleet Commanders, Naval Construction Battalions, Atlantic and Pacific Fleets (COMSECONDNCB/COMTHIRDNCB).

d. The Civil Engineer Support Office (CESO) is the system manager that maintains NCF Tables of Allowance, develops a new allowance as directed by COMNAVFACENGCOM, and collects field recommendations for revisions to TOAs.

5.2.3 ***General TOA Information.*** The NCF Tables of Allowance provide personnel, material, and equipment to enable the unit to carry out operational requirements. Since the unit is expected to build any number of different facilities in any climatic condition, judicious selection of items is necessary to prevent the allowance from reaching excessive proportions. A compromise must be reached that balances bulk against capability. The NCF Tables of Allowance represent the best selection to provide general construction capability, but they are not all inclusive. They are not, nor should they be, capable of meeting every conceivable operational requirement. When an assigned project requires tools or equipment in excess of the unit's capability, the allowance is supplemented by augmentation. Augment tools, equipment, and personnel may come from the Naval Construction Force Support Unit (NCFSU), or may be provided by the responsible fleet or operational commander.

5.2.4 ***TOA Organization*.** Individual line items of material and equipment are identified by stock number: either National Stock Number (NSN) or Navy Item Control Number (NICN). Stock numbers for Civil Engineer Support Equipment (CESE) are listed within the Equipment Codes (EC). Other stock numbers are assembled within functional Assemblies. Assemblies are grouped functionally into either Groups or Facilities. Groups and Facilities are segregated by major category or material into Sections, and by purpose into Echelons, within the NCF Tables of Allowance and the Advanced Base Functional Component (ABFC) System components.

a. The ABFC Component and NCF Tables of Allowance. An ABFC Component and NCF Tables of Allowance are designed for personnel, material, and equipment required to perform specific taskings delineated in OPNAVINST 5450.46, *Doctrine and Policy Governing U.S. Naval Mobile Construction Battalions.* Components and TOAs are given names to indicate their functions, and unclassified codes that consist of letter (alpha) and number (numeric) combinations. For example: A Naval Mobile Construction Battalion (NMCB) in the NCF Tables of Allowance system is designated "P-25," and has an ABFC counterpart designated "P-25." The NCFSU Table of Allowance is designated "P-31," and has an ABFC counterpart "P-31."

b. Echelons**.** In both contingency and day-to-day operations, an NCF unit may be required to support, simultaneously, multiple projects and tasks in various locations. Preplanning for such contingencies and management of resources required to support these operations are aided by "echeloning" certain TOAs. For example: The NMCB Table of Allowance is echeloned into an Air Detachment, an Air Echelon, and a Sea Echelon. This echeloning is based on anticipated prioritization of personnel, material, and equipment, and the availability of airlift versus sealift support. The NCFSU Table of Allowance is echeloned to augment and support various special operations which are beyond the organic capability of the NMCBs.

5.2.5 ***Allowance Review*.** The Naval Facilities Engineering Command (NAVFACENGCOM) and the Civil Engineer Support Office (CESO) will initiate a complete annual review of each TOA by inviting comments and participation from all Commands that have an interest in the TOA under review.

5.2.6 ***Initiating TOA Changes*.** All changes to TOAs managed by NAVFACENGCOM will be initiated in accordance with NAVFACINST 4423.1, *Modification and Documentation of Naval Facilities Engineering Command Managed Tables of Allowance.*

a. Format. The NAVSUP Form 1220-2, *Allowance Change Request/Report*, or a formal letter are the prescribed documents to request item addition/deletion, or quantity increase/decrease in all published allowance lists. Submit justification for each suggested allowance modification.

b. Justification. Justification for changes shall be based on one or more of the following:

(1) Mission Capability Improvement. Will the proposed change improve the capability to perform assigned mission? Quantitative estimates of increases in construction quality, productivity, or readiness will be made. Proposed changes which result from changes in a unit's mission will be specifically identified.

(2) Cost Effectiveness. Does the proposed change lead to a reduction in material or labor costs or in the cost of the allowance itself? Include a brief cost comparison.

(3) Safety. Will the proposed change result in a safer operation?

(4) Other. Will the proposed change result in a nonquantitative improvement such as improved health, comfort, or morale?

c. Submittal. Recommendations that involve changes to authorized TOAs shall be submitted to Commanding Officer, Code 15, Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, California 93043-4301. After CESO's research and evaluation, the Allowance Change Request (ACR) is forwarded to the appropriate chain of command (COMSECONDNCB/COMTHIRDNCB) for endorsement to COMNAVFACENGCOM Code123.

5.2.7 ***National Stock Number (NSN) Breakdown of Sets, Kits, Outfits (SKO).*** Within the NCF Tables of Allowance there could be several hundred NSNs listed under a single SKO NSN. Each of these NSNs may contain several items not individually listed or cataloged in the TOA. For example: a mechanic's phillips screwdriver set, NSN 5120-00-104-0005, consists of five separate items. For inventory and resupply, CESO Code 157 maintains and distributes an inventory aid catalog entitled *National Stock Number Breakdown of Sets, Kits, and Outfits Inventory Aid Catalog.* This SKO catalog provides the custodian with a pictorial display of a set, kit, or outfit with the means to identify all included items. Selecting only those missing items should preclude the purchase of complete sets when only one or two items are needed.

5.2.8 ***Master Packing Plan.*** The Master Packing Plan (MPP) is a general guide for the standardized packup of NCF TOA in ISO storage and shipping containers. Each TOA packup has some unique variances due to different dimensions of materials, deferred items, or availability of suitable substitutes. The Master Packing Plan organizes the materials within the various echelons. Facility/Group components are packed together in bulk containers. Configured containers with cabinetry store materials together within common groups and assemblies such as the Central Store Room and the Armory. Other specialized containers are Half-Heights for drums of Petroleum, Oils, and Lubricants (POL) and Flat Racks for lumber and pipe. Special

handling of hazardous and shelf life materials is required and deferred from the initial packups until the TOA is readied for mobilization. The location system in the MPP identifies each line item within the TOA (NSN and quantity) by container and position inside the container, and provides designated locations for deferred and short materials.

5.3 ***Repair Parts Support***

5.3.1 ***Support Criteria*****.** In the NCF a wide range of CESE is used. Because of the different design characteristics of each of these CESE items, different repair parts are required to meet the support requirements. The NCF initial outfitting repair parts is designed to support new or like-new CESE for the first 1,200 construction hours and is computed as two 10-hour shifts, seven days per week, for the first 60 days of deployment.

a. Allowance Parts List**.** The initial outfitting of repair parts is designed so that each CESE item has a list of parts -- an Allowance Parts List (APL). From these data a publication called a Consolidated Seabee Allowance List (COSAL) is prepared and distributed to the NCF unit being supported, plus one copy to the requesting Command and one copy to the Civil Engineer Support Office. The Naval Construction Battalion Center (NCBC) draws the required initial outfitting parts peculiar, called Modifier Code 98 kit, and parts common, called Modifier Code 96 kit and Modifier Code 97 kit, and packages and ships the parts to the unit. Note that in correspondence the Consolidated Parts List is referred to as the COSAL, the repair parts peculiar as the Mod 98, and the repair parts common as the Mod 96 and Mod 97.

b. Special Operating Units (SOU) New Receipts. SOUs will receive initial parts support for new receipts upon submission of the DD Form 1342, *DoD Property Record*, to CESO Code 1575. Stock replenishment thereafter is the responsibility of the user.

5.3.2 ***Levels of Support***. Each repair part listed on an APL is assigned a three-digit maintenance code that identifies one of four levels of support: "O," "G," "H," or "D." The first digit is the lowest maintenance level authorized to remove the item. The second digit indicates the lowest maintenance level authorized to repair the item. The third digit indicates the lowest maintenance level authorized to dispose of the item.

Level of Support	Definition
O	Major detachments with a maintenance capability, as defined in Chapter 4, paragraph 4-2.2.b

G	Major detachments with an intermediate level maintenance capability
H	Main bodies with an intermediate maintenance capability, as defined in Chapter 4, paragraph 4-2.2.b(2)
D	Depot level maintenance, not currently used by the NCF

NOTE: Each higher level of support includes all lower levels. For example, "H" level includes "O" and "G" level items. When the second digit is "Z" the item is nonrepairable and should be condemned and disposed of at the level indicated in the first position maintenance code column.

5.3.3 ***COSAL Arrangement*.** Each COSAL is arranged and divided into three separate parts.

a. Part I. Cross Reference List. Part I consists of three equipment cross reference lists used to determine which APL applies to which USN Number, but they are sorted and printed in different sequences. Section A is printed in USN registration number sequence; Section B is in EC (equipment code) sequence; and Section C is in APL (allowance parts list) sequence.

b. Part II. Allowance Parts List. Part II consists of APLs arranged in identification number sequence. The APL identification number is listed in both the upper and lower right corner of each APL page and consists of nine digits, such as 950044121.

The Part II MAJOR SEQUENCE is based on the last four digits (95004**4121**) of the APL identification number (low to high), which are commonly referred to as the APL number. Normally, one APL number covers the complete vehicle. Exceptions are vehicles such as truck-mounted water distributors (one APL for the truck and another APL for the distributor), and mobile cranes (one APL for the carrier and another APL for the crane).

The Part II MINOR SEQUENCE is based on the preceding three digits, such as 95**004**4121 for the fuel system group items. A list of groups covered in each APL is displayed on the first page of each APL, such as **95004**4121. The first two digits of the APL number (**95**0044121) are consistent in Naval Construction Force COSALs because they identify the APL as NCF versus shipboard.

c. Part III. Stock Number Sequence List. Part III consists of a Stock Number Sequence List (SNSL) and two repair part cross reference lists. The SNSL lists the

COSAL provided repair parts arranged in National Item Identification Number (NIIN) sequence in the COSAL, to support a specified level of maintenance. The SNSL also lists the APL numbers each part is stocked for, the unit price, and the total COSAL quantity. The first cross referenced list is the manufacturer's part number to the NSN. The second list is NSN, in NIIN sequence to part number. If the NIIN is not included in the COSAL, it will not be on these lists.

5.3.4 ***Repair Parts*.** Two basic types of repair parts are "parts peculiar," and "parts common."

a. Repair Parts Peculiar. Parts applicable to a specific make and model of equipment are Repair Parts Peculiar. All parts peculiar to a unit are listed on the APL.

b. Repair Parts Common. Common and consumable supplies that can be used on numerous types of equipment are Repair Parts Common. These items have been separated into a Repair Parts Common Assembly (NAVSUP Modifier 96 and Modifier 97 kits) to reduce overstocking that could occur if these items were carried within separate Repair Parts Peculiar Allowance Parts Lists. The Mod 96 and Mod 97 kits are designed to supplement Repair Parts Peculiar for the first 60 days or 1,200 construction hours of a contingency operation. The Mod 97 kits are packaged as Modular Assemblies. A Mod 97 kit consists of 29 different kits, Mod 96 kit consists of 19 different kits, each of which has been assigned an individual APL number. This allows Repair Parts Common Assemblies to be printed in the same COSAL format and arrangement as Mod 98 kits. Also, illustrated CESO catalogs are provided called *NAVSUP Modifier Code 96 and 97 Catalogs.*

5.4 *COSAL Allowance Changes*

5.4.1 ***COSAL Deficiencies*.** Most Consolidated Seabee Allowance List (COSAL) deficiency reports result from errors on individual Allowance Parts Lists (APL). Because these same APLs are frequently used in other COSALs, any identified error must be reported to CESO immediately on NAVSUP Form 1220-2, *Allowance Change Request/Report* (Figure 5-1). If a NAVSUP Form 1220-2 is not available, the same information should be submitted by letter to CESO Code 1574.

5.4.2 ***CESO Responsibilities*.** The Civil Engineer Support Office (CESO) shall thoroughly research each report to ascertain its validity and, where appropriate, CESO shall request that Navy Inventory Control Point (NAVICP) make necessary APL changes. The activity originally submitting the report shall then be notified of the action taken. Changes that affect several COSALs shall be listed in the *CESO Maintenance Bulletin.*

ALLOWANCE CHANGE REQUEST
NAVSUP 1220-2 (12-78) S/N 0108-LF-501-2206

Instructions on Reverse | Please Type or Print

1. FROM: CBMU-302
CIVIL ENGINEER SUPPORT OFFICE
TO: CBC, PORT HUENEME, CA 93043
ATTN: CESO. CODE 15742P
VIA: (USE ONLY IF REQUIRED BY YOUR COMMAND)

2. Date/Serial Number: APRIL 1, 1987 0001

3. APL/AEL/RIC Number: 95031-2467 44-01781

4. Status of Requested/Allowed Item:
[X] Item Addition or [X] Item Deletion
[ ] Item on Board or [ ] Item Not on Board

5. National Stock Number (NSN) or FSCM & Part Number	6. Equipment/Component (E/C) or Item Nomenclature	7. Unit of Issue	8. Unit Price	9. Present Qty. Allowed	10. New Total Qty.	11. Extended Value of Change
4330-00-056-9832	ELEMENT, FILTER	EA		001		
4330-00-058-7631	ELEMENT, FILTER	EA			002	

12. Justification (Mandatory)
NSN 4330-00-056-9832 IS LISTED ON APL 95031-2467 BUT IS INCORRECT FOR THIS EQUIPMENT APPLICATION. FILTER IS TOO LONG AND TOO LARGE A DIAMETER. PHYSICAL INSPECTION AND RESEARCH OF MCRL SHOWS NSN 4330-00-058-7631 TO BE THE CORRECT FILTER.

13. Copy To:

14. Signature: CMC J. A. TOTIN

15. First Endorsement [ ] Approval Recommended [ ] Disapproved [ ] Other

FIGURE 5-1 Allowance Change Request/Report
NAVSUP Form 1220-2

5.4.3 Completion of NAVSUP Form 1220-2. Prepare an original and one copy (more if required by Command) for each report submitted. Multiple errors may be listed on one form if they relate to the same APL and component identification group. Retain one copy for file and submit the original to CESO. Most reported problems require extensive research; therefore, the originator should include all available information and attach any supporting documentation; for example, VIN, line setting tickets, component model numbers/codes. The following detailed instructions are a ready reference.

Block	Entry
1	From: Originating unit To: CESO Code 1574 Via: Use only if required by the Command.
2	Date: Date the report was prepared. Serial Number: Sequential number assigned by originator to track and identify the NAVSUP Form 1220-2.
3	APL/AEL/RIC Number: Allowance Parts List/Allowance Equipage List/Repairable Identification Code number and USN number that apply to the report.
4	Status of Requested/Allowed Item: Check appropriate block(s).
5	National Stock Number (NSN) or CAGE and Part Number: Stock number or code and part number of item affected by the change. If a request is made for the replacement of one item with another, enter the item to be deleted first, followed by the item recommended as the replacement.
6	Equipment/Component (E/C) or Item Nomenclature: Enter nomenclature corresponding with NSN or CAGE and part number.
7	Unit of Issue: Self-explanatory.
8	Unit Price: Not required by CESO.
9	Present Quantity Allowed: How many are shown on present APL?
10	New Total Quantity: How many should be shown on APL?
11	Extended Value of Change: Not required by CESO.
12	Justification: Indicate reason for requested change. If existing item is incorrect, explain why it doesn't work.
13	Copy To: For internal use as required by Command.
14	Signature: Requires signature of person authorized to report/request allowance changes, usually the Maintenance Supervisor.
15	First Endorsement: Leave blank. This block will be used by CESO to indicate to the submitter what action has been taken.

NOTE: *Manufacturers identify vehicle component parts with unit/division codes. Forward copies of line set tickets, bill of materials, calibration codes, service parts identification labels, certification labels, or any parts identification information associated with a piece of equipment, with the NAVSUP Form 1220-2.*

5.5 ***Technical Manuals***

5.5.1 ***Provision of Technical Manuals.*** An effective equipment management program needs technical data and guides for each item of equipment. Within the NCF, operator manuals, lubrication charts, parts manuals, and shop repair manuals are included in each unit's parts peculiar COSAL under NCBC Port Hueneme local stock number "0NL-7610-LL-Lxx-xxxx." The quantity of technical manuals (TM) is determined by the same methods used for repair parts. This provides one copy for each piece of equipment of the same make and model assigned to the unit; two copies for two pieces of the same make and model; three copies for three to eight pieces of the same make and model; and four copies for nine to twenty pieces of the same make and model equipment.

5.5.2 ***CESO Responsibilities.*** The Civil Engineer Support Office directs and administers the technical manual support program for NCF Units and requires equipment manufacturers to furnish the appropriate TMs with every purchase. These TMs can be military (U.S. Army, USMC, USAF), Commercial (standard manufacturers), or modified Commercial (standard manufacturers TMs modified to meet specific requirements).

5.5.3 ***Construction Battalion Center Responsibilities.*** Based on COSAL computations, NCBC Port Hueneme provides TMs to NCF units with the repair parts packup.

5.5.4 ***Manual Maintenance.*** All NCF units shall maintain all TMs listed in their COSAL. Inventory control of TMs must be maintained through periodic inventories and check-out procedures because replacement manuals for older equipment are usually hard to obtain. Manuals in excess of COSAL quantities must be returned to NCBC Port Hueneme marked for "M3 Stock." If the COSAL lists incorrect TMs or does not list all the required TMs, submit a NAVSUP Form 1220-2 to CESO in accordance with paragraph 5.4.3. Technical Manuals that are lost, damaged, worn out, or otherwise unserviceable shall be replaced by submission of funded requisitions to NCBC Port Hueneme. The requisitions shall include the TM stock numbers from the COSAL. If not available all TM identification and equipment identification that includes USN number, make, model, year of manufacture, serial numbers, and original procurement contract number, will be provided.

5.6 Issue Request Document

56.1 ***Single Line-Item Consumption Document.*** NAVSUP Form 1250-1, Single *Line Item Consumption Document* (Figure 52), is used as authorization to draw material from the storeroom and to request not in stock (NE) or not carried (NC) items from the unit supply. NAVSUP Form 1250-l is a seven-part snap set with copies colored white (original), white (copy), green, blue, pink, yellow, and buff (hard back). Colored copies of the NAVSUP 1250-l will be distributed in accordance with NAVSUP P-485, *Afloat Supply Procedures,* Chapter 6 and the Seabee Supply Manual 4400.3, Chapter 6.

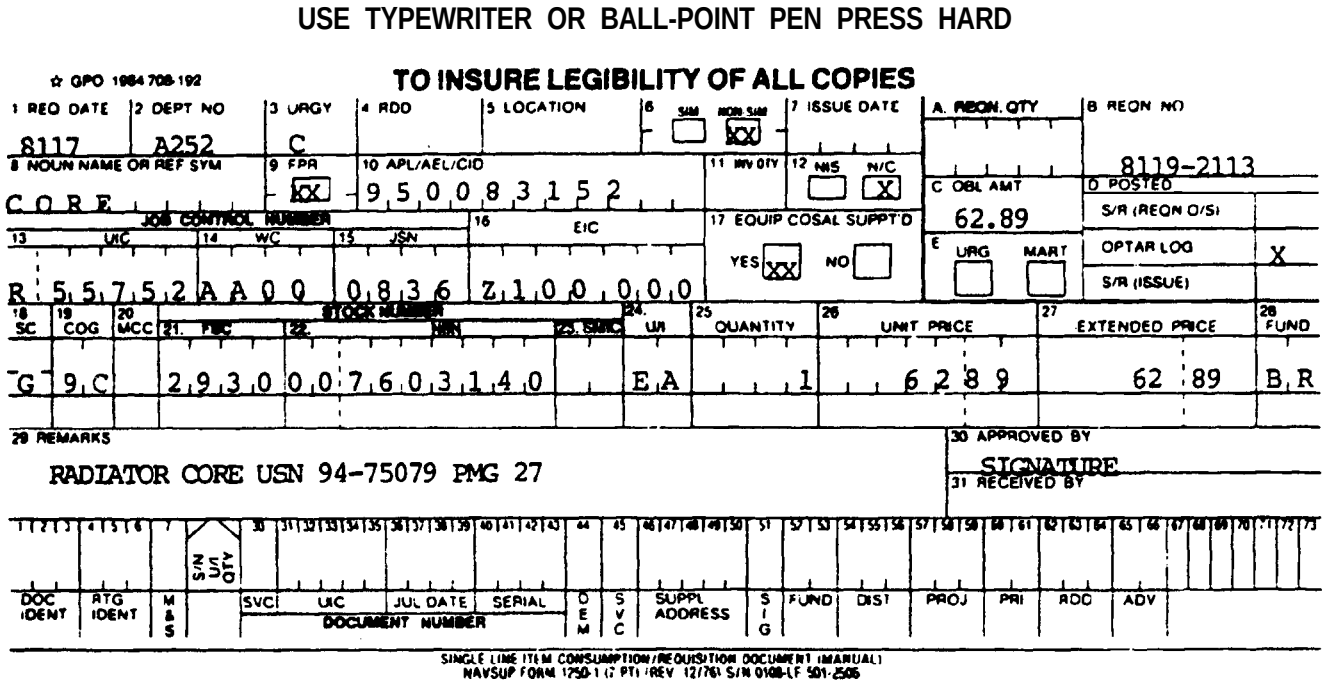


FIGURE 5-2. Single Line-Item Consumption Document
NAVSUP Form 1250-1

NAVSUP Form 1250-1

5.6.2 ***Completion of NAVSUP Form 1250-1*.** The NAVSUP Form 1250-1 shall be prepared, processed, and transmitted in accordance with NAVSUP P-485 and directives such as the Seabee Supply Manual, 4400.3. The forms shall be prepared with either a ballpoint pen or typewriter. Confusion between the numeral zero and the letter O shall be avoided by using the communication 0 (or virgule) for zero. A detailed explanation of each of the form's data blocks that pertain to maintenance personnel is listed below. Blocks marked with an asterisk (*) must be completed by maintenance personnel before submitting the form to Supply.

Block	Entry
*1	Material Request Date. Enter the Julian date that the form is submitted to Supply.
*2	Department No. Enter the internal control number assigned to each form submitted to Supply for procurement of material.
*3	Urgency. Enter the Urgency-of-Need Designator (UND) "A," "B," or "C" as appropriate. UNDs are defined as follows: UND A. The requirement is immediate. Without the material, the unit cannot perform its mission. UND B. The requirement is immediate or shall be in the future. Without this material, the unit's capability shall be impaired. The designator can be used to order stock for mission-essential equipment when the last (minimum replacement unit) item has been issued off the shelf. UND C. Routine requirements.
*4	Required Delivery Date (RDD). Enter the Julian date that delivery of the material is required. Entered only when the required item is not in stock (NIS) or not carried (NC) and the priority authorized will not provide timely delivery.
5	Location. Supply entry.
6	Selected Item Management (SIM/Non-SIM). Supply entry.
7	Material Issue Date. Supply entry.
*8	Noun Name or Reference Symbol. Enter nomenclature or noun name of the item requested.

Block	Entry
*9	Failed Part Replacement (FPR). Annotate it. For example, a replacement pump failed (did not wear out).
10	Allowance Parts List/Allowance Equipage List/Component Identification (APL/AEL/CID). Enter the APL number or TOA assembly number of the equipment for which the item is requested.
11	Inventory. Supply entry.
12	Not In Stock/No Carried (NIS/NC). Supply entry.
13	Unit Identification Code (UIC). Prefix the UIC by the appropriate service designator code: "R" for Pacific, "V" for Atlantic, and "N" for other units.
14	Work Center Code. Supply entry.
15	Job Sequence Number (JSN). The JSN is a four-digit numeric. When the material being documented is not identified to a specific ERO, such as Pre-Expended Bin (PEB), and SHOP USE material, the JSN block shall be filled with zeros. When JSN "0000" is used, print "PEB" or "SHOP USE," as applicable in Remarks Block 29. For maintenance and repair of specific CESE items, each ERO shall be given a JSN sequentially assigned between the numbers 0001 and 9999.
*16	Enter "Z100000" except for PEB or SHOP USE material, for which "X000000" is entered.
17	Equipment COSAL Supported Yes/No. Supply entry.
18	Source Code. Supply entry.
19	Cognizance (COG). Enter the numeric-alpha cognizance symbol of the NSN listed in Blocks 21 and 22.
21/23	National Stock Number/Navy Item Control Number (NSN/NICN); includes Special Materials Identification Code (SMIC), if applicable. For part number items, the Commercial and Government Entity (CAGE) must be indicated, followed by the part number. When the manufacturer's part number consists of ten digits or less, the part number shall begin in the second position of Block 22 and may continue through Block 23. The five-digit CAGE Code, if known, shall be entered in Block 21 and the first position of Block 22. If the CAGE Code is not known and cannot be

determined, Block 21 and the first position of Block 22 shall be left blank. When a part number exceeds ten digits, an asterisk (*) shall be entered in the first position of Block 21 and a corresponding asterisk shall be entered in data Block 29 preceding the CAGE/part number.

When a part number exceeds ten digits, an asterisk (*) shall be entered in the first position of Block 21 and a corresponding asterisk shall be entered in data Block 29 preceding the CAGE/part number.

*24 Unit of Issue (U/I). Enter unit of issue.

*25 Quantity. Enter quantity requested.

26 Unit Price. Enter unit price of material.

27 Extended Price. Enter unit price times quantity.

28 Fund. Supply entry.

*29 Remarks. USN number and equipment description data when there is no APL. Enter additional information pertinent to the requested item. For parts without an NSN, enter the manufacturer's five-character CAGE code, part number, technical manual title and publication number, page number, figure number, and item number.

*30 Approved by. Signature of the Maintenance Supervisor or the designated representative.

31 Received by. Signature and grade or rate of the person who receives the material.

A Requisitioned Quantity (Reqn Qty). Supply entry.

B Requisition Number (Reqn No). Supply entry.

C Obligated Amount (Obl Amt). Supply entry.

D Posted. Supply entry.

E Supply entry.

5.6.3 ***Nonavailability of Parts*.** If the required part is not immediately available, Supply shall annotate the NAVSUP Form 1250-1 with data that concerns like items on order but not received, mark the form NIS (Not In Stock) or NC (Not Carried) and return the form to the mechanic. The Maintenance Supervisor or higher authority shall assign priority and authorize the part to be ordered. Cost Control shall assign a department order number for each part ordered, starting with the number 0001, and forward the copies back to Supply for ordering. Parts on order are called "parts pending" if they were ordered to replenish stock. If parts were ordered for a specific USN number of CESE, they are called "direct turnover" (DTO) parts.

5.7 *Repair Parts Status and Accountability*

5.7.1 ***Direct Turnover Parts Procedures*.** The Maintenance Supervisor assigns priorities for all NAVSUP Forms 1250-1 marked NIS or NC, and completes Blocks 3 and 4. The Maintenance Supervisor (or higher authority) authorizes all NAVSUP Forms 1250-1 for procurement by signing Block 30.

All NAVSUP Forms 1250-1 for NIS or NC material must pass to the Cost Control/DTO Clerk who enters an order number in Block 2 of the form, annotates the Direct Turnover (DTO) Log, annotates the Repair Part Summary Sheet, and then submits the form to the unit Supply.

Supply completes the ordering actions and issues a Procurement Document. Supply shall assign a requisition number to each Procurement Document, and enters this requisition number in Block B of the form, and returns the yellow (Y) copy to the Cost Control/DTO Clerk.

The Cost Control/DTO Clerk enters the requisition number on the DTO Log and the Summary Sheet, and files the yellow copy with the correct Summary Sheet. The Cost Control/DTO Clerk shall maintain accountability and status of all parts on order by periodically requesting status from Supply. When Supply receives the ordered repair part, a copy of the NAVSUP Form 1250-1 is forwarded to the Cost Control/DTO Clerk who must then determine if the part is still required.

Questionable items shall be discussed with the Maintenance Supervisor. Parts that are not required shall not be stored in the DTO bins; they shall be returned to Supply for return to stock, in accordance with Supply regulations. The Cost Control/DTO Clerk tags each repair part with the correct USN number, PM Group, and the yellow (Y) copy of the NAVSUP Form 1250-1, and dates the DTO Log and the Summary Sheet to show that the item was received.

The part is stored in the DTO bin, and the pink (P) copy of the form is filed with the appropriate Summary Sheet. The Summary Sheet can now be used as a record to show what parts were stored in the DTO bins.

When the part is issued, line through the received date (column 6) with a yellow marker pen to show that the part is no longer in the bin. If the received part is for a deadlined piece of equipment, notify the Maintenance Supervisor who decides if enough parts are available to restart work on the vehicle.

Each time an Equipment Repair Order (ERO) is issued, the Cost Control/DTO Clerk checks the Repair Parts Summary Sheets to determine if parts are stored in the DTO bin for the USN number. If so, the Cost Control/DTO Clerk attaches a note to the ERO to alert the Shop Supervisor who shall ensure that the parts are either used or returned to Supply. The DTO bin for the PM group that was worked through the shop yesterday should be empty today, because all parts should have been used or returned to Supply. The only exception is when all the required parts have not been received for a vehicle.

5.7.2 ***Direct Turnover Status-Keeping Records*.** Each department that orders material is required to maintain records to manage and control requisitions. This information must be maintained in a standardized and logical manner, since log procurement lead times and periodic rotation of units and personnel increase the changes that the part will be received by someone who did not originally place the order. The unit's Cost Control/DTO Clerk shall maintain the maintenance shop's DTO records.

When requesting status from Supply, the Cost Control/DTO Clerk must be able to identify the requisition number in which he is interested. Accurate DTO records allow the Cost Control/DTO Clerk to identify the USN numbered equipment for which each part was ordered. The DTO repair parts status keeping system described in the paragraphs that follow provide excellent accountability with minimum effort. This system consists of two records designed to be used together: (1) the DTO Log (Figure 5-3), and (2) the Repair Parts Summary Sheet (Figure 5-4). These records may be kept in the form of a book or a loose-leaf binder. In addition, a secure area to store received parts must be available.

Dept. No.	Julian Date	PMG	USN	NSN	Desc.	Qty.	PRI	Req. No.	Rec'd.
0001	3003	01	48-00123	2815-00-739-6098	Valve	1	C	4010-2111	
0002	3003	01	48-00123	2815-00-962-5622	Spring	1	C	4010-2112	
0003	3010	06	96-11031	2810-00-950-8385	Injector	6	A		

FIGURE 5-3. Direct Turnover (DTO) Log

5.7.3 ***Direct Turnover Log Maintenance*.** Fill in the columns in the DTO Log (Figure 5-3) as follows:

Column	Entry
1	Department Order Number. Enter the internal control number assigned to each NAVSUP Form 1250-1 submitted to Supply, numbered in sequence starting with number 0001. This column is maintained so that the last NAVSUP Form 1250-1 entered is the last part ordered.
2	Julian Date. Enter the date the NAVSUP Form 1250-1 was submitted to Supply.
3	PM Group. Enter the preventive maintenance group in which the USN number is assigned.
4	USN Number. Enter the USN registration number of the vehicle for which the part was ordered.
5	NSN Number. Enter the NSN or the CAGE and part number of the ordered item.
6	Description. Enter nomenclature or noun name of ordered item.
7	Quantity. Enter the amount ordered.
8	Priority. Enter the priority letter/number.
9	Requisition Number. Enter the requisition number from Block B when the NAVSUP Form 1250-1 yellow (Y) copy is returned from Supply.
10	Received. Enter the date received.

5.7.4 ***Repair Parts Summary Sheets*.** Repair Parts Summary Sheets (Figure 5-4) show all parts on order for each vehicle. One sheet is maintained for each assigned USN number, and the Repair Parts Summary Sheets are filed in PM group order. All preventive maintenance EROs go to the Cost Control/DTO Clerk to avoid accidental reordering of items and to allow the clerk to attach notification (DD Form 1250-1) to the ERO to show that the parts are in the DTO bin. Repair Parts Summary Sheets provide reference to determine the quantity of parts received from a multiple order, such as parts for an engine overhaul. When equipment is to be transferred or disposed of, the Repair Parts Summary Sheet is used to identify outstanding requisitions so that they may be canceled.

Date	Dept. No.	Req. No.	UND	Nomenclature	Follow-Up	Rec'd.
96018	0009	2021-2211	C	Gasket Set	1/31	2/28
96189	0161	2230-2713	B	Injector	8/28 9/15 10/2	10/11
96330	0218		B	Raincap		

FIGURE 5-4. Repair Parts Summary Sheet

a. Repair Parts Summary Sheet Maintenance. The columns required on a Repair Parts Summary Sheet are listed below and explained as follows:

Column	Entry
Header	Equipment Code and USN Number. Fill in numbers. One sheet for each USN number.
1	Julian Date. Enter the date the NAVSUP Form 1250-1 was submitted to Supply.
2	Department Order Number. The number entered in Block 2 of NAVSUP Form 1250-1 prior to submittal to Supply. This number serves as a cross-index between the DTO Log and the Repair Parts Summary Sheet.
3	Requisition Number. Enter the requisition number from Block B of the NAVSUP Form 1250-1 when the yellow (Y) copy of the form is returned from Supply.
4	Urgency-of-Need Designator. Enter the urgency of need designator (UND) from Block 3 of the NAVSUP Form 1250-1.
5	Nomenclature. Enter description or noun name of the ordered item.
6	Follow-Up. Enter dates when Cost Control/DTO Clerk requested status from Supply.

Column	Entry
7	Received. Enter the date the ordered item is received. This column should allow room to explain and cross-reference cancellations, partial shipments, and reorders. Always enter the new Department Order Number on all reorders.

b. Deadline Parts Action. The same procedure is followed for Deadline Parts Action as outlined above, except that the Repair Parts Summary Sheet is filed with the complete Equipment Repair Order in the deadline file.

5.7.5 ***Direct Turnover Parts Storage*.** The DTO bins require a secure area large enough to contain 40 cubes measuring 12 inches by 12 inches by 12 inches (minimum) to store DTO parts. Each cube must be labeled with a Preventive Maintenance Group. When DTO parts are received, they must be placed in the cube that corresponds to the PM group of the equipment that require the parts. This area must be able to be locked, and must be remote from the repair parts room.

APPENDIX A. DEFINITIONS AND TERMS

Note: Definitions and terms pertinent to this publication are as follows:

Administrative Use Motor Vehicles. The term "administrative use motor vehicles" means all wheeled-type pneumatic-tired motor vehicles normally of commercial design and transport type which are used for the movement of supplies, personnel, and equipment in providing administrative logistic support to installations or activities, including support of Government personnel at contractor-operated facilities. Vehicles of military design may also be designated and used for administrative purposes in which case they are so classified.

Automotive Vehicles. The term "automotive vehicles" includes trailers and all self-propelled motor vehicles designed for highway or cross-country operations. Specifically included are buses, sedans, trucks, carryalls, station wagons, ambulances, refuelers, defuelers, truck trailers, brush, structural, aircraft fire fighting, and rescue operation trucks. It does not include bicycles, vehicles designed primarily for use on rails, construction equipment, materials handling equipment, amphibious vehicles, or vehicles (with or without armor) designed for active participation in combat.

Base. The word base (on base/off base), as used in this publication means: "within the perimeter boundaries of a U.S. Government installation."

Budget Year. This term is defined as the year two years after the current year.

Bus. A vehicle specifically designed and manufactured to carry more than 16 passengers (including the driver).

Civil Engineering Support Equipment (CESE). The term "Civil Engineering Support Equipment" is synonymous with the term "transportation equipment" used in this publication. CESE is a procurement budget term referring to equipment for which COMNAVFACENGCOM has the responsibility for determining requirements, procuring, and assigning. The equipment includes automotive vehicles, construction, railway, fire fighting, and mobile weight handling equipment. Weight handling equipment such as portal, gantry, jib and other facility cranes normally fixed are not classified as CESE.

Claimant. Claimant or Major Claimant, as used in this publication, is an Echelon II Command, responsible for inventory objectives assigned to activities for Civil Engineering Support Equipment (CESE).

Commercial Motor Vehicle. A commercial motor vehicle is defined as being a vehicle that (1) has a manufacturer's gross vehicle weight rating (GVWR) or gross combination weight rating (GCWR) of 26,001 pounds or more, or has a GCWR, inclusive of

a towed unit with a GVWR of more than 10,000 pounds, **or** (2) is designed to carry 16 or more passengers, including the driver, **or** (3) is of any size and used in the transportation of hazardous materials in a quantity requiring placarding by federal law or regulations.

Construction Equipment. The term "Construction Equipment" means all mechanical equipment used in the construction, alteration, or repair of buildings, bridges, roads, or other kinds of real property. It includes pile drivers, power shovels and cranes with special attachments, road rollers, tractors, scrapers, plows, street sweepers, sprinkle carts, and the like; and portable boilers, pumps, and air compressors. It also includes such stationary machines and mechanical apparatus as rock crushing plants, concrete batching and mixing plants, and similar equipment used exclusively in the construction and maintenance of public works. When used as a general term "Construction Equipment" includes mobile weight handling equipment.

Current Year. This term is defined as the fiscal year during which the inventory objective and requirements review is to be submitted.

Defense Business Operating Fund (DBOF) Activities. DBOF activities are those activities engaged in producing goods or providing services on a reimbursable basis. For the purposes of this instruction, DBOF activities are those activities authorized to purchase Class III property from their revolving fund. Examples of DBOF activities are naval shipyards, public works centers, research laboratories, and weapons stations.

Engineering Field Activity (EFA). The term “Engineering Field Activity” as used in this publication refers to the Commanding Officers of the Chesapeake, Mediterranean, Northwest, West, and Great Lakes activities of the Engineering Field Divisions (EFDs).

Engineering Field Division (EFD). The term "Engineering Field Division" as used in this publication refers to the Commander/Commanding Officer of the Pacific, Atlantic, Northern, Southern, and Southwestern Divisions of COMNAVFACENGCOM.

Expense Items. Expense items are equipment with a unit cost of less than $100,000 which are not designated for centralized, individual item management. COMNAVFACENGCOM is the central manager for CESE. Accordingly, all CESE listed in the CASEMIS descriptive reference table will be included in the procedures of this manual regardless of the unit cost.

Hire of Motor Vehicles. This term includes charter or rental arrangements with commercial contractors or with the General Services Administration from its interagency motor pools. Hire of motor vehicles is further defined as "charter" when the driver is provided by the contractor, and as "rental" or "lease" when military or civilian personnel of DoD are used as drivers.

Incidental Driver. A person, other than a motor vehicle operator, required to operate a motor vehicle to carry out their assigned duties.

Inventory. This term is defined as the equipment on-hand and carried on the activity plant account records. This equipment shall be used to fill authorized inventory objectives. Inventory excess to inventory objectives shall not be acquired or retained for temporary convenience.

Inventory Objective (IO). This term is defined as the quantity of equipment authorized to be held in inventory. The sum of each equipment code authorized Navy-wide becomes the inventory objective and is utilized in the annual CESE budget.

Maintenance. The term "maintenance" or "preventive maintenance" as used in this publication denotes all work functions performed on transportation equipment to determine, prevent, or correct physical damage and mechanical malfunctioning in the degree necessary to continue or restore the equipment to a safe and serviceable condition. The term "maintenance" includes the functions designated as inspection, lubrication, adjustment, service, repair, rebuild, part replacement, overhaul, and rehabilitation.

Material Handling Equipment (MHE). The term "material handling equipment" means all self-propelled and conveyor equipment used in storage and materials handling operations in and around warehouses, shipyards, industrial plants, airfields, magazines, depots, docks, terminals, and on-board ships. Included are warehouse tractors, forklift trucks, rough terrain forklift trucks, pallet trucks, conveyors and conveyor systems, and straddle carrying trucks. The Naval Supply Systems Command (NAVSUP) has cognizance over MHE.

Motor Vehicle. Any self-propelled vehicle designed and operated for transporting property or passengers.

Motor Vehicle Operator. A person regularly required to operate a motor vehicle as their primary employment responsibility.

Non-passenger Carrying Vehicles. The term "non-passenger carrying vehicles" means conventional type trucks and trailers that in general are not primarily intended for transportation of personnel. Although scooters, motorcycles, multiple-drive weapons carriers, jeeps, and prime movers can be used to transport personnel, all are classed as non-passenger carrying vehicles.

Overhaul. To disassemble/dismantle in order to examine thoroughly and make needed repairs to an individual component.

Overseas Command. The term "overseas command" includes certain Fleet and Force commands in overseas areas that have responsibilities for field coordination control of transportation equipment matters.

Passenger Carrying Vehicles. The term "passenger carrying vehicles" means sedans, station wagons, ambulances, and buses.

Public Works Department (PWD)/Public Works Center (PWC). PWDs and PWCs have the mission of providing the full range of public works services, including utilities, facilities maintenance, housing, transportation, engineering services, shore facilities planning support, and all other public works support required by operating forces, dependent activities, and others located at, and in the vicinity of, the naval complex being served.

Railway Equipment. The term "railway equipment" means all Navy-owned locomotives and rolling stock designed primarily for use on rails.

Remanufacture. The term "remanufacture" is defined as a process involving the repair of an asset to such an extent that it meets the characteristics typical of the same type of equipment presently coming off the production line. In general, this process requires the replacement of approximately 80% of the components of the asset with new state of the art parts and systems.

Repair. The term "repair" is defined as those maintenance functions which restore individual parts, components, or assemblies of an equipment unit to a safe, serviceable condition. The term "repair" includes unit overhaul and unit replacement.

Resource Sponsor. A resource sponsor is a Deputy or Assistant Chief of Naval Operations (DCNO/ACNO) or Director of a Major Staff Office, who is responsible for programming all resources to support his/her specific mission area. The Resource Sponsor for all Navy OPN funded CESE is N4 (Deputy Chief of Naval Operations, Logistics).

Service Life Extension Program (SLEP). The term "SLEP" is defined as any one-time group of major repairs/overhauls specifically planned and scheduled over a limited period of time which has the effect of extending the service life of the equipment two or more years.

Special Use Vehicles. The term "special use vehicles" describes all vehicles not otherwise classified as administrative use motor vehicles. It is used to officially designate those vehicles which may be excluded from the general utilization program. It is applicable to those vehicles which are commercially designed to achieve a purpose which precludes its use in day-to-day, over-the-road operations. Examples of such vehicles are fire trucks

and wreckers. The term includes vehicles originally designed for general transport but to which a unit of equipment has now been affixed which precludes its use as an administrative use motor vehicle. It does not include a unit otherwise used as an administrative use motor vehicle, but to which is temporarily attached (as a local expedient) an item of equipment such as a snowplow blade. The determination that the special purpose category applies will be made by the TEMCs.

Specialized Equipment. The term "specialized equipment" describes vehicles or equipment which are designed, developed, and constructed for any office or command for its own predominant use in performance of a service peculiar to that command or office. It includes equipment which, though built with a standard engine and chassis, are otherwise modified to such a major extent that it can only be used by the specific command or office. This type equipment would normally be funded for by the specific command with sole use and/or ownership.

Standard Family Equipment Items. Standard family equipment items are commercially available and represent equipment designs/configurations that will meet most activity transportation requirements. Selection of items from the standard family of equipment should be made to the maximum extent possible since standardization by make or model is not permitted.

Transportation Equipment. The term "transportation equipment" used in this publication includes all types of automotive vehicles, construction, railway, fire fighting, and mobile weight handling equipment.

Transportation Equipment Management Center (TEMC). This term means the component within NAVFACENGCOM EFDs located in Norfolk and Pearl Harbor responsible for providing technical assistance to designated Commands/Major Claimants and to all field activities on a geographic basis, on transportation equipment inventory objectives and for administering the assignment, replacement, disposal, maintenance, and utilization of transportation equipment. Also, for the purpose of this publication, CESO Code 157 and the Equipment offices of COMSECONDNCB and COMTHIRDNCB perform many of the same functions as LANT/PAC TEMCs and are considered TEMCs for the NCFs and SOUs.

Weight Handling Equipment (WHE). The term "weight handling equipment" includes mobile or transportable truck, crawler and railway mounted locomotive cranes normally used for lifting, moving, and placing heavy material or equipment. The term also includes captive cranes of the gantry/portal and hammerhead type which are not included in the CESE program. (For detailed WHE terms and instructions, see NAVFAC P-307).

APPENDIX B. ABBREVIATIONS

2C	COGNIZANCE EQUIPMENT. CIVIL ENGINEERNG SUPPORT EQUIPMENT (CESE)
3-CCP	3-COLOR CAMOUFLAGE PATTERNS
ABFC	ADVANCED BASE FUNCTIONAL COMPONENT
ABFHS	AMPHIBIOUS BUOYANT FUEL HOSE SYSTEM
ACU	NAVAL ASSAULT CRAFT UNIT
ACR	ALLOWANCE CHANGE REQUEST
AD	AIR DETACHMENT
ADP	AUTOMATIC DATA PROCESSING
AE	AIR ECHELON
AEL	ALLOWANCE EQUIPAGE LIST
AFFF	AQUEOUS FILM FORMING FOAM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APL	ALLOWANCE PARTS LIST
ARFF	AIRCRAFT RESCUE AND FIRE FIGHTING
AUTODIN	AUTOMATIC DIGITAL NETWORK (a DoD TELETYPE SYSTEM)
AUTOVON	AUTOMATIC VOICE NETWORK (NOW DSN)
AVGAS	AVIATION GASOLINE
BARR	BIENNIAL ALLOWANCE AND REQUIREMENTS REVIEW
BHP	BRAKE HORSEPOWER
BMEP	BREAK MEAN EFFECTIVE PRESSURE
BMU	NAVAL BEACHMASTER UNIT
BOAC	BILLING OFFICE ADDRESS CODE
BUMED	BUREAU OF MEDICINE AND SURGERY
BUPERS	BUREAU OF NAVAL PERSONNEL
CA	COMMERCIAL ACTIVITIES
CAC	COST ACCOUNT CODE
CAGE	COMMERCIAL AND GOVERNMENT ENTITY CODE (MANUFACTURERS' CODES)
CAMEO	COMPUTER ASSISTED MAINTENANCE & EQUIPMENT OPERATIONS
CARC	CHEMICAL AGENT RESISTANT COATING
CASEMIS	CONSTRUCTION, AUTOMOTIVE, AND SPECIALIZED EQUIPMENT MANAGEMENT INFORMATION SYSTEM
CBC	CONSTRUCTION BATTALION CENTER
CBMU	CONSTRUCTION BATTALION MAINTENANCE UNIT
CBU	CONSTRUCTION BATTALION UNIT
CED	CONSTRUCTION EQUIPMENT DEPARTMENT
CEEI	CIVIL ENGINEER END ITEMS
CESE	CIVIL ENGINEERING SUPPORT EQUIPMENT
CESO	CIVIL ENGINEER SUPPORT OFFICE
CDL	COMMERCIAL DRIVER'S LICENSE
CDLP	COMMERCIAL DRIVER'S LICENSE PROGRAM

CFE	CONTRACTOR FURNISHED EQUIPMENT
CHB	CARGO HANDLING BATTALION
CHTB	CARGO HANDLING TRAINING BATTALION
CID	COMPONENT IDENTIFICATION
CINCLANTFLT	COMMANDER-IN-CHIEF, ATLANTIC FLEET
CINCPACFLT	COMMANDER-IN-CHIEF, PACIFIC FLEET
CINCUSNAVEUR	COMMANDER-IN-CHIEF, U.S. NAVAL FORCES, EUROPE
CNET	CHIEF, NAVAL EDUCATION AND TRAINING
CNO	CHIEF OF NAVAL OPERATIONS
COCOWARGRU	COMMAND AND CONTROL WARFARE GROUPS
COG	COGNIZANCE
COMNAVFACENGCOM	COMMANDER, NAVAL FACILITIES ENGINEERING COMMAND
COMNAVOCEANCOM	COMMANDER, NAVAL OCEANOGRAPHY COMMAND
COMNAVRESFOR	COMMANDER NAVAL RESERVE FORCE
COMSECONDNCB	COMMANDER, SECOND NAVAL CONSTRUCTION BRIGADE (ATLANTIC)
COMTHIRDNCB	COMMANDER, THIRD NAVAL CONSTRUCTION BRIGADE (PACIFIC)
COSAL	CONSOLIDATED SEABEE ALLOWANCE LIST
CPM	CYCLES PER MINUTE
CPP	CAPITAL PURCHASE PROGRAM
CSNP	CAUSEWAY SECTION, NONPOWERED
CSP	CAUSEWAY SECTION, POWERED
CSR	CENTRAL STOREROOM
CSC	CONVENTION FOR SAFE CONTAINERS
CTR	CENTRAL TOOLROOM
CULT	COMMON USE MILITARY LAND TRANSPORTATION
CW	CURB WEIGHT
DAAS	DEFENSE AUTOMATIC ADDRESS SYSTEM
DBHP	DRAWBAR HORSEPOWER
DBOF	DEFENSE BUSINESS OPERATIONS FUND
DBPP	DRAWBAR POUNDS PULL
DD	DEPARTMENT OF DEFENSE
DED	DIESEL ENGINE DRIVEN
D&F	DETERMINATION AND FINDING
DFM	DOWN-FOR-MAINTENANCE
DFS	DOWN-FOR-SUPPLY
DISREP	DISCREPANCY IN SHIPPING REPORT
DLA	DEFENSE LOGISTICS AGENCY
DoD	DEPARTMENT OF DEFENSE
DoT	DEPARTMENT OF TRANSPORTATION
DRMO	DEFENSE REUTILIZATION MARKETING OFFICE
DSN	DEFENSE SWITCHED NETWORK (FORMERLY AUTOVON)
DTO	DIRECT TURNOVER
E	ELECTRICAL

E/C	EQUIPMENT/COMPONENT
EC	EQUIPMENT CODE (FORMERLY ECC)
EFD	ENGINEERING FIELD DIVISION
EIR	EQUIPMENT IDENTIFICATION RECORD
ELCAS	ELEVATED CAUSEWAY
EM	EQUIPMENT MAINTENANCE
EMD	ELECTRIC MOTOR DRIVEN
EMS	EQUIPMENT MANAGEMENT SYSTEM
EO	EQUIPMENT OPERATION
EODGRU	NAVAL EXPLOSIVE ORDNANCE DISPOSAL GROUP
EPS	ENGINEERED PERFORMANCE STANDARDS
ERO	EQUIPMENT REPAIR ORDER
FACSO	FACILITIES SYSTEMS OFFICE (NAVAL FACILITIES ENGINGEERING COMMAND)
FADS	FUEL AUTOMATED DATA SYSTEMS
FAFE	FLEET AVERAGE FUEL ECONOMY
FAR	FEDERAL ACQUISITION REGULATION
FHTA	FLEET HOSPITAL TRAINING ACTIVITY
FLEHOSPSUPPOFF	FLEET HOSPITAL SUPPORT OFFICE
FPM	FEDERAL PERSONNEL MANUAL
FPMR	FEDERAL PROPERTY MANAGEMENT REGULATION
FRP	FAILED REPLACEMENT PART
FSN	FEDERAL STOCK NUMBER
GCW	GROSS COMBINATION WEIGHT
GED	GASOLINE ENGINE DRIVEN
GFE	GOVERNMENT FURNISHED EQUIPMENT
GOCO	GOVERNMENT OWNED, CONTRACTOR OPERATED
GSA	GENERAL SERVICES ADMINISTRATION
GSE	GROUND SUPPORT EQUIPMENT
GVW	GROSS VEHICLE WEIGHT
GVWR	GROSS VEHICLE WEIGHT RATING
H	HYDRAULIC
HM-14, HM-15	HELICOPTER MINE COUNTERMEASURE SQUADRONS
HTW-ONE	HELICOPTER TACTICAL WING ONE
HP	HORSEPOWER
ICCN	ISO CONTAINER CONTROL NUMBER
ID	IDENTIFICATION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IG	INSPECTOR GENERAL
ILO	INTEGRATED LOGISTICS OVERHAUL
ILS	INTEGRATED LOGISTIC SUPPORT
INST	INSTRUCTION
I&R	INVENTORY AND REGISTRATION
ISIC	IMMEDIATE SUPERIOR IN CHARGE
ISO	INTERNATIONAL STANDARIZATION ORGANIZATION
J&A	JUSTIFICATION AND APPROVAL

JAG	JUDGE ADVOCATE GENERAL
JCCO	JOINT CONTAINER CONTROL OFFICE (BAYONNE, NEW JERSEY). WORLD-WIDE TRACKING AND REPORTING OF DoD ISO CONTAINER FLEET
JCN	JOB CONTROL NUMBER
JSN	JOB SEQUENCE NUMBER
JTR	JOINT TRAVEL REGULATION
LANTNAVFACENGCOM	ATLANTIC DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
LPG	LIQUIFIED PETROLEUM GAS
M	MECHANICAL
MCRL	MASTER CROSS REFERENCE LIST
MDSU	MOBILE DIVING AND SALVAGE UNIT
MEO	MOST EFFICIENT ORGANIZATION
MHE	MATERIAL HANDLING EQUIPMENT
MILVAN	MILITARY VAN (CONTAINER)
MIS	MANAGEMENT INFORMATION SYSTEM
MIUW	MOBILE INSHORE UNDERSEA WARFARE UNIT
MPG	MILES PER GALLON
MPH	MILES PER HOUR
MPP	MASTER PACKING PLAN
MUSE	MOBILE UTILITY SUPPORT EQUIPMENT
MWO	MODIFICATION WORK ORDERS
MWR	MORALE, WELFARE, AND RECREATION
NAVAIDSUPUNT	NAVIGATIONAL AIDS SUPPORT UNIT
NAVBEACHGRU	NAVAL BEACH GROUP
NAVCHAPGRU	NAVAL CARGO HANDLING AND PORT GROUP
NAVCOMPT	COMPTROLLER OF THE NAVY
NAVCONSTRACEN	NAVAL CONSTRUCTION TRAINING CENTER (ALSO NCTC)
NAVFACENGCOM	NAVAL FACILITIES ENGINEERING COMMAND
NAVGRAM	NAVAL MESSAGE
NAVICP	NAVY INVENTORY CONTROL POINT
NAVSEASYSCOM	NAVAL SEA SYSTEMS COMMAND
NAVSPECWARGRU	NAVAL SPECIAL WARFARE GROUP
NAVSUPSYSCOM	NAVAL SUPPLY SYSTEMS COMMAND
NC	NOT CARRIED
NCB	NAVAL CONSTRUCTION BRIGADES
NCBC	NAVAL CONSTRUCTION BATTALION CENTER
NCF	NAVAL CONSTRUCTION FORCE
NCFSU	NAVAL CONSTRUCTION FORCE SUPPORT UNIT
NCR	NAVAL CONSTRUCTION REGIMENT
NCTC	NAVAL CONSTRUCTION TRAINING CENTER (ALSO NAVCONSTRACEN)
NDR	NATIONAL DRIVER REGISTER
NDT	NONDESTRUCTIVE TEST
NFTS	NAVAL FACILITIES TRANSPORTATION SYSTEM

NICN	NAVY ITEM CONTROL NUMBER
NIIN	NATIONAL ITEM IDENTIFICATION NUMBER
NIS	NOT IN STOCK
NMCB	NAVAL MOBILE CONSTRUCTION BATTALION
NMIUW	NAVAL MOBILE INSHORE UNDERSEA WARFARE UNITS
NORTHNAVFACENGCOM	NORTHERN DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
NSN	NATIONAL STOCK NUMBER
ODCL	OPERATORS DAILY CHECKLIST
O&M	OPERATIONS & MAINTENANCE
OMB	OFFICE OF MANAGEMENT AND BUDGET
O&MN	OPERATION & MAINTENANCE, NAVY
OBL AMT	OBILIGATION AMOUNT
OPM	OFFICE OF PERSONNEL MANAGEMENT
OPN	OTHER PROCUREMENT, NAVY
OS	OUT OF SERVICE
OSH	OCCUPATIONAL SAFETY & HEALTH
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
OSM	OUT OF SERVICE AWAITING MAINTENANCE
OSP	OUT OF SERVICE AWAITING PARTS
OSW	OUT OF SERVICE BEING WORKED ON
PACNAVFACENGCOM	PACIFIC DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
PC TRANSPORT	PERSONAL COMPUTER TRANSPORTATION SUPPORT
PEB	PRE-EXPENDED BIN
PEP	PRIMARY EQUIPMENT PACKAGE
PHIBCB	AMPHIBIOUS CONSTRUCTION BATTALION
PL	PAYLOAD
PM	PREVENTIVE MAINTENANCE
PMO	PROGRAM MANAGEMENT OFFICE
POD	PERMISSIBLE OPERATING DISTANCE
POE	PROJECTED OPERATIONAL ENVIRONMENT STATEMENTS
POL	PETROLEUM, OIL, LUBRICANTS
PRT	PORTABLE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PTO	POWER TAKE-OFF
PWC	PUBLIC WORKS CENTER
PWD	PUBLIC WORKS DEPARTMENT
PWRMS	PREPOSITIONED WAR RESERVE MATERIAL STOCK
QDR	QUALITY DEFICIENCY REPORT
RDD	REQUIRED DELIVERY DATE
REQD	REQUIRED
REQN NO	REQUISITION NUMBER
REQN QTY	REQUISITION QUANTITY

RFI	READY FOR ISSUE
RIC	REPAIRABLE IDENTIFICATION CODE
RPT SYM	REPORT SYMBOL
RJE	REMOTE JOB-ENTRY
RMA	RUBBER MANUFACTURERS ASSOCIATION
RMS	RESOURCES MANAGEMENT SYSTEM
ROC	REQUIRED OPERATIONAL CAPABILITIES
RPM	REVOLUTIONS PER MINUTE
SAE	SOCIETY OF AUTOMOTIVE ENGINEERS
SAMMS	SEABEE AUTOMATED MATERIAL MANAGEMENT SYSTEM
SBR	SPECIAL BOAT SQUADRON GROUPS
SE	SEA ECHELON
SEABEE	OCCUPATIONAL FIELD XIII (OF-13) PERSONNEL AND ALL PERSONNEL SERVING NCF UNITS
SECNAV	SECRETARY OF THE NAVY
SF	STANDARD FORM
SIM	SELECTED ITEM MANAGEMENT
SKO	NATIONAL STOCK NUMBER (NSN) BREAKDOWN OF SETS, KITS, AND OUTFITS (ILLUSTRATED CATALOG)
SLR	SHOP LABOR RATE
SLWT	SIDE-LOADABLE WARPING TUG
SMIC	SPECIAL MATERIALS IDENTIFICATION CODE
SNSL	STOCK NUMBER SEQUENCE LIST
SOAP	SUPPLY OPERATIONS ASSISTANCE PROGRAM
SOU	SPECIAL OPERATING UNIT
SOUTHNAVFACENGCOM	SOUTHERN DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
SOUTHWESTNAVFACENGCOM	SOUTHWEST DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
SPCC	SHIP PARTS CONTROL CENTER
SRO	SHOP REPAIR ORDER
SUPMIS	SUPPLY MANAGEMENT INFORMATION SYSTEM
SVC	SERVICE VEHICLE CATEGORY (FOR EXAMPLE: 1= NAVY)
TAD	TEMPORARY ADDITIONAL DUTIES
TAP	TABLE OF ALLOWANCE (TOA) AS PACKED
TCR	TRANSPORTATION COST REPORT
TDY	TEMPORARY DUTY
TEMC	TRANSPORTATION EQUIPMENT MANAGEMENT CENTER
TEMES	TRANSPORTATION EQUIPMENT MANAGEMENT EVALUATION SUMMARY
TEU	TWENTY-FOOT EQUIVALENT UNIT
TM	TECHNICAL MANUALS
TOA	TABLE OF ALLOWANCE
TOE	TABLE OF EQUIPMENT

UCT	UNDERWATER CONSTRUCTION TEAMS
U/I	UNIT OF ISSUE
UIC	UNIT IDENTIFICATION CODE
ULV/ULD	ULTRALOW VOLUME/ULTRALOW DOSAGE
UND	URGENCY-OF-NEED DESIGNATOR
USAF	UNITED STATES AIR FORCE
USMC	UNITED STATES MARINE CORPS
USN	UNITED STATES NAVY
USN	UNITED STATES NUMBER (NAVY EQUIPMENT REGISTRATION NUMBER)
USNG	UNITED STATES NAVY GENERAL
VIN	VEHICLE IDENTIFICATION NUMBER
WC	WORK CENTER
WHE	WEIGHT HANDLING EQUIPMENT

APPENDIX C
PREPARATION INSTRUCTIONS FOR
NAVAL CONSTRUCTION FORCE (NCF)
CESE BIENNIAL ALLOWANCE AND REQUIREMENTS REVIEW

1. **Biennial Allowance And Requirements Review.** Under the automated Civil Engineer Support Equipment (CESE) Biennial Allowance and Requirements Review (BARR) system, each allowance holder or designated activity will receive a BARR printout (Figure C-1) by 15 August. The BARR printout lists the equipment in the current allowance for that designated activity or allowance holder. For each equipment, the printout lists the Equipment Code (EC), USN number, description, model, year, location, and condition code. The printout also provides information about the life expectancy in years, eligible replacement year, authorized allowance, number of pieces on hand, and due in. It also provides space for annotation by the allowance holder about current year requirements, priority, budget year requirements, and remarks. Each activity will review the BARR, annotate any necessary changes, and return the updated report to CESO Code 1575 prior to 1 October of the biennial year. Every effort will be made to replace equipment in accordance with the needs and priorities identified by the activity within the constraints of equipment availability and budget.

2. **BARR Printout.** A detailed explanation of the CESE Biennial Allowance and Requirements Review printout follows.

a. Headings

(1) Allowance EC (Equipment Code). Completed by CESO. Indicates the current authorized EC. The ECs are used to classify equipment by type and technical characteristics. For example: EC 010401 is a standard compact sedan; EC 010402 is the same sedan with air conditioning. The ECs that end in "00" are nonstandard equipment procurements.

(2) DESC (Description). Completed by CESO. A 40-character description of the allowance EC.

(3) Life Expectancy. Completed by CESO. The number of years of life expected to be derived from items of that EC. Replacement of an item, however, must be based on its use, condition, and ability to perform. Budget constraints require activities to extend equipment life to its maximum effective use.

(4) Allow QTY (Allowance Quantity). Completed by CESO. Indicates the current authorized allowance for the EC.

(5) ABFC/TOA. Advanced Base Functional Component/Table of Allowance. This column pertains to Third Naval Construction Brigade (COMTHIRDNCB), Second Naval Construction Brigade (COMSECONDNCB), Construction Battalion Units (CBU), Reserve activities, and the Naval Beach Group (NBG) community. Any change or reductions in this column will require ABFC/TOA revisions and coordination between the respective activity that requests the change and its counterpart via CESO Code 155.

(6) Due In. Completed by CESO. The number of items of that EC from transfers and procurements not yet delivered at the time the report was produced. This information is a direct extract from files at CESO and does not require update by the activity.

b. Columns

(1) Actual EC. Completed by CESO. The actual equipment code of the equipment.

(2) USN/USNG NO. USN/USNG Number. Completed by CESO. A list of the USN/USNG numbers of each piece of equipment under the allowance EC held by the activity.

(3) DESC. Description. Completed by CESO. A 15-character description of each piece of equipment.

(4) MFR/Model. Manufacturer and Model. Completed by CESO. The make and model of each USN number.

(5) YR. Year. Completed by CESO. The year of manufacture of each USN number.

(6) LOC. Location. Completed by CESO with information furnished by the activity.

(7) ASSN CD. Assignment Code. Completed by CESO.

(8) COND. Condition. Completed by CESO with information furnished by the activity. Activity annotates to reflect any recent change in condition; overhaul or accident damage could either better or worsen the condition previously reported to CESO.

(9) Year Replaceable. Completed by CESO. Indicates the year (B = budget, C = current) in which the item is eligible for replacement. No entry in this column indicates the item is not eligible for replacement in either the budget or current year. An entry of "OA" identifies equipment retained by the activity that is overaged; past replacement eligibility based solely on age.

(10) Excess/Remarks. Completed by CESO to obtain information about excess or overage equipment retained by the activity; if the quantity on hand, less the current year replaceables and due ins, exceeds the authorized allowance an excess is created. Similar entries may be made by the activity.

(11) PRI. Priority. Completed by the activity. Enter a priority for filling the current year requirements for each item of equipment. A priority entry is mandatory for every item in which a current year requirement is identified, because it is probable that funds available for procurement will be inadequate to satisfy all requirements. Priority numbers shall run sequentially from "1" through to the total number of equipment line item requirements submitted, and each number shall be used only once. An activity that reports for more than one subordinate activity shall integrate all subordinate priorities so that each number appears only once in the report.

c. Summary

(1) Total EC On Hand. Completed by CESO. Total of all CESE held by the activity against the allowance EC.

(2) Current Year Replaceable. Completed by CESO, but annotated by the activity, to reflect the information in paragraph b.(10) above.

NOTE: The activity must take into account the age, condition code, number of due ins, priority, and total allowance figures.

(3) Budget Year Replaceable. Completed by CESO. Provides for future planning purposes.

3. **Technical Assistance.** Staff technical assistance is available from CESO Code 1575. CESO shall conduct conferences with Allowance Holders to ensure comprehensive allowance reviews, as shown in the non-rolling stock *Biennial Allowance and Requirements Review*, NAVFAC Form 11200/37 (Figure C-2).

RECORD HOLDER
NXXXXX

PROPERTY HOLDER
SEABEES

ALLOWANCE EC	DESC	LIFE EXPECTANCY	ALLOW QTY	ABFC TOA	DUE-IN
036031	TRK 1 1/4T CARG	06	5	TA XX	01

ACTUAL EC	USN NO	DESC	MFG/MODEL	YR	LOC	ASSN CD	COND	YEAR REPLACEABLE	ESCESS/REMARKS	PRI
036031	94XXXX1	TRK 1 1/4T	FORD	81	N20	A	A5			
036031	94XXXX2	TRK 1 1/4T	FORD	82	N20	B	A4			
036031	94XXXX3	TRK 1 1/4T	FORD	83	N20	C	A4			
032701	94XXXX4	TRK 3/4T	CHEV	80	N20	D	A5	B	SUBSTITUTE	7
032701	94XXXX5	TRK 3/4T	CHEV	79	N20	E	A6	C	SUBSTITUTE/DUE IN	
032701	94XXXX6	TRK 3/4T	FORD	77	N20	F	A6	OA	EXCESS	

TOTAL EC ON-HAND: 6 CURRENT YEAR REPLACEABLE: 1 BUDGET YEAR REPLACEABLE: 1

FIGURE C-1. Biennial Allowance and Requirements Review

NAVFAC 11200/27 (2-77) CIVIL ENGINEER END ITEM ANNUAL ALLOWANCE AND REQUIREMENTS REVIEW REPORT NAVFAC 11200-1/68

1 Reporting Activity	2 Location	3 UIC	4 Subordinate Activity
PHIBCBTHO	NAB Little Creek, VA	55105	N/A

TOA SECTION NUMBER	TOA GROUP/ FACILITY NUMBER	TOA ASSEMBLY NUMBER	COG SYMBOL & NSN	ITEM DESCRIPTION	PRIORITY NUMBER	UNIT COST	PRESENT ALLOW	ALLOW HOLDER REVIEW	PRESENT INVENT	PRIOR YEAR DUE IN	PLANNED DISPOSALS	CURRENT YEAR REQTS	BUDGET YEAR REQTS
6	6	7	8	9	10	11	12	13	14	15	16	17	18
*8	00801A	97050	2CD 5410-00-004-4740	SHELTER, EQUIP.	1	2200.00	04	06	03	01	00	02	00
			* SAMPLE LINE ITEM ENTRY										
					**			**	**	**	**	**	**

** Columns are to be completed by the reporting activity.

FIGURE C-2. Non-Rolling Stock Biennial Allowance and Requirements Review

APPENDIX D. ATTACHMENT MANAGEMENT FOR NCFs/SOUs

1. **Objective**. Attachment management follows the same basic principles as USN and USNG number control. Proper registration and management are essential to prevent attachments from becoming separated from the basic machine and lost or inadvertently discarded. Proper stowage and preservation will also help prevent expensive attachments from being rendered useless by oxidation and damage.

2. **Attachment Identification**. Attachments are accessories to construction equipment that enable the basic equipment to perform its function or to add versatility to the equipment. Some attachments are usable with many different types of equipment, whereas some can be used only by a particular make and model machine.

a. Attachment Codes. Attachment codes have equipment codes (EC) starting with an alpha character. Attachment identification numbers are provided for permanent positive identification of each attachment. Attachment ID numbers contain three separate segments: (1) prefix, (2) acronym, and (3) sequential number which identify the attachment. The following are examples.

ID Number	Segment	Description
Example A		
255-BH-001	Prefix is 255	Indicates either manufacturer's make and model or attachment size (Table D-1): P&H Model 255-A-TC.
	Acronym is BH	An abbreviation for the noun name of the attachment: backhoe.
	Number is 001	Sequential number assigned by CESO when the attachment is registered.
Example B		
11-DB-10	Prefix is 11	Attachment size (Table D-1): 2 cubic yards.
	Acronym is DB	An abbreviation: drag bucket.
	Number is 10	Sequential number.

Attachment Identification numbers (Table D-1) are two inches high and shall be permanently welded to that portion of each attachment least subject to normal wear. Where it is not desirable to weld directly on the attachment, as in the case of crane booms and hooks, the ID number shall be welded on a metal plate of appropriate size and then permanently fixed to the attachment.

b. USNG-Numbered ISO Containers. ISO containers are USNG-numbered items which are recorded as attachments and managed like CESE.

3. **Attachment ID Number Assignment**. Attachments to CESE are not assigned permanently Navy numbers until they reach the initial Allowance Holder. Therefore, units may receive attachments that do not have permanent ID numbers. In this event, the following procedures are necessary.

a. ID Number Request. The receiving activity shall request an ID number by initiating an Equipment Attachment Registration Record Card, NAVFAC Form 6-11200/45 (Figure D-1) for each attachment. After this registration card is completed in accordance with the following instructions, two copies shall be submitted to CESO (Code 1575) via the Allowance Holder, if appropriate. Retain one copy in the appropriate equipment history jacket.

Block	Remarks
1	From Column 1 to the Equipment Shipping Specification.
2 thru 12	Self-explanatory.
13 thru 16	If attachment is peculiar to only one type machine, complete these blocks.
17	All items, such as shear-leg, crowd and rehaul assembly, lagging, high and low gantry.
18	USN number to which assigned.
19 and 20	Self-explanatory.
21	CESO will complete.
22	Enter if known; if unknown, CESO will complete.

First Segment List of Attachment Identification Numbers

Prefix	Manufacturer	Model		Prefix	Manufacturer	Model
R2	Burch	R2-23		164A	Trojan	164A
5T	Flink	BDWS40		170	Hough	H70D
6	Northwest	6		175	Wain Roy Corp	175B
06	Euclid	06-26		L175B	International	L175B
W7	Case	W7D		200	MRS	200
T8	Caterpillar	D8		201	Killefer	201D
W8	Case	W88		250	International	250
W9	Case	W90S		L250	Lima	250TS
B10	Bucyrus Erie	M108		255	P&H	255-ATC
K10	Koehring (MKT)	DE10		305	Koehring	305-1A
W10	Case	W10D-5		325	P&H	325TC
T15	International	TD-15		335	Koehring	335-2A
L16	Tractomotive Pettibone	TL-16MD		450	Ware	450E
D20	McKiernan Terry	DE-20		500	Baldwin Lima Hamilton	500T
T20	International	T20		600	Warner & Swasey	G600
22B	Bucyrus Erie	22B		604	Lima Locomotive	604
T24	International	TD-24		640	P&H	640
25	Northwest	25		644	John Deere	JD644A
T25	International	TD-25		655	P&H	655A
30	Bucyrus Erie	30B		660	Warner & Swasey	G660
32	Lorain (THEW)	MC-32M		T725	Bantum Koehring	T725A
37	Bay City	37		955	P&H	955A
Q43	Quick Way	MCM43		970	Melrose	
44	Baldwin Lima Hamilton	44-SC		2460	Warner & Swasey	M-2460
50	Hough	H50C		3616	International	3616
K50	Hanson Pettibone	50TK		3636	International	3636
T50	Oliver	550		4625	Vibrator Compactor	4625
T55	Caterpillar	955H		8240	Euclid	
65	Baldwin Lima Hamilton	65		FAX	Silent Hoist	FAX
70	Linkbelt	HC-70		JD	John Deere	
T70	Oliver	770		MBF	Miller	5508
72	Terex GMC	72-31FL		PN	Pontoon (No Mfr)	
V72	Essick	V-72-M		RF	Rockland	RF-3
80	Northwest	80D		RG	Ray GO	
100	Garwood	100-BT		TV	Buffalo Springfield	
103	Fieco Corp			VR	Vibra Plus	CH-43
103MC	Eimco			WR	Wain Roy Corp	
118	Galion	118T		YIW	Young Iron Works	
110	Pettibone					

Alternate first segment of ID number when attachments are buckets or other nonpeculiar items

Prefix	Size		Prefix	Size
0	No size indicated		8	1-1/4 CY
1	1/8 CY		9	1-1/2 CY
2	1/4 CY		10	1-3/4 CY
3	3/8 CY		11	2 CY
4	1/2 CY		12	2-1/4 CY
5	5/8 CY		13	2-1/2 CY
6	3/4 CY		14	Larger than 2-1/2 CY
7	1 CY			

Table D-1

b. CESO Verification. Upon receipt of a NAVFAC Form 6-11200/45, CESO will verify the information, assign an identification number if required, enter all available data into the CASEMIS inventory system, and return completed copies of the registration card. The attachment ID number shall be placed in the Allowance Holder's inventory in CASEMIS, which then causes an Equipment Identification Load Sheet for the newly registered attachment to be forwarded to the Allowance Holder.

c. ID Number Permanently Affixed. Upon receipt of the returned NAVFAC Form 6-11200/45, the custodian shall permanently fix the ID number to the attachment in accordance with paragraph 2. Then the NAVFAC Form 6-1200/45 shall be filed in the equipment history jacket of the vehicle to which the attachment is assigned.

4. **Attachment Inventory Control**. All types of attachments shall be identified and registered on Equipment Attachment Registration Record Cards, NAVFAC Form 6-11200/45 (Figure D-1), as outlined in paragraph 2. These registration cards allow the attachment custodian to maintain an accurate inventory of all assigned attachments. Registered attachments shall also be inventoried in CASEMIS in the same manner as CESE. The Allowance Holder, using CASEMIS, can constantly monitor attachment assignment, location, and condition. As attachments are being registered, they are also being entered into CASEMIS. However, it is possible for Allowance Holders to have attachments with ID numbers that are not entered in CASEMIS. In this event, submit a NAVFAC Form 6-11200/45, as required in paragraph 3, which includes this statement in Block 17: "ID Number already assigned, to be entered in CASEMIS only."

5. **Attachments Status Board**. An Attachments Status Board (Figure D-2) shall be maintained in the Dispatch Office. It will reflect the following information:

a. Attachment code from CASEMIS equipment code list.
b. NAVFAC identification number.
c. Abbreviated description from CASEMIS equipment code list.
d. The USN number of the equipment to which the Attachment is assigned.
e. PM Group (same as the equipment to which the Attachment is assigned).
f. Location and remarks.

Equipment Attachment Registration Record NAVFAC 6-11200/45 (1-70) S/N 0105-LF-06-6500				23. NAVFAC ID NO.	
1. Attachment Code	2. Type Attachment			3. Model No.	4. Serial Number
5. Length (inches)	6. Width (inches)	7. Height (inches)	8. Cubes (Cubic Feet)	9. Size/Capacity	
10. Manufacturer (Name and Address)				11. Weight (lb)	12. USN
13. Short Description		14. Name	15. Model		16. Year
17. Accessories					
18. Assigned to	19. Date Received	20. Acquisition Cost $	21. Julian Date Registered	22. NAVFAC ID No.	

Figure D-1. NAVFAC Form 6-11200/45

ATTACHMENTS STATUS BOARD					
	NAVFAC		USN No.		Location
Code	ID No.	Description	Assigned	PMG	and Remarks
A01000	L175B-BH-5	Backhoe	45-01799	17	Attachment Pad
A02500	255-BB-56	Boom Butt	42-01778	9	42-01778
A03000	32-BE-72	Boom Ext.	82-03173	14	Attachment Pad

Figure D-2. Attachments Status Board

6. **Storage and Preservation**. Attachments shall be properly stowed on hardstand (concrete pad, matting), to keep them out of sand, mud, and water, and to allow drainage of rain water from buckets or other areas where water may accumulate. Cover attachments if possible. Attachments and accessories shall be continuously inspected for accountability, proper stowage, and preservation. Stowage shall be accomplished in the following manner.

a. Cables, sheaves, and bolt threads shall be lubricated and preserved as required to ensure that they remain in good condition.

b. Nuts shall be screwed onto the corresponding bolts and located in their respective holes, when possible.

c. Boom pendants shall be attached to the boom extensions; cables shall be coiled and attached to clamshell buckets, backhoe, and shovel front attachments, to minimize loss and to expedite the changeover from one operation to another.

d. Attachment accessories such as lagging, bucket teeth, chains, sprockets, and wedges shall be placed in a box or on pallets and marked for the appropriate attachments.

e. Exposed machine surfaces, such as hydraulic rams, and openings into critical areas shall be preserved and covered to prevent deterioration and damage.

f. Hydraulic lines and fittings shall be sealed to prevent dirt and moisture from accumulating in the hydraulic system.

g. Stowage shall be maintained to ensure that all attachments that belong to one USN number are stowed together.

h. Rust areas shall be touched up when preventive maintenance is conducted.

7. **Attachment Transfer or Disposal**. Prior to action, approval is required from CESO via the Allowance Holder. Transfer or disposal of equipment attachments shall be accomplished as follows.

a. Reassignment From One USN Number to Another. Submit one copy of the updated NAVFAC Form 6-11200/45 to the Equipment Allowance Holder if appropriate. Transfer one copy of the registration card to the new vehicle history jacket. The Allowance Holder must then update CASEMIS.

b. Transfer to Another Activity. Unless otherwise instructed in the shipping directive, all attachments (with accessories) for a particular machine shall be prepared and transferred along with that machine. Put all small attachments with accessories in a box and then attach the box to the vehicle in accordance with Chapter 2, paragraph 2.4.3. The Allowance Holder must then update CASEMIS.

c. Attachment Disposition. Unless otherwise requested on the disposal request, all attachments (with accessories) for a particular machine shall be disposed of along with that machine. After the item has been transferred, the Allowance Holder must update CASEMIS.

APPENDIX E. CONTAINERIZATION PROGRAM FOR NCFs/SOUs

1. **Containerization.** Containerization is the packing, staging, shipping, and field use of Seabee Table of Allowance (TOA) materials in shipping and storage containers. The containers are built in accordance with International Standardization Organization (ISO) standards. The ISO containers are capable of intermodal shipping via truck, rail, sea, and air, which requires certification with the Convention for Safe Containers (CSC). They are to be used as operating storerooms in the field.

2. **Mobilization And Deployment.** The NCF pre-packed and containerized TOAs are staged to support rapid mobilization and deployment. Mobilization of containers will be by cellular-type ships. Cellular ships are the shipping industry standard and steel ISO containers have replaced the wooden mountout boxes.

3. **Master Packing Plan.** To support the overall requirement of containerizing each TOA, a Master Packing Plan (MPP) was developed to take into consideration the size, weight, and cube of all line items within the TOA. The MPP has an assigned location for each item.

4. **Container Designs And Types.** Total container inventory will consist of five different designs of containers, commonly known as ISO Standard 20s, Flatracks, Half-Heights, TRICONs and SIXCONS.

a. ISO Standard 20s. The ISO Standard 20-foot containers are built as two types: bulk and configured.

(1) The Bulk type has an open interior and is used for packing bulk items such as skids, wooden boxes, and palletized loads.

(2) The Configured types have cabinets installed with various configurations of drawers and shelves. These configurations serve as Store Rooms, Tool Rooms and an Armory. The various cabinetry configurations compose the different NSNs that have been assigned to the containers.

b. Flatracks. Flatracks have open sides and top with fixed end walls. They are used to stow bulk items such as lumber and pipe.

c. Half-Heights. Half-Heights have closed sides and a tail gate end. They are approximately half the height of a standard 20-foot container. They are used for drummed oil/lubricants and steel stocks.

d. TRICON. TRICONs are one third of a standard 20-foot container. They are built as two types. Three can be linked together with connectors to form a Twenty-Foot Equivalent (TEU) and fit the envelope of a Standard 20-foot container.

(1) The Bulk type is open and used for packing bulk items such as skids, wooden boxes, and palletized loads.

(2) The Configured types have cabinets installed in various configurations of drawers and shelves. These configurations serve as Store Rooms, Tool Rooms, and an Armory.

e. SIXCON. SIXCONs are one sixth of a Standard 20-foot container. Six can be linked together with connectors to form a Twenty-Foot Equivalent (TEU) and fit the envelope of a Standard 20-foot container. SIXCONs are built in four configurations.

(1) Fuel Tanks with a 900-gallon capacity.

(2) Fuel Pumps which are self-contained with gasoline motor, fuel pump, hoses, and hardware.

(3) Water Tanks with a 900-gallon capacity.

(4) Water Pumps which are self-contained with gasoline motor, water pump, and hardware.

5. **General Information.** The following are general information items about containers.

a. Standard 20-Foot Container. The Standard 20-foot, Configured Standard 20-foot, and the TRICON containers have an electrical porthole for the electrical lighting assemblies.

(1) ISO Standard 20-foot container. Assembly 07012.
(2) TRICON. Assembly 07011.

b. Configured Container. Each configured container has a total drawer and shelf locking mechanism on the cabinets that prohibits loss or damage of material while in transit.

c. Bulk Containers. In the bulk containers tie down points are strategically placed to secure materials.

d. Forklift Pockets. Forklift pockets have been provided in both the ISO Standard 20-foot and the TRICON containers.

(1) The forklift pockets found on the 20-foot containers are to be used only if moving an empty container and only with 8-foot long forklift tines.

(2) Forklift pockets on TRICONs can be used on empty and packed containers.

6. **ISO Container Requirements For A NMCB**. The ISO container requirements for a NMCB are:

a.	Standard 20 foot	71 each
b.	Flatracks	14 each
c.	Half-Height	5 each
d.	TRICONs	15 each
e.	SIXCONs	45 each

NOTE: *See Technical ISO Container Data (Table E-1) for size, weight, and other technical information on each container.*

7. **Container Weight Handling Equipment.** Container weight handling equipment includes cranes and forklifts.

8. **Container Transport Vehicles.** There are two basic container transport vehicles: a 15-ton stake truck and a 34-ton tractor-trailer combination. Both vehicles can transport all container types. These trucks are general-purpose vehicles which double as container-moving equipment. Both vehicles have limited off-road capability and twist lock devices for quick and safe container tie-down.

9. **Container Handling.** Top and/or Bottom Lift Container handling devices are recommended as the primary and best way to handle containers. They reduce the probability of damage to the containers while moving or handling. The major damage to containers occurs when they are moved.

NOTE: *Do not use the Container Top Lifting Device with the 14-ton crane. Use only the ISO Bottom Lifting Sling with the 14-ton crane.*

10. **Container Moving.** Containers should be loaded or unloaded and staged without hitting, bumping, or rubbing them together. When moving containers, additional personnel are recommended to be used to spot or act as lookouts for operators for safety and to reduce damage. The skins of the containers are constructed of high carbon, corrugated sheet steel and the exterior coat of paint is the container's primary defense from rust and corrosion. Move or handle the containers minimally to reduce possibility of damage.

11. **Container Storage Requirements.** Empty and packed ISO containers will be exposed to diverse climates and environments, which require various methods of protection.

a. Covered Storage. Covered storage for protection from weather and direct sun is recommended for all containers, when possible.

b. Surveillance. In all instances where containers, empty or packed, are exposed to direct weather and sunlight, the frequency and type of surveillance on containers must be increased to prevent weather and water damage.

c. Hardstands. Hardstands are recommended for all nontemporary storage to ensure that containers do not stand for any period of time on uneven, unlevel footing or in water and mud. The preferred handling and storage surface is concrete, provided it meets appropriate design specifications for loaded containers. See NAVFAC P-1051, *Container Operations Manual*, for specific requirements.

12. **Preservation And Surveillance.** Preservation procedures require that both the container and its contents be protected from deterioration. Deterioration is primarily caused by rust and corrosion due to moisture. Scheduled inspection of containers and their contents on a cyclical basis is required to ensure adequate protection from the environment. Surveillance is to serve as a review of the overall container condition.

a. Primary Method of Preservation. Controlled humidity is the primary method of preservation for stored containers and container contents. Installed in each container is a humidity indicator (NSN 6885-00-618-1822). When the humidity level is at or over the 40 percent level, containers will require opening, contents checked for rust, rust deteriorated contents replaced, and new desiccant placed in the container prior to closing the container doors.

b. Desiccant. Use *Type 1 and 2 Desiccant*, MIL-D-3464, NSN 6850-00-264-6573 or NSN 6850-00-264-6571, in either 2-unit packages, 8-unit bags, or 16-unit bags. Place the desiccant in drawers, on shelves, and in boxes prior to closing and sealing the containers. The containers, with closed vents and doors, are then stored in a warehouse or covered storage until needed.

c. Surveillance Program. The surveillance program for containerized materials and the containers requires various degrees of monitoring, depending on local conditions. Some Activities will find it necessary to monitor the humidity indicator on the door more closely to ensure the humidity level remains under the NAVFAC 40 percent recommendation.

d. Doors and Vents. Once containers reach their area of operation, container doors and vents will be opened to accommodate day-to-day operation whereby desiccant may be used as each unit deems necessary. Funding and procurement of rust deteriorated contents, replacement humidity indicators, and new or recharged desiccant is the responsibility of each Activity.

13. **Alteration, Repair, And Maintenance.** ISO containers are designed for the specific purpose of intermodal shipping, and even minor modifications could prevent a container from being used for its intended purpose.

a. Intermodal Shipping and Storage**.** Each container is fabricated for intermodal shipping and storage, and a simple modification might prevent it from being accepted as an ISO/CSC certified container. What may appear to be an improvement could actually destroy the container's structural integrity and render it unsafe for shipping purposes.

b. Alteration and Modification**.** It is strictly prohibited to alter or modify containers without approval. For further information or approval of an ISO container modification or alteration, contact the Program Management Office, CESO Code 1573.

14. **Center Of Balance And Gravity Determination.** The *Naval Construction Force Tactical Embarkation Manual*, COMSECONDNCB/COMTHIRDNCB Instruction 3120.1, recommends various methods to determine the Center of Balance or Gravity (COB/G). If some methods, such as the "rolling log" are used to determine the center of balance or gravity of a container, serious damage will occur to the side rails and under carriage of the container. Care must be taken in all field operations to prevent damage. The *Container Operations Manual*, NAVFAC P-1051, details a weighing method to determine the COB/G.

a. Additional COB/G Methods**.** CESO will provide advice and additional methods to determine COB/G upon request by contacting CESO Code 1573.

15. **Air Certification.** All Naval Construction Force ISO Containers, Standard 20s, TRICONs, Half-Heights, Flatracks, and SIXCONs have been "Air Certified" by the U.S. Air Force Headquarters.

a. Aircraft Load Master**.** The Aircraft Load Master is an ISO container certification and does not relate to the contents, weight distribution, or the load security within the container.

b. Responsibility**.** The shipper is responsible for contents, weight distribution and security within the container, and in all instances, must be satisfactory to the individual Aircraft Load Master.

16. **Bar Code System.** Bar code technology is applied to the NCF containerization packups. The bar coded labels are used to designate locations and to identify the material within the containers. The location labels on the cabinetry are based on the Master Packing Plan (MPP). Issue/Release Document Forms (IRDF) are placed with the material to provide bar coded NSN and Stock Data Identification of each item within the location. Bar Code NSN and Location Data Labels are used to mark and control each line item. The bar code labels are used for Inventory Management and the Integrated Logistics Overhaul (ILO) Program.

17. **Technical Manuals.** Technical manuals for Standard 20s and TRICONs are available and provided upon issue of the containers. Additional manuals can be ordered from Supply, NCBC Port Hueneme, CA.

Standard 20	NSN 7610-LL-Z8A-6366
TRICON	NSN 7610-LL-Y8A-6366
SIXCON/Water	NSN 7610-LL-L26-6490
SIXCON/Fuel	NSN 7610-LL-L26-6480

TABLE E-1. Technical ISO Container Data

National Stock Number/Navy Item Control Number	CASEMIS Equip-ment Code	JCCO Type Code	Type and Style	Configuration	Length x Width x Height Inches	Wei-ght Lbs.
8145-01-287-8567 8145-LL-LCA-0117	XM03CB	2000	TYPE 1/ STYLE 1	STANDARD 20, BULK	238.5x96 x96	5000
8145-01-287-3293 8145-LL-LCA-0121	XM03CA	2009	TYPE 1/ STYLE 2	STANDARD 20, BULK WALL CONFIGURATION../58	238.5x96 x96	8120
8145-01-288-9698 8145-LL-LCA-0122	XM03CN	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 1A/6B	238.5x96 x96	16410
8145-01-289-3367 8145-LL-LCA-0123	XM03CC	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 2A/5B	238.5x96 x96	12600
8145-01-289-3366 8145-LL-LCA-0124	XM03CD	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 3A/2B	238.5x96 x96	12060
8145-01-289-3368 8145-LL-LCA-0125	XM03CE	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 3A/5B	238.5x96 x96	11390
8145-01-290-1382 8145-LL-LCA-0126	XM03CF	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 4A/..	238.5x96 x96	8520
8145-01-289-0944 8145-LL-LCA-0127	XM03CG	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 4A/3B	238.5x96 x96	12720
8145-01-287-3295 8145-LL-LCA-0128	XM03CH	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 4A/4B	238.5x96 x96	13240
8145-288-9697 8145-LL-LCA-0129	XM03CJ	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 4A/5B	238.5x96 x96	13050
8145-01-287-8566 8145-LL-LCA-0130	XM03CK	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 5A/5B	238.5x96 x96	11890
8145-01-288-9696 8145-LL-LCA-0131	XM03CL	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION 6A/1B	238.5x96 x96	16410
8145-01-287-8565 8145-LL-LCA-0132	XM03CM	2009	TYPE 1/ STYLE 2	STANDARD 20 WALL CONFIGURATION ARMORY	238.5x96 x96	13050
8145-01-291-0937 8145-LL-LCA-0172	XM03HH	2005	SHIP/ STORAGE	HALF HEIGHT BULK	238.5x96 x51	3650
8145-01-290-7335 8145-LL-LCA-0173	XM03FR	2064	SHIP/ STORAGE	FLATRACK BULK	238.5x96 x96	6400

TABLE E-1. Technical ISO Container Data (Continued)

National Stock Number/Navy Item Control Number	CASEMIS Equip-ment Code	JCCO Type Code	Type and Style	Configuration	Length x Width x Height Inches	Wei-ght Lbs.
8145-01-287-3294 8145-LL-LCA-0116	XM03TB	0608	TYPE II/ STYLE 1	TRICON, BULK	77.5x96x96	2560
8145-01-289-4329 8145-LL-LCA-0133	XM03T1	0609	TYPE II/ STYLE 2	TRICON, WALL CONFIGURATION D1A/D1B	77.5x96x96	5200
8145-01-289-0945 8145-LL-LCA-0134	XM03T2	0609	TYPE II/ STYLE 2	TRICON, WALL CONFIGURATION D2A/D2B	77.5x96x96	7310
8145-01-287-8564 8145-LL-LCA-0135	XM03T3	0609	TYPE II/ STYLE 2	TRICON, WALL CONFIGURATION D3C	77.5x96x96	3805
8145-01-287-8563 8145-LL-LCA-0136	XM03T4	0609	TYPE II/ STYLE 2	TRICON, WALL CONFIGURATION ARMORY	77.5x96x96	2850
4320-01-156-3873	525020 XM03PW OLD	0667	PUMP/ WATER MODULE	SIXCON	77.5x96x 47.83	2000
4930-01-240-4579	525021 XM03TF OLD	0667	PUMP/ FUEL MODULE	SIXCON	77.5x96x 47.83	2600
5340-01-203-9971	525021 XM03TW OLD	0670	TANK/ WATER MODULE	SIXCON, 900 GL CAPACITY	77.5x96x 47.83	2640
5340-01-240-4578	525011 XM03TF OLD	0673	TANK/ FUEL MODULE	SIXCON, 900 GL CAPACITY	77.5x96x 47.83	2640

National Stock Numbered/Navy Item Control Number	CASEMIS Equip-ment Code	Type and Style	Length x Width x Height Inches	Weight Lbs.
3990-01-212-2623	XM03HA	TOP LIFTING DEVICE/LIFTS 20FT ISO CONTAINER	238.5x96x96	4318
8145-01-256-6955	083001 NEW XM03HC OLD	ISO LOADING JACK SYSTEM (ILJS)/FOUR JACKS W/WHEELS AND TOW BAR/RESEARCH AND DEVELOPMENT 1990	SIZE/WEIGHT TO BE DETERMINED	
3940-01-297-355	XM03HB	SLING,LIFTING DEVICE/SPREADER BAR, CABLES, RIGGING, AND HOOKS/LIFTS 20FT ISO CONTAINERS/RESEARCH AND DEVELOPMENT 1990	SIZE/WEIGHT TO BE DETERMINED	
5410-01-203-7656	XMO3HE	CONNECTOR, ATTACHES TO ISO CORNER FITTINGS, LINKS TRICONS OR SIXCONS TOGETHER TO FORM A STD 20 CONTAINER, OR 20FT EQUIVALENT UNIT (TEU)	SIZE/WEIGHT TO BE DETERMINED	
	XM03HD	LIFTING JACK SYSTEM, SIXCON, FOUR JACKS/RESEARCH AND DEVELOPMENT 1990	SIZE/WEIGHT TO BE DETERMINED	

APPENDIX F. REPLACEMENT AND REPAIR DATA

REPLACEMENT CRITERIA AND REPAIR LIMITS FOR ALPHA CODES O-Z

1. Life Expectancies. Age or mileage expectancies, furnished in the CASEMIS descriptive reference table, are to be used when considering Civil Engineering Support Equipment (CESE) for replacement or overhaul and retention. The age eligibility and mileage expectancies applicable to automotive vehicles have been derived from administrative use motor vehicle replacement criteria published by DoD for use by all military departments. The life expectancies have been prepared from the criteria for application to all vehicles in Navy use, including those chassis used for specialized type vehicles. They should not be used for specialized type equipment mounted on the vehicle. Age expectancies of construction, railway, and weight handling equipment shown in the CASEMIS descriptive reference table are to be used to determine the basic zone of eligibility; these age expectancies do not have the same value as the age tables for automotive vehicles. Construction, railway, and weight handling equipment have a considerably lower use rate and are not as affected by age as automotive vehicles. Unreliability, obsolescence, and major repair costs are the prime considerations for replacement of such equipment.

2. P-1 Line Items XA, XB, XC, XH, XJ, XG, and 31 identify Transportation Equipment Program items. In order to compile a comprehensive index of all NAVFAC Equipment Code numbers, the following P-1 Line Items have been included which represent specialized equipment designed for a specific function and which are not included in the Shore Activities Transportation Equipment Replacement Program under the procedures set forth in paragraph 2.8.

P1-96 Ships' Waste and Oil Pollution Abatement Equipment
Cognizant Agency: NAVFACENGCOM Environmental Quality Division, Code 40

P1-97 Specialized Equipment
Cognizant Agency: Claimant receiving benefits of equipment

P1-98 ABC Warfare Disaster Preparedness Decontamination Equipment
Cognizant Agency: NAVFACENGCOM Contingency Planning Division Code 122

P1-99 Mobile Utility Support Equipment (MUSE)
Cognizant Agency: NAVFACENGCOM Facilities and Utilities Engineering Division, Code 133

3. Claimants requiring specialized equipment will administer and fund for their procurement and replacement through the agencies shown, where applicable.

4. Refer to the latest edition of the CASEMIS descriptive reference table for NAVFAC 15-character Abbreviated Description, Expanded Long Description, DoD Alpha Code, LIRN, Life Expectancy and other pertinent information. These descriptions will be used in all CESE transactions.

5. Activities should contact their TEMC for the latest edition of the CASEMIS descriptive reference table.

6. The following chart is provided to assist activities in determining the allowable one-time repair limits for alpha code O thru Z Transportation Equipment.

EXAMPLE:

To determine the one time repair cost limit for a five (5) year old wrecker truck (EC 0729), with a EIGHT (8) year life expectancy and an original procurement cost of $66,244 dollars: Using the chart, the number 5 (present age) intersects with 43 (percent factor) on the life expectancy line of 8yrs. Multiply $66,244 (procurement cost) by .43 (percent factor) which equals $28,484.92. The one-time total repair costs shall not exceed $28,484.92.

Vehicle: 0729 Truck Wrecker

Present Age: 5YRS

Life Expectancy: 8YRS

Percentage Factor: .43

Original Procurement Cost: $66,244

$66,244
x .43
$28,484.92

(Do not exceed $28,484.92 for TOTAL Repair Cost)

COMPUTATION FACTORS FOR USE IN REPAIR DETERMINATIONS

For Alpha Codes O thru Z Transportation Equipment

PRESENT EQUIPMENT AGE (YRS.)

LIFE EXPECTANCY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
3YRS	75	48	20																						
4YRS	75	57	38	20																					
5YRS	75	61	47	33	20																				
6YRS	75	64	53	42	31	20																			
7YRS	75	65	56	47	38	29	20																		
8YRS	75	67	59	51	43	35	27	20																	
9YRS	75	68	61	54	47	40	33	26	20																
10YRS	75	69	63	57	51	45	39	33	24	20															
11YRS	75	70	65	60	55	50	44	36	32	26	20														
12YRS	75	70	65	60	55	50	45	40	35	30	25	20													
13YRS	75	70	65	60	55	50	45	40	36	32	28	24	20												
14YRS	75	71	67	63	59	55	51	47	43	38	32	28	24	20											
15YRS	75	71	67	63	59	55	51	47	43	39	35	31	26	23	20										
16YRS	75	71	67	63	59	55	51	47	43	39	35	32	29	26	23	20									
17YRS	75	71	67	63	59	55	51	47	44	41	38	35	32	29	26	23	20								
18YRS	75	71	67	63	59	56	53	50	47	44	41	38	35	32	29	26	23	20							
19YRS	75	72	69	66	63	60	57	54	51	48	45	42	39	36	33	30	27	24	20						
20YRS	75	72	69	66	63	60	57	54	51	48	45	42	39	36	33	30	27	24	22	20					
21YRS	75	72	69	66	63	60	57	54	51	48	45	42	39	36	33	30	28	25	24	22	20				
22YRS	75	72	69	66	63	60	57	54	51	48	45	42	39	36	34	32	30	28	26	24	22	20			
23YRS	75	72	69	66	63	60	57	54	51	48	45	42	40	38	36	34	32	30	28	26	24	22	20		
24YRS	75	72	69	66	63	60	57	54	51	48	46	44	42	40	38	36	34	32	30	28	26	24	22	20	
25YRS	75	72	69	66	63	60	57	54	52	50	48	46	44	42	40	38	36	34	32	30	28	26	24	22	20

PERCENTAGE FACTOR

APPENDIX F. REPLACEMENT AND REPAIR DATA

TRANSPORTATION EQUIPMENT CODE INDEX AND TABLE OF LIFE EXPECTANCIES FOR AUTOMOTIVE VEHICLES AND CONSTRUCTION EQUIPMENT

The following table is provided as a quick reference only. The principal system designed to document and promulgate the latest changes to the classification of transportation equipment is the Construction, Automotive and Specialized Equipment Management Information System (CASEMIS) Equipment Code (EC) Descriptive Reference Table.

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles
0061	B	BUS BOC 20 PASS 16000 GVW	XA1A	8	9	84,000
0063	B	BUS BOC 36-60 PASS 25500 GVW	XA1A	8	9	84,000
0065	C	BUS BOC 44 PASS 27500 GVW	XA1A	10	11	150,000
0066	F	BUS AMBULANCE CONV FC 8-12 LITTER R/LOAD	XA1C	10	11	150,000
0070	D	BUS 44-49 PASS DED 6X2 INTERCITY	XA1A	12	12	300,000
0090	P	SEMITRAILER W/PASS CONVERSION 14000 GVW	XB2C	15	15	-
0102	A	SEDAN MIDSIZE 5 PASS 4 DOOR	XA1B	6	7	72,000
0104	A	SEDAN COMPACT 5 PASS 4 DOOR	XA1B	6	7	72,000
0105	A	SEDAN LARGE 5 PASS 4 DOOR	XA1B	6	7	72,000
0114	A	SEDAN COMPACT POLICE	XA1B	6	7	72,000
0126	O	SEDAN SPECIAL PURPOSE LAW ENFORCEMENT	XA1B	6	7	
0200	E	STATION WAGON LARGE	XA1B	6	7	72000
0210	E	STATION WAGON COMPACT 5 PASS 4 DOOR	XA1B	6	7	72,000
0305	H	TRUCK UTILITY COMM 4X4 4500 GVW	XC3A	6	7	72,000
0307	O	TRUCK UTILITY 4X4 3500 GVW MILITARY	XC3A	6	9	72,000
0308	H	TRUCK UTILITY 4500 GVW	XC3A	6	7	72,000
0313	G	TRUCK CARGO PICKUP 6000 GVW	XC3B	6	7	72,000
0316	G	TRUCK CARGO PICKUP 4X4 6000 GVW	XC3B	6	7	72,000
0317	H	TRUCK CARRYALL 6 PASS 4X4 7000 GVW	XC3B	6	7	72,000
0319	G	TRUCK CARGO PICKUP COMPACT 4X2	XC3B	6	7	72,000
0320	Q	TRUCK MULTI-STOP F/C 4000 GVW	XC3B	6	7	72,000
0321	G	TRUCK CARGO PICKUP COMPACT 4X4	XC3B	6	7	72,000
0327	H	TRUCK CARGO PICKUP 4 DOOR 8800 GVW	XC3B	6	7	72,000
0329	H	TRUCK PANEL F/C GED TO 6200 GVW	XC3B	6	7	72,000
0330	H	TRUCK VAN F/C 8-15 PASS GED TO 9000	XC3B	6	7	72,000
0331	F	TRUCK AMBULANCE VAN PATIENT TRANSPORT	XA1C	6	7	72,000
0332	F	TRK AMB FIELD COM 4 LITTER 4X4 10500 GVW	XA1C	8	8	72,000

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles
0333	F	TRUCK AMBULANCE CONV COM 2 LITTER FC	XA1C	8	8	72,000
0334	F	TRUCK AMBULANCE MODULAR BODY 2 LITTER	XA1C	8	8	72,000
0336	O	TRUCK PANEL PADDY WAGON	XC3B	6	7	72,000
0342	I	TRUCK CARGO PICKUP 8500 GVW	XC3B	7	8	84,000
0343	I	TRUCK STAKE GED 8500 GVW	XC3B	7	8	84,000
0345	I	TRUCK MULTI-STOP 9400 GVW	XC3B	7	8	84,000
0348	I	TRUCK CARGO PICKUP 4X4 8500 GVW	XC3B	7	8	84,000
0355	I	TRUCK CARGO PICKUP 6M 4 DOOR 4X4 8800GVW	XC3B	7	8	
0360	J	TRUCK CARGO 4X4 M880 8500 GVW	XG9A	7	8	84,000
0361	F	TRUCK AMBULANCE 4X4	XG9A	8	14	84,000
0362	I	TRUCK VAN F/C HI-CUBE 9200-10000 GVW	XC3B	7	7	84,000
0420	J	TRUCK MULTI-STOP 14000 GVW	XC3B	7	8	84,000
0445	J	TRUCK STAKE GED/DED 16000 GVW	XB2A	7	8	84,000
0449	J	TRUCK VAN GED 16000 GVW	XC3B	7	8	84,000
0455	J	TRUCK STAKE 4X4 16000 GVW	XB2A	7	8	84,000
0523	K	TRUCK DUMP 3 CY DED 19000 GVW	XB2A	8	9	84,000
0525	K	TRUCK STAKE DED 19000 GVW	XB2A	7	8	84,000
0527	K	TRUCK VAN 19000 GVW	XB2A	7	8	84,000
0528	K	TRUCK STAKE 4X4 DED 28000 GVW	XB2A	7	8	84,000
0536	O	TRUCK VAN 6X6 19000 GVW	XC3B	8	9	84,000
0539	O	TRUCK CARGO 6X6 19000 GVW	XB2A	8	12	84,000
0570	O	TRUCK AMPHIBIAN LARC-5 4X4 5 TON	XB2A	8	10	84,000
0582	M	TRUCK STAKE 6X4 DED 34500 GVW	XB2A	10	11	84,000
0587	O	TRUCK DUMP 6X6 30000 GVW	XG9B	10	10	150,000
0588	O	TRUCK CARGO 5 TON 6X6 MIL	XG9B	10	10	84,000
0590	M	TRUCK VAN REFRIGERATOR 24000 GVW	XB2B	10	11	150,000
0591	O	TRUCK CAB &CHASSIS MIL 6X6 30000 GVW	XB2B	10	11	150,000
0601	M	TRUCK CAB & CHASSIS DED 24000 GVW	XB2B	10	11	150,000
0602	M	TRUCK DUMP 5 CY 28000 GVW	XB2A	10	11	150,000
0603	M	TRUCK STAKE DED 24000 GVW	XB2A	10	11	150,000
0604	M	TRUCK TRACTOR DED 24000 GVW	XB2B	10	11	150,000
0605	M	TRUCK VAN DED 24000 GVW	XB2A	10	11	150,000
0607	M	TRUCK TRACTOR 6X6 36000 GVW	XG9A	10	10	150,000
0614	M	TRUCK TRACTOR DED 32000 GVW	XB2B	10	11	150,000
0616	O	TRUCK TRACTOR YARD SPOTTER DED	XB2B	10	10	150,000
0630	M	TRUCK TRACTOR 6X4 43000 GVW	XB2B	12	12	300,000
0631	M	TRUCK DUMP 6X4/6X6 39000 TO 45000 GVW	XB2A	12	12	300,000

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore	NCF	Miles
0636	M	TRUCK STAKE 6X4 DED 43000 GVW	XB2A	12	12	300,000
0638	M	TRUCK TRACTOR 6X6 46000 GVW	XB2B	12	12	300,000
0643	N	TRUCK STAKE 6X6 DED 46000 GVW	XB2A	12	12	150,000
0644	N	TRUCK DUMP 10 CY 6X4/6X6 DED 52000 GVW	XB2A	12	12	300,000
0645	N	TRUCK TRACTOR 6X4/6X6 52000 GVW	XB2B	12	12	300,000
0649	N	TRUCK TRACTOR 6X4/6X6 DED 62000 GVW	XB2B	12	12	300,000
0701	O	TRUCK CARGO AMPHIB CRWLR/PRT	XB2B	7	8	84,000
0704	O	TRUCK AMMO W/HY CRANE 4X2/4X4 24000 GVW	XB2B	10	10	84,000
0705	Q	TRUCK AIRFIELD CONTROL TOWER MOBILE	XC3A	7	8	84,000
0707	Q	SCOOTER AIRFIELD MAINTENANCE	XH6B	7	8	72,000
0708	O	TRUCK PLATFORM UTIL GED/EMD 4 WHL	XC3A	4	6	24,000
0709	O	TRUCK FIELD SERVICING	XG9B	8	8	84,000
0710	O	TTRUCK FIELD SERVICING	XB2B	8	8	84,000
0713	O	TRUCK TIRE SERVICING TACTICAL	XG9B	10	10	84,000
0714	O	TRUCK TIRE SERVICING COMMERCIAL	XB2B	10	10	72,000
0715	O	TRUCK MULTI-PURPOSE P/L CONST 19000 GVW	XB2A	8	12	84,000
0722	O	TRUCK MAINT TEL/UTIL 4X2/4X4	XC3A	7	10	84,000
0723	O	TRUCK MAINTENANCE POLE & LINE DED	XB2A	10	10	84,000
0725	O	TRK OVRHD MAINT AERIAL SERV PLTFM	XB2A	10	10	84,000
0726	O	TRUCK OVERHEAD MAINT AERIAL SERV PLTFM	XH9B	10	10	84,000
0728	O	TRUCK VAN HAZARDOUS SPILL CLEANUP	XB2B	10	10	84,000
0729	O	TRUCK WRECKER	XB2B	8	10	84,000
0730	O	TRUCK WRECKER TACTICAL	XG9B	8	10	84,000
0731	Q	TRUCK LDR AC HI-LIFT DED	XB2B	10	10	84,000
0735	O	TRUCK REEL HANDLING/TENSIONING POWERED	XB2B	10	10	300,000
0743	Q	TRUCK TANK AVIATION LUBE 200-599 GALLON	XH6B	7	10	84,000
0746	O	TRUCK TANK GEN PURP TACTICAL	XG9B	8	12	84,000
0751	O	TRUCK TANK FUEL SERVICING 2000-2999 GAL	XB2A	10	11	150,000
0756	Q	TRUCK TANK AVGAS/JETFUEL 5000 GAL & UP	XB2B	12	12	300,000
0757	O	TRUCK TANK WATER 1000-1499 GALLON	XB2A	10	10	84,000
0758	O	TRUCK TANK POTABLE WATER 2000-2999 GAL	XB2A	10	11	150,000
0802	P	TRAILER CARGO 2 WHEEL 3/4 TON PAYLOAD	XB2C	15	15	
0804	P	TRAILER CARGO 2 WHEEL 1-1/2 TON PAYLOAD	XB2C	15	12	
0809	P	SEMITRAILER LOWBED HYDRAULIC DROP DECK	XB2C	15	15	
0812	P	SEMITRAILER STAKE 12 TON PAYLOAD	XB2C	15	15	
0813	P	SEMITRAILER VAN 1 AX 12 TON	XB2C	15	15	
0816	P	SEMITRAILER STAKE 2 AXLE 20 TON PAYLOAD	XB2C	15	15	
0817	P	SEMITRAILER VAN 2 AXLE 20 TON PAYLOAD	XB2C	15	15	
0819	P	SEMITRAILER VAN REFRIGERATOR 12 TON	XB2C	15	12	

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles	
0820	P	SEMITRAILER VAN REFRIGERATOR 20 TON	XB2C	15	12		
0822	P	SEMITRAILER LOWBED 4 WHEEL 20 TON	XB2C	15	15		
0823	P	SEMITRAILER LOWBED 4 WHEEL 25 TON	XB2C	15	15		
0825	P	SEMITRAILER LOWBED 4 WHEEL 35-40 TON	XB2C	15	15		
0826	P	SEMITRAILER LOWBED 50 TON	XB2C	15	15		
0827	P	SEMITRAILER LOWBED 60 TON	XB2C	15	15		
0829	P	DOLLY TRAILER CONVERTER	XB2C	15	15		
0832	P	TRAILER LOWBED FORKLIFT TRANSP 6-9T	XB2C	15	15		
0842	P	TRAILER BOLSTER PIPE/POLE	XB2C	15	15		
0843	P	TRAILER CABLE REEL OR POLE	XB2C	15	15		
0848	T	TRAILER OR SEMITRAILER DUMP REFUSE	XB2C	15	15		
0853	P	TRAILER MISCELLANEOUS EXHIBITION 40 FT	XB2C	15	15		
0862	P	TRAILER OR SEMITRAILER TILT DECK	XB2C	15	15		
0880	P	TRAILER TANK 2 WHL 400 GAL	XB2C	15	15		
0881	P	TRAILER TANK GENERAL PURPOSE 500 GALLON	XB2C	15	15		
0882	P	TRAILER TANK 2 OR 4 WHEEL 600 GAL	XB2C	15	15		
0883	P	TRAILER TANK 2 OR 4 WHEEL TO 500 GALLON	XB2C	15	15		
0886	P	SEMITRAILER TANK 2000-4000 GALLON UP	XB2C	15	15		
0890	P	SEMITRAILER TANK 5000 GAL AND UP	XB2C	15	12		
0891	Q	SEMITRAILER TANK AVGAS 4000 GAL & OVER	XB2C	15	12		
0892	P	SEMITRAILER TANK 6000 GAL AND OVER GP	XB2C	15	12		
2120	T	CONCRETE BATCH PLANT 150 CY	XH6B	10	12		
2200	T	CRUSHER ROCK & SCREENING PLANT PORTABLE	XH6B	8	12		
2210	T	WASHING AND SCREENING PLANT AGGREGATE	XH6B	6	7		
2220	T	FEEDER AGGREGATE GRIZZLY OR WOBBLER	XH6B	6	7		
2300	T	PAVER ASPHALT DED/GED	XH6B	8	10		
2410	T	MIXER ASPHALT	XH6B	8	10		
2417	T	MIXER ROTARY SOIL STABILIZER	XH6B	8	10		
2420	S	MIXER CONCRETE TRUCK MOUNTED	XH6B	6	8		
2425	S	MIXER CONCRETE MOBILE TRUCK/TRAILER MTD	XH6B			10	10
2433	S	MIXER CONCRETE PORTABLE 11 CU FT GED	XH6B	8	9		
2434	T	MIXER CONCRETE PORTABLE 16 CU FT	XH6B	8	11		
2462	T	SPRAYING MACHINE CONCRETE	XH6B	6	10		
2470	T	SAW CONCRETE HYDROSTATIC DRIVE DED/GED	XH6B	4	6		
2520	T	DISTRIBUTOR ASPHALT TRK/TRLR MTD TACTICAL	XG9B			8	10
2521	T	DISTRIBUTOR WATER TRUCK/TRAILER MTD	XG9B	10	12		
2522	T	DISTRIBUTOR ASPHALT TRUCK/TRAILER MTD	XH6B	8	10		
2523	T	DISTRIBUTOR WATER TRUCK/TRAILER MTD	XH6B	10	12		
2540	T	SPREADER CHIP AGGREGATE 12 FT TOWED	XH6B	10	12		

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles	
2610	T	CONVEYOR W/HOPPER W/GRIZZLY OR SCREEN	XH6B	10	12		
2620	T	PUMP CONCRETE PLACING DED/GED	XH6B	6	7		
2740	T	KETTLE HEATING BITUMEN SKID/WHEEL MTD	XH6B	8	9		
2750	T	TANK ASPHALT TRUCK/TRAILER MOUNTED	XH6B	12	14		
2760	T	KETTLE HEATING JOINT SEAL 75 GAL TRLR MTD	XH6B	6	8		
2840	T	GROUTER MUD JACK SKID/WHEEL MTD DED	XH6B	6	7		
3110	S	COMPRESSOR AIR 125 CFM PORTABLE	XH6B	6	7		
3111	S	COMPRESSOR AIR TRACTOR MTD 125 CFM PRT	XH6B	6	7		
3135	S	COMPRESSOR AIR 250 CFM PORTABLE	XH6B	8	10		
3155	S	COMPRESSOR AIR 365 CFM PORTABLE	XH6B	8	10		
3165	S	COMPRESSOR AIR 600 CFM & OVER PORTABLE	XH6B	8	10		
3532	S	DRILL ROCK TRACK MTD	XH6B	6	10		
3630	T	HAMMER PILE DIESEL FUEL POWERED W/LEADS	XH6B	10	12		
3635	T	EXTRACTOR PILE	XH6B	10	12		
3710	S	AUGER EARTH SKID/WHEEL/TRUCK MTD	XG9B	8	10		
3720	S	DRILL WELL WATER ROTARY/PERCUSSION	XG9B	7	12		
3730	S	CLEANER DRILLING FLUID DESILTER TRLR MTD	XH6B	7	12		
4230	S	CRANE CRAWLER DED 7-20 TON	XH6C	10	14		
4240	S	CRANE CRAWLER DED 21-30 TON	XH6C	10	14		
4250	S	CRANE CRAWLER DED 31-40 TON	XH6C	10	14		
4260	S	CRANE CRAWLER DED 41-60 TON	XH6C	12	14		
4270	S	CRANE CRAWLER DED 61-75 TON	XH6C	12	14		
4310	S	DITCHING MACHINE WHEEL TYPE	XH6A	7	10		
4320	T	ROOTER ROAD OR HARROW DISC DRAWN	XH6B	8	9		
4330	S	EXCAVATOR MULTIPURPOSE TRK MTD	XH6A	10	12		
4340	S	EXCAVATOR WHEEL MTD HYD OPERATED	XH6A	10	12		
4350	S	EXCAVATOR CRAWLER MTD HYD OPERATED	XH6A	10	12		
4410	T	GRADER ROAD TOWED	XH6A	8	9		
4420	S	GRADER ROAD MOTORIZED DED	XH6A	8	10		
4530	S	LOADER SCOOP FULL-TRACKED BUCKET/DOZER	XH6A	7	12		
4531	S	LOADER SCOOP WHEEL MOUNTED 4X4	XH6A	7	12		
4532	S	LOADER SKID STEER	XH6A	7	9		
4615	S	ROLLER MOTORIZED SELF-PROPELLED	XH6A	7	10		
4620	T	ROLLER SHEEPSFOOT TAMPING TOWED	XH6A	10	11		
4621	T	ROLLER GRID TOWED	XH6A	12	15		
4622	S	ROLLER GRID/SEGMENTED SELF-PROPELLED	XH6A	12	15		
4630	S	ROLLER ROAD TANDEM SELF-PROPELLED	XH6A	10	11		
4635	S	ROLLER ROAD VIBRATORY SELF-PROPELLED	XH6A	10	12		
4750	S	SCRAPPER-TRACTOR INTG S-P 1-2 ENG	XH6A	7	12		

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles	
4760	S	DUMP OFF-HIGHWAY TRK 15-50T 9-30 CY CAP	XH6A	8	12		
4805	S	DUMP END TRACTOR W/TRAILER	XH6A	7	10		
4820	S	TRACTOR CRAWLER DED 35-49 HP	XH6A	8	12		
4830	S	TRACTOR CRAWLER DED 105 HP	XH6A	10	14		
4840	S	TRACTOR CRAWLER DED 140 HP	XH6A	10	14		
4850	S	TRACTOR CRAWLER DED 195 HP	XH6A	10	14		
4851	S	TRACTOR CRAWLER DED 300 HP	XH6A	10	12		
4874	U	TRACTOR WHEEL IND < 40 HP	XH6A	6	7		
4875	U	TRACTOR WHEEL IND GED PRT 50-70 HP	XH6A	6	7		
4877	U	TRACTOR WHEEL IND DED 90 HP	XH6A	6	7		
4891	S	TRACTOR WHEEL INDUSTRIAL 7800-14K PDBP	XH6A	7	7		
4893	S	TRACTOR WHEEL INDUSTRIAL 20001-27K PDBP	XH6A	7	8		
4894	Q	TRACTOR WHEEL INDUSTRIAL 34K PDBP	XH6A	7	8		
5110	T	FLOODLIGHT SET ELEC TRUCK/TRLR MTD	XH6B	8	10		
5120	T	GEN SET SKID/TRK/TRLR GED/DED 5-9KW	XH6B	8	9		
5121	T	GENERATOR SET SKID/TRLR GED/DED 10-15KW	XH6B	8	10		
5122	T	GENERATOR SET SKID/TRLR GED/DED 16-59KW	XH6B	10	10		
5124	T	GENERATOR SET SKID/TRLR GED/DED 60-100KW	XH6B	10	12		
5125	Z	GENERATOR SET SKID/TRLR GED/DED 101-150K	XH6B	10	12		
5128	Z	GENERATOR SET SKID/TRLR GED/DED 151-250K	XH6B	10	12		
5160	Z	LUBRICATING UNIT POWER OPERATED SKID MTD	XH6B	6	10		
5170	S	WELDER ELEC ARC SKID/TRLR/TRK MTD	XH6B	6	8		
5210	T	PUMP WATER DIAPHRAGM PORTABLE GED/DED	XH6B	6	8		
5220	T	PUMP CENTRIFUGAL PORTABLE GED/DED 4IN MIN	XH6B	6	10		
5230	T	PUMP SUMP PORTABLE GED/DED	XH6B	6	7		
5405	S	CLEANER VACUUM LEAF/LITTER TRLR MTD	XH6B	6	7		
5408	Q	CLEANER VACUUM SELF-PROPELLED AIRFIELD	XH6B	6	7		
5409	S	CLEANER BASIN/MANHOLE VAC/HYD TRUCK MTD	XH6B	6	7		
5410	Z	CLEANER STEAM WHL/SKID MTD	XH6B	4	6		
5412	S	CLEANER PIPE/SEWER AUG PWR OP TRLR MTD	XH6B	6	7		
5413	T	CLEANER SCRAPER PORTABLE	XH6B	4	5		
5414	S	CLEANER SEPTIC TANK/CESSPOOL TRUCK MTD	XH6B	6	7		
5416	S	CLEANER PIPE/SEWER WATER JET TRK MTD	XH6B	6	7		
5418	T	CLEANER WATER BLAST 10000 PSI W/SAND INJ	XH6B	6	8		
5420	Z	SPRAYER DECONTAMINATE SKD/TRK/TRLR MTD	XH6B	8	12		
5421	Z	SPRAYER PEST/INSECT PORTABLE GED	XH6B	5	6		
5460	Z	PLATFORM MAINTENANCE	XH6B	10	10		
5500	Q	FUEL SERVICING UNIT AIRCRAFT TRLR MTD	XH6B	8	12		
5700	S	SWEEPER OR SCRUBBER INDUST >42 IN SWATH	XH6B	6	7		

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles	
5710	S	SWEEPER STREET MAGNETIC S-P/TOWED	XH6B	7	10		
5720	S	SWEEPER ROTARY S-P PICKUP	XH6B	7	8		
5740	S	SWEEPER ROTARY TOWED REV BROOM	XH6B	7	10		
5745	T	SWEEPER ROTARY TOWED SNOW AIRBLAST A/F	XH6B			10	8
5750	T	SNOWPLOW TRK MTD ROTARY S-C UNIT	XH6B	10	8		
5757	T	SNOWPLOW ROLLOVER TRUCK MOUNTED	XH6B	10	8		
5760	T	TRK SNOW REMOVAL MULTIPURPOSE 4X4 DED	XH6B	10	8		
5790	T	SANDER SELF CONTAINED STREET TRK MTD	XH6B	10	11		
5795	T	SANDER STREET TRK MOUNTED/TOWED	XH6B	8	9		
5820	S	TRK REFUSE COLLECT COMP SIDE/REAR LOAD	XB2B	8	9		
5830	S	TRUCK MAT HNDLG CHAIN HOIST/HAUL	XB2B	8	9		
5831	S	TRUCK MAT HNDLG HOIST FORKLIFT TYPE	XB2B	7	8		
5833	S	TRUCK MAT HNDLG HOIST/HAUL TO 45 CU YD	XB2B	7	8		
5835	S	TRUCK REFUSE COLLECT-COMPACT W/HOIST	XB2B	8	9		
5840	T	SEMITRAILER/TRAILER REFUSE COLLECTION	XB2C	12	12		
5842	T	SEMITRAILER REFUSE COLLECTION COMPACT	XB2C	12	12		
5900	T	SAW RADIAL ARM WOODWORKING	XH6B	15	12		
5910	T	SHOP MACHINE MOBILE SEMITRLR MTD	XH6B	15	15		
6100	V	CAR RAILWAY MISCELLANEOUS SERVICE	031A	28			
6110	V	CAR RAILWAY BOX	031A	28			
6120	V	CAR RAILWAY FLAT STANDARD	031A	28			
6130	V	CAR RAILWAY GONDOLA SOLID BOTTOM	031A	25			
6140	V	CAR RAILWAY HOPPER SIDE/BOTTOM DUMP	031A	25			
6150	V	CAR RAILWAY DUMP AIR/MANUALLY OPERATE	031A	25			
6160	V	CAR RAILWAY FLAT DEPRESSED CENTER	031A	25			
6210	W	CAR RAILWAY MOTOR MAINTENANCE-OF-WAY	XH6B			15	15
6220	W	CAR RAILWAY INSPECTION AND MAINTENANCE	XH6B	15	15		
6222	W	TAMPER SELF-PROPELLED RR TIE/BALLAST	XH6B	12	12		
6230	W	CAR RAILWAY MOTOR MAINT-SECTION GANG	XH6B	15	15		
6240	W	CAR SPOTTER ROAD-RAILER PRT SELF-PROP	XH6B	15	15		
6250	W	CAR RAILWAY AUTO-RAILER	XH6B	12	15		
6340	V	CAR RAILWAY CABOOSE	031A	28			
6370	V	CAR RAILWAY COACH	031A	28			
6400	V	CAR RAILWAY TANK GENERAL PURPOSE	031A	28			
6530	W	LOCOMOTIVE RAILWAY 40-59 TON CLASS	031C	25			
6540	W	LOCOMOTIVE RAILWAY 60-69 TON CLASS	031C	25			
6545	W	LOCOMOTIVE RAILWAY 70-80 TON CLASS	031C	25			
6550	W	LOCOMOTIVE RAILWAY 81-100 TON CLASS	031C	25			
6560	W	LOCOMOTIVE RAILWAY 101 TON & UP CLASS	031C	25			
6570	W	MOVER CAR RAILWAY 30000 LB DBP	XH6B	15	15		

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF		Miles	
6580	W	LOCOMOTIVE RAILWAY MINE	031C	25			
6600	Z	RAILWAY MAINTENANCE EQUIPMENT MISC	XH6B	12	12		
7100	X	TRUCK FIRE CRASH MISCELLANEOUS	XJ7A	7	8		
7102	X	TRUCK A/C CRASH FIRE RESCUE W/TWIN AGENT	XJ7A	7	8		
7103	X	TRUCK FIREFIGHTING HOSE WAGON	XJ7B	10	11		
7160	X	TRUCK A/C CRASH RESCUE 1000 GAL CAPACITY	XJ7A	8	9		
7180	X	TRUCK A/C FIREFIGHTING/RESCUE 1500 GAL	XJ7A	12	12		
7190	X	TRUCK A/C CRASH FIRE RESCUE 3000 GAL CAP	XJ7A	12	12		
7195	X	TRUCK A/C CRASH FIRE RESCUE 6000 GAL CAP	XJ7A	12	12		
7200	X	PUMP FIREFIGHTING TRAILER MTD 500GPM	XJ7B	8	9		
7225	X	AGENT RESUPPLIER TRUCK/TRAILER MTD	XJ7A	8	9		
7230	X	FOAMER/AGENT RESUPPLIER TRAILER	XJ7A	12	12		
7300	X	TRUCK FIREFIGHTING MISC MOUNTED EQUIP	XJ7B	12	12		
7320	X	TRUCK FIREFIGHTING PUMPER 750 GPM	XJ7B	12	12		
7321	X	TRUCK FIREFIGHTING STRUCTURAL PUMPER	XJ7B	12	12		
7322	X	TRUCK FIREFIGHTING MINI PUMPER	XJ7B	12	12		
7330	X	TRUCK FIREFIGHTING FOAM GENERATING	XJ7B	12	12		
7331	X	TRUCK FIREFIGHTING STRUCTURAL FOAM PUMP	XJ7B	12	12		
7341	X	TRUCK FIREFIGHTING BRUSH/GRASS	XJ7B	12	12		
7351	X	TRUCK FIREFIGHTING STRUCT W/TOWER	XJ7B	12	12		
7400	X	TRUCK FIREFIGHTING AERIAL LADDER TYPE	XJ7B	15	15		
7500	X	TRAILER FOAM GENERATOR SELF-POWERED	XJ7A	10	11		
8160	Y	CRANE STADDLE-CARRY 150T PRT DED	XH6C	8	9		
8200	Y	CRANE TRUCK MTD 2-ENG PRT 5-14 TON	XH6C	8	9		
8205	Y	CRANE TRUCK MTD 2-ENG PRT 15-24 TON	XH6C	10	10		
8210	Y	CRANE TRUCK MTD 2-ENG PRT 25-30 TON	XH6C	10	12		
8215	Y	CRANE TRUCK MTD 2-ENG PRT 31-40 TON	XH6C	10	12		
8218	Y	CRANE TRUCK MTD 2-ENG PRT 41-50 TON	XH6C	10	12		
8219	Y	CRANE TRUCK MTD 2-ENG PRT 51 TON & UP	XH6C	10	12		
8220	Y	CRANE CRUISER MTD 1 2-ENG PRT 5-100 TON	XH6C	10	12		
8230	Y	CRANE CRUISER MTD 1-ENG PRT 11-30 TON	XH6C	12	12		
8232	Y	CRANE CRUISER MTD 1-ENG PRT 31-40 TON	XH6C	12	12		
8233	Y	CRANE CRUISER MTD 1-ENG PRT 41-50 TON	XH6C	12	12		
8235	Y	CRANE CRUISER MTD 1-ENG PRT 61-80 TON	XH6C	12	12		
8241	Q	CRANE CRASH NON-REVOL S-P (A/C SHIP)	XH6C	10	11		
8242	Q	CRANE CRASH NON-REVOL S-P (INTEGRAL)	XH6C	10	11		
8243	Q	CRANE WHL TRACTOR MTD CRASH HELICOPTOR	XH6C	10	11		
8246	Y	CRANE TRUCK MTD HYD DED 20-50 TON	XH6C	10	12		
8249	Y	CRANE TRUCK MTD HYD DED 51 TON & UP	XH6C	10	12		

8252	Y	CRANE CARRIER TORPEDO HANDLING DED	XH6C	10	11

NAVFAC Equip. Code	Alpha Code	Description	IO Code	Life Expectancy Years Shore/NCF	Miles
8253	Y	CRANE WHL MTD SWING CAB 4X4 15 TON & UP	XH6C	10	12
8254	Y	CRANE WHL MTD HYD BOOM 4X4 12-35 TON	XH6C	10	12
8410	Y	CRANE RAILWAY LOCO 15-30 TON	XH6C	25	25
8420	Y	CRANE RAILWAY LOCO 31-50 TON	XH6C	25	25
8430	Y	CRANE RY LOCO (WRECKING) 51-200 TON	XH6C	25	25

APPENDIX G. MAINTENANCE BUDGET AND MAN-HOUR STANDARDS

1. **Scope**. These guidelines provide a uniform system for the preparation of a planned transportation maintenance budget. The budget should become an operational plan with scheduled periodic performance evaluation. The input standards contained in Table G-1 provide for all the direct man-hours of labor required for transportation maintenance expenses in accordance with Volume 3, Chapter 7, of NAVCOMPT Manual.

2. **Budget Preparation**. A realistic transportation maintenance budget should be developed by using the following five information elements: (1) vehicle/equipment requirements and usage in terms of units, miles driven, or hours operated; (2) man-hour input standards; (3) shop labor rate; (4) standard material cost per hour of labor; and (5) overhead labor. To adequately account for all maintenance man-hours, it is necessary to include equipment in Alpha Code "Z". Since man-hour inputs are not provided for "Z" equipment, these man-hours should be collected from historical data, or from NAVCOMPT Form 2168 under Cost Account Code (CAC) 6440. In order to ensure adequate staffing/man-hours for work performed on other activity equipment, CAC 6460 should also be included. However, as this is a reimbursable CAC, a deduction should be made on the NAVCOMPT 2168 budget submission. Activity Transportation Division Directors should follow claimants' budget guidance instructions for details of budget preparations. Figure G-1 is a sample worksheet which should be used in preparation of the transportation maintenance budget plan.

a. Equipment Requirements and Usage. The accuracy of the budget will depend to a large degree upon how well the vehicle/equipment requirements and usage can be projected. Analysis of the automotive and construction equipment historical utilization data in each Equipment Code (EC) should provide sufficient information to project equipment requirements and usage for the budget period. It is recognized that variables such as mission changes and funding level changes must be considered.

b. Man-Hour Input Standards. The man-hour input standards contained in Table G-1 cover the direct labor necessary to maintain a unit in a safe and reliable condition throughout its economic service life. These standards include the necessary labor hours to lubricate, service, install tires and batteries, as well as remove, replace, and repair major and minor components, sub-assemblies, parts, and accessories to correct or prevent malfunctions or deterioration except those resulting from accidents. The standards do not cover extensive one time major overhaul or rebuild of the complete unit of equipment.

c. Computation of Man-Hour Input from Standards. The recommended procedure for determining direct maintenance man-hour input for budget projection (plan) is to list inventory quantities by EC sequence summarized by Cost Account Code (CAC). Using

Table G-1 of this Appendix, select the established man-hour input standard for each specific EC in inventory. List unit target miles, hours, and leave column blank for those ECs with annual man-hour input standards. There will be three separate computations/formulas for determining the annual budgeted man-hour inputs, depending upon whether the equipment standard man-hour input per mile, hour, or annual unit basis. Examples of computations are as follows:

(1) MAN-HOUR INPUT (STANDARD) PER 1,000 MILES OPERATED

CAC	EC	Unit Inventory	Man-hour target mile/hr	Annual budget input std.	man-hours
62A4	0104	20	12,000 Miles	2.40 per 1,000 mi	576

Formula $\frac{12{,}000 \times 20 \times 2.40}{1{,}000} = 576$

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(2) MAN-HOUR INPUT (STANDARD) PER HOUR OPERATED

CAC	EC	Unit Inventory	Man-hour target mile/hr	Annual budget input std.	man-hours
64S0	4851	2	1,050 Hours	.422 per hr	886

Formula $1{,}050 \times 2 \times .422 = 886$

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(3) MAN-HOUR INPUT (STANDARD) PER UNIT/YEAR

CAC	EC	Unit Inventory	Man-hour target mile/hr	Annual budget input std.	man-hours
64P0	0816	6	1 year	17 per unit/year	102

Formula $6 \times 17 = 102$

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d. Shop Labor Rate. The shop labor rate used in budget preparation should include acceleration for leave and other fringe benefits and a projected cost of living increase. (This information should be provided by the local comptroller.) The shop labor rate can be developed by dividing the labor cost/dollars by the direct labor hours for the

maintenance branch using the most recent labor and material cost report plus a projected acceleration factor.
Example: Total direct labor cost for the Maintenance Branch = $96,000
18,000 man-hours of direct labor = $5.33 average labor rate + 33 percent fringe benefits + 8 percent cost of living increase = $7.52 shop labor rate.

e. Material Cost Factor Per Hour of Labor. A material cost factor for each hour of direct labor shall be developed locally, using cost data from the latest annual Transportation Cost Report (TCR) or the Transportation Equipment Management Evaluation Summary (TEMES). To determine the material cost factor for each hour of direct labor, divide the total annual material cost reported for the maintenance branch by the reported direct labor hours. The material cost factor should be escalated to allow for price increases anticipated in the budget year.

Example: Total direct material for the maintenance branch = $64,500
13,500 man-hours of direct labor = $4.78 X 1.07 (7 percent cost escalation) = $5.11 activity developed material factor per labor hour.

f. Maintenance Overhead. The total overhead hours under CAC 6900 should not exceed 32 percent of the direct productive standard hours for the maintenance branch. Considering normal staffing, overhead labor is based on a ratio of 2 overhead personnel to 10 direct personnel with direct labor personnel effective for 91 percent of available 1,728 annual direct labor hours.

Formula:

(1) 2 X 1,728 = 3,456 indirect/overhead available labor hours

(2) 10 X 1,728 = 17,280 direct labor hours

(3) 17,280 X .91 = 15,724 effective direct labor hours

(4) 17,280 - 15,724 = 1,556 indirect/overhead for production labor

(5) 3,456 + 1,556 = 5,012 total indirect/overhead hours

(6) $\frac{5012}{15,724}$ X 100 = 32 percent indirect to direct hours

g. Budget Computation. Sample worksheet for the direct labor and material budget is shown in Figure G-1 Part A. The following are the appropriate column entries:

COLUMN (1) EQUIP. CODE. List NAVFAC Equipment Code (EC).

COLUMN (2) INVENTORY. Enter inventory on hand.

COLUMN (3) ESTIMATED MILES/HOURS. Enter estimated miles or hours to be operated in budget year.

COLUMN (4) MAINTENANCE MAN-HOUR INPUT STANDARDS. Enter maintenance man-hour input standard from Table G-1.

COLUMN (5) ANNUAL BUDGET MAN-HOURS. Compute total annual maintenance man-hours by multiplying Column (3) by Column (4).

COLUMN (6) SHOP LABOR RATE. Enter the shop labor rate. To compute the shop labor rate follow instructions contained in paragraph 2.d.

COLUMN (7) LABOR DOLLAR. Enter the total labor dollar for each equipment code entry. This entry is obtained by multiplying Column (5) by Column (6).

COLUMN (8) MATERIAL COST FACTOR. Enter activity developed material cost factor. To obtain this entry follow procedures outlined in paragraph 2.e.

COLUMN (9) MATERIAL COST. Enter the total material cost for each equipment code entry. This entry is obtained by multiplying Column (5) by Column (8).

COLUMN (10) TOTAL LABOR AND MATERIAL. Enter the total labor and material cost for each equipment code entry by adding Column (7) and Column (9).

h. Budget Computation. (Indirect labor and material) Sample worksheet for indirect labor and material budget is shown in Figure G-1 Part B. The following are the appropriate column entries:

COLUMN (1) COST ACCOUNT. Enter the appropriate Cost Account Code (CAC) for each function. The CACs are listed by categories in the NAVCOMPT Manual, Volume 3 Chapter 7 paragraphs 037121 and 037122.

COLUMN (2) FUNCTION. Enter the position title for each indirect function requested.

COLUMN (3) MAN-YEARS. Enter the total man-years required for each indirect function listed.

COLUMN (4) MAN-HOURS. Enter the total man-hours for each indirect function. Compute on the basis of 1,728 hours for each full time indirect employee and add hours required for direct personnel performing indirect/overhead functions.

COLUMN (5) LABOR RATE. Enter labor rate for each entry. To obtain take the average base pay for each title listed, add fringe benefits and projected cost of living increase.

COLUMN (6) LABOR COST. Enter total labor dollars for each entry. This entry is obtained by multiplying Column (4) by Column (5).

COLUMN (7) MATERIAL COST. Enter the estimated cost of material for each indirect entry.

I. Budget Control. A sound management system requires allocation of a cost effective level of funding in a budget plan that will require efficient management to execute within this level of funding. Effective budget control depends on management receiving timely feedback information that will enable the manager to isolate his problem areas, make proper decisions, and initiate the necessary corrective action. Such information must relate performance against the resources plan (budget) and established standards. The Navy Resources Management System (RMS) as set forth in NAVSO P3006-1, Financial Management of Resources, provides these reports on a monthly basis as an output from the activity financial management reporting system. These reports are as follows:

(1) Performance Statement (NAVCOMPT 2169). This report is the transportation manager's major tool for control. The report compares actual performance and expenditure data with the budget plan, and indicates the percent expended to date. It compares work units achieved to date with the planned work units, and compares actual unit cost data with standard or budgeted unit cost. This information is provided for each line item in the budget. The transportation manager can then detect deviations from the budget plan and initiate the necessary action to determine the cause of the deviation. Should a further data breakout of specific elements of expenditure be required, the NAVCOMPT 2168 Operating Budget/Expense Report described in the following paragraph should be used.

(2) Operating Budget/Expense (NAVCOMPT 2168). This report provides a detail breakout of the cumulative line item expenditures shown on the NAVCOMPT 2169. This report provides the manager with data to determine what element of cost is causing the deviation from the budget plan. Actual man-hour expenditures per mile, for example, can be computed and compared with the standard used in the budget plan. A similar analysis can be done for material expenditures.

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
0061	B	7.00	X			0316	G	2.80	X		
0063	B	7.00	X			0317	H	3.50	X		
0065	C	11.20	X			0319	G	2.80	X		
0066	C	11.20	X			0320	O	29			X
0070	D	11.20	X			0321	G	2.80	X		
0090	P	45			X	0322	H	3.50	X		
0095	O	42			X	0324	O	35			X
0098	O	42			X	0327	H	3.50	X		
0099	O	42			X	0329	H	3.50	X		
0102	A	2.40	X			0330	H	3.50	X		
0103	A	2.40	X			0331	F	5.90	X		
0104	A	2.40	X			0332	F	5.90	X		
0105	A	2.40	X			0333	F	5.90	X		
0114	A	2.40	X			0334	F	5.90	X		
0200	E	2.40	X			0335	H	3.50	X		
0202	E	2.40	X			0336	O	63			X
0210	E	2.40	X			0340	O	55			X
0303	O	35			X	0342	I	4.40	X		
0305	H	3.50	X			0343	I	4.40	X		
0307	O	35			X	0345	I	4.40	X		
0308	H	3.50	X			0347	J	4.80	X		
0310	O	28			X	0348	I	4.40	X		
0311	H	3.50	X			0349	I	4.40	X		
0312	H	3.50	X			0350	I	4.40	X		
0313	G	2.80	X			0355	I	4.40	X		
0315	H	3.50	X			0360	O	58			X

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
0361	F	5.90	X			0550	O	91			X
0362	I	4.80	X			0570	O	246			X
0409	O	48			X	0580	M	9.20	X		
0410	O	48			X	0582	M	9.20	X		
0420	J	4.80	X			0587	O	92			X
0426	J	4.80	X			0588	O	92			X
0428	J	4.80	X			0590	M	191			X
0430	O	48			X	0591	O	96			X
0441	J	4.80	X			0601	M	9.20	X		
0443	J	4.80	X			0602	M	9.20	X		
0445	J	4.80	X			0603	M	9.20	X		
0449	J	4.80	X			0604	M	9.20	X		
0450	J	4.80	X			0605	M	9.20	X		
0455	J	4.80	X			0606	M	9.20	X		
0456	J	4.80	X			0607	O	92			X
0457	J	4.80	X			0610	O	92			X
0520	O	62			X	0613	M	9.20	X		
0521	K	7.00	X			0614	M	9.20	X		
0523	K	7.00	X			0616	O	92			X
0525	K	7.00	X			0618	O	92			X
0527	K	7.00	X			0620	M	9.20	X		
0528	K	7.00	X			0624	M	9.20	X		
0534	O	70			X	0630	M	9.20	X		
0536	O	70			X	0631	M	9.20	X		
0537	O	70			X	0636	M	9.20	X		
0539	O	70			X	0638	N	11.20	X		

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
0643	N	11.20	X			0742	O	34			X
0644	N	11.20	X			0743	Q	.017		X	
0645	N	11.20	X			0744	Q	.023		X	
0649	N	11.20	X			0746	O	48			X
0701	O	260			X	0750	Q	.034		X	
0704	O	42			X	0751	O	70			X
0705	Q	.019		X		0753	O	92			X
0707	Q	.027		X		0754	O	92			X
0708	O	35			X	0756	Q	.044		X	
0709	O	239			X	0757	O	48			X
0711	O	36			X	0758	O	70			X
0713	O	70			X	0802	P	3			X
0714	X	.034		X		0803	P	7			X
0715	O	70			X	0804	P	3			X
0719	O	25			X	0806	P	6			X
0720	O	25			X	0807	P	4			X
0721	O	28			X	0809	P	20			X
0722	O	28			X	0811	P	20			X
0723	O	204			X	0812	P	17			X
0725	O	127			X	0813	P	20			X
0728	O	55			X	0815	P	17			X
0730	O	39			X	0816	P	17			X
0731	Q	.019		X		0817	P	20			X
0733	O	127			X	0818	P	15			X
0734	O	34			X	0819	P	28			X
0735	O	100			X	0820	P	34			X

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
0821	P	17			X	0859	P	17			X
0822	P	20			X	0860	P	11			X
0823	P	22			X	0862	P	11			X
0825	P	24			X	0864	P	11			X
0826	P	28			X	0865	Q	.003		X	
0827	P	34			X	0868	P	11			X
0828	P	48			X	0871	P	6			X
0829	P	4			X	0872	P	3			X
0832	P	9			X	0873	P	7			X
0833	P	7			X	0874	P	4			X
0834	P	8			X	0875	P	7			X
0842	P	11			X	0876	P	5			X
0843	P	6			X	0878	P	17			X
0844	P	11			X	0879	P	11			X
0845	P	3			X	0880	P	4			X
0846	P	4			X	0881	P	5			X
0847	Q	.817		X		0882	P	8			X
0848	T	34			X	0883	P	4			X
0849	Q	.002		X		0884	P	8			X
0851	P	8			X	0885	P	31			X
0852	P	3			X	0886	P	11			X
0853	P	11			X	0888	P	14			X
0855	P	11			X	0890	P	31			X
0856	P	11			X	0891	Q	.027		X	
0857	P	8			X	0892	P	34			X
0858	P	5			X	0893	Q	.005		X	

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
0896	Q	.005		X		1600	R	.024		X	
0897	P	11			X	1610	R	.028		X	
0899	P	3			X	1800	R	.081		X	
1100	R	.057		X		1810	R	.210		X	
1110	R	.062		X		1820	R	.106		X	
1120	R	.041		X		1830	R	.210		X	
1200	R	.090		X		1840	R	.122		X	
1210	R	.123		X		1850	R	.231		X	
1220	R	.045		X		1860	R	.231		X	
1230	R	.077		X		1870	R	.276		X	
1240	R	.057		X		1900	R	.070		X	
1300	R	.099		X		2110	T	158			X
1310	R	.150		X		2120	T	70			X
1320	R	.098		X		2200	T	383			X
1330	R	.150		X		2210	T	98			X
1340	R	.160		X		2220	T	10			X
1350	R	.123		X		2325	T	3			X
1360	R	.050		X		2340	T	12			X
1370	R	.055		X		2415	T	88			X
1380	R	.056		X		2417	T	88			X
1390	R	.043		X		2420	S	.028		X	
1400	R	.070		X		2425	T	600			X
1410	R	.029		X		2432	S	.024		X	
1420	R	.038		X		2433	S	.027		X	
1430	R	.099		X		2434	S	.043		X	
1500	R	.138		X		2462	T	244			X

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
2470	S	.043		X		4320	T	7			X
2520	S	.146		X		4330	S	.400		X	
2521	S	.113		X		4340	S	.500		X	
2542	T	164			X	4410	T	8			X
2610	T	28			X	4420	S	.244		X	
2620	T	164			X	4530	S	.288		X	
2720	T	118			X	4531	S	.182		X	
2735	T	17			X	4532	S	.182		X	
2750	T	14			X	4610	T	10			X
3110	S	.043		X		4615	S	.193		X	
3111	S	.064		X		4620	T	8			X
3135	S	.108		X		4621	T	8			X
3155	S	.108		X		4622	S	.316		X	
3160	S	.210		X		4625	T	13			X
3165	S	.210		X		4630	S	.112		X	
3532	S	.195		X		4635	S	.140		X	
3630	T	123			X	4640	S	.169		X	
3710	S	.079		X		4730	T	25			X
3720	S	.281		X		4731	T	34			X
4230	S	.210		X		4750	S	.363		X	
4240	S	.491		X		4760	S	.259		X	
4250	S	.540		X		4805	S	.260		X	
4260	S	.664		X		4820	S	.126		X	
4270	S	.701		X		4830	S	.210		X	
4305	T	7			X	4840	S	.280		X	
4310	S	.175		X		4850	S	.417		X	

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
4851	S	.422		X		5411	T	5			X
4860	S	.092		X		5413	T	8			X
4872	U	.092		X		5414	S	.175		X	
4873	U	.101		X		5416	S	.153		X	
4874	U	.111		X		5460	Z	.127			X
4875	U	.118		X		5500	Q	.069		X	
4876	U	.127		X		5515	T	17			X
4891	S	.168		X		5628	U	.135		X	
4892	S	.231		X		5643	U	.008		X	
4893	S	.441		X		5650	U	.016		X	
4894	Q	.472		X		5720	S	.288		X	
5110	T	17			X	5740	T	25			X
5120	T	21			X	5745	T	125			X
5121	T	24			X	5750	T	214			X
5122	T	33			X	5757	T	272			X
5123	T	35			X	5790	T	112			X
5124	T	53			X	5820	S	.179		X	
5128	T	75			X	5830	S	.238		X	
5170	S	.069		X		5831	S	.252		X	
5171	S	.148		X		5833	S	.209		X	
5220	T	13			X	5835	S	.228		X	
5230	T	15			X	5840	T	74			X
5240	T	22			X	5842	T	77			X
5405	S	.130		X		5900	T	5			X
5408	Q	.217		X		5910	T	5			X
5409	S	.223		X		6100	V	11			X

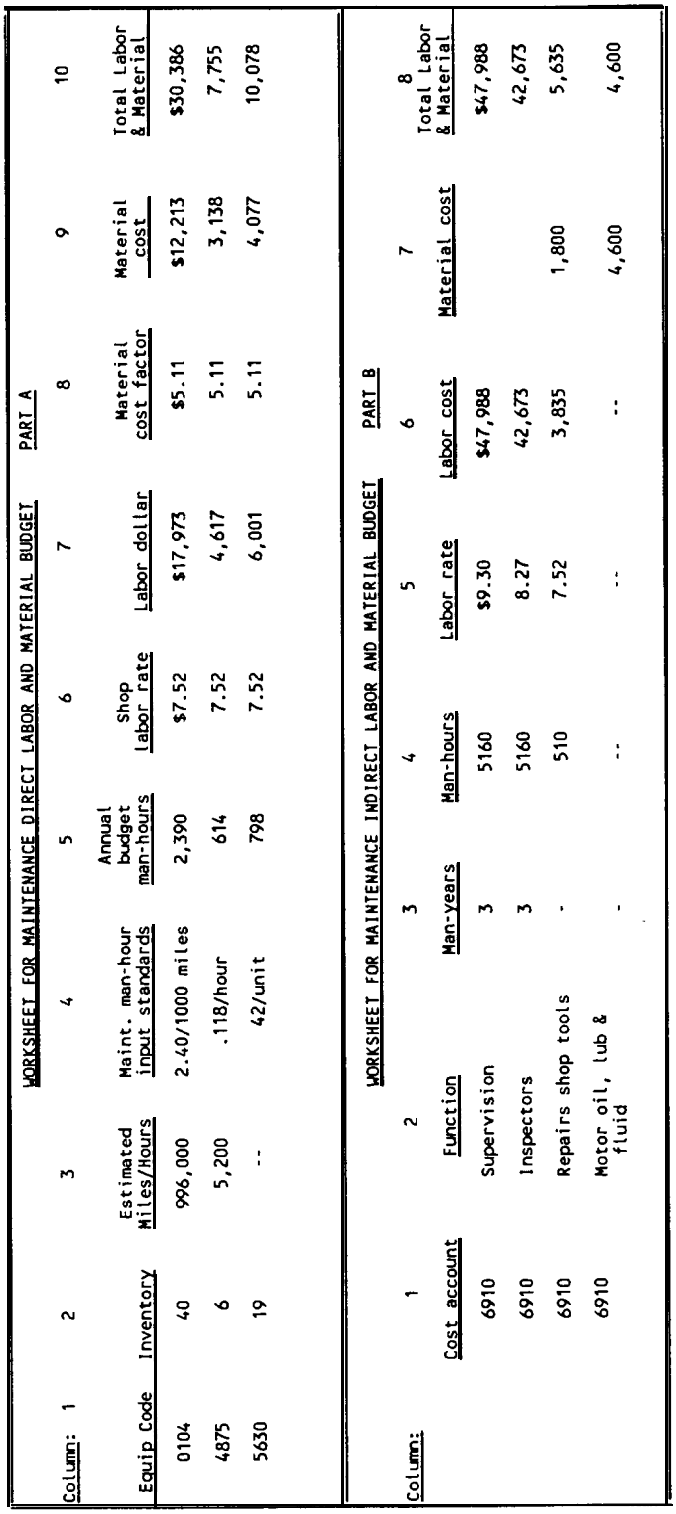
TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
6110	V	15			X	7175	X	.385		X	
6120	V	9			X	7180	X	.609		X	
6130	V	19			X	7190	X	.609		X	
6140	V	19			X	7195	X	.609		X	
6150	V	25			X	7200	X	.069		X	
6160	V	14			X	7225	X	.069		X	
6210	W	.029		X		7230	X	.016		X	
6220	W	.020		X		7300	X	.098		X	
6222	T	70			X	7310	X	.084		X	
6230	W	.034		X		7320	X	.105		X	
6240	W	.063		X		7321	X	.210		X	
6340	V	20			X	7322	X	.210		X	
6370	V	56			X	7330	X	.210		X	
6400	V	10			X	7340	X	.112		X	
6530	W	.185		X		7341	X	.126		X	
6540	W	.281		X		7351	X	.210		X	
6545	W	.021		X		7400	X	.210		X	
6550	W	.561		X		7500	X	.057		X	
6560	W	.701		X		8160	Y	.336		X	
6570	W	.125		X		8200	Y	.351		X	
6580	W	.042		X		8205	Y	.351		X	
7100	X	.094		X		8210	Y	.421		X	
7102	X	.084		X		8215	Y	.505		X	
7103	X	.070		X		8218	Y	.808		X	
7105	X	.056		X		8219	Y	.948		X	
7160	X	.445		X		8220	Y	.266		X	

TABLE G-1
TRANSPORTATION MAINTENANCE MAN-HOUR
INPUT STANDARDS

NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours				NAVFAC Equip. Code	Alpha Code	Maintenance man-hour input Standard hours			
		Man-hours	Per					Man-hours	Per		
			1,000 Miles	Hour	Unit (annual)				1,000 Miles	Hour	Unit (annual)
8230	Y	.293		X		8249	Y	.771		X	
8232	Y	.497		X		8250	Y	.448		X	
8233	Y	.692		X		8252	Y	.245		X	
8235	Y	.790		X		8253	Y	.203		X	
8241	Q	.983		X		8254	Y	.161		X	
8242	Q	.878		X		8410	Y	.392		X	
8243	Q	.570		X		8420	Y	.448		X	
8246	Y	.386		X		8430	Y	.525		X	

SAMPLE WORKSHEET FOR TRANSPORTATION MAINTENANCE BUDGET



WORKSHEET FOR MAINTENANCE DIRECT LABOR AND MATERIAL BUDGET — PART A

Column: 1	2	3	4	5	6	7	8	9	10
Equip Code	Inventory	Estimated Miles/Hours	Maint. man-hour input standards	Annual budget man-hours	Shop labor rate	Labor dollar	Material cost factor	Material cost	Total Labor & Material
0104	40	996,000	2.40/1000 miles	2,390	$7.52	$17,973	$5.11	$12,213	$30,386
4875	6	5,200	.118/hour	614	7.52	4,617	5.11	3,138	7,755
5630	19	--	42/unit	798	7.52	6,001	5.11	4,077	10,078

WORKSHEET FOR MAINTENANCE INDIRECT LABOR AND MATERIAL BUDGET — PART B

Column: 1	2	3	4	5	6	7	8
Cost account	Function	Man-years	Man-hours	Labor rate	Labor cost	Material cost	Total Labor & Material
6910	Supervision	3	5160	$9.30	$47,988		$47,988
6910	Inspectors	3	5160	8.27	42,673		42,673
6910	Repairs shop tools	-	510	7.52	3,835	1,800	5,635
6910	Motor oil, lub & fluid	-	--	--	--	4,600	4,600

Figure G-1

APPENDIX H

(FORMS)

DESCRIPTION/JUSTIFICATION FOR
NON-STANDARD FAMILY CESE PROCUREMENT

ACTIVITY NAME _____ UIC ____ PRIORITY(S) _____

CLAIMANT UIC _____ TEMC: _____

BUDGET YEAR _____ EC (1 only) _____

ESTIMATED COST _____ PRIORITY(S) _____

EQUIPMENT DESCRIPTIVE DATA (Complete, accurate information is essential to ensure procurement of desired equipment)

PREVIOUS CONTRACT/MIPR NO. _____

CURRENT MFG. _____ MODEL NO. _____
(attach brochure, if available)

ADDRESS/PHONE NO. _____

ITEM DESCRIPTION _____

ATTACHMENTS/OPTIONS REQUIRED _____

CRITICAL OPERATING REQUIREMENTS (Terrain, load/speed requirement, etc.)

JUSTIFICATION (Descriptive information is mandatory as to why a standard family item is not suitable.)

Activity Contact
For further details _____ ___ ____ _____
Name/Signature Code Phone No. Date

TEMC Review by _____ _____ _____ _____
Name/Signature Code Phone No. Date

Figure H-1

DESCRIPTION/JUSTIFICATION FOR NONSTANDARD FAMILY CESE PROCUREMENT
(Sample)

ACTIVITY NAME NAVSTA ADAK UIC 62742 PRIORITY(S) 22, 23, 24

CLAIMANT UIC 00070 TEMC: PACDIV

BUDGET YEAR 96 EC (1 only) 0321-00

ESTIMATED COST $10,200 PRIORITY(S)

EQUIPMENT DESCRIPTIVE DATA (Complete, accurate information is essential to ensure procurement of desired equipment)

PREVIOUS CONTRACT/MIPR NO. 86-0508 DAAE07-86-C-9999

CURRENT MFG. Pushmehard MODEL NO. Upull II
(attach brochure, if available)

ADDRESS/PHONE NO. 325 W. Washington St. Outback, AL (205) 502552

ITEM DESCRIPTION Truck, pickup, compact, 4 x 4 5200 GVW

ATTACHMENTS/OPTIONS REQUIRED High capacity heater/ defroster required for operating in extreme cold weather.

CRITICAL OPERATING REQUIREMENTS (Terrain, load/speed requirement, etc.)
Operates in below freezing weather, and must travel on snow, ice, mud and rocky terrain to reach antenna fields in remote areas.

JUSTIFICATION (Descriptive information is mandatory as to why a standard family item is not suitable.)
A standard size 4 X 4 pickup, or another 4 X 4 configuration could not gain access to these remote areas, or would not have the easy cargo accessibility of a compact pickup. (Terrain photos attached).

Activity Contact
For further details

Name/Signature	Code	Phone No.	Date

TEMC Review by

Name/Signature	Code	Phone No.	Date

Figure H-2

CRANE REQUIREMENTS DATA SHEET

ACTIVITY NAME _____ UIC ____ PRIORITY _____

TEMC: _____ CLAIMANT UIC _____ PRIORITY _____

Crane operations vary widely from one activity to another. The factors listed below are required to determine the size and type of equipment to best meet the specific operating requirements. Since mobile cranes generally perform varied operations, the data provided should reflect the operating requirements of the primary operation of the crane. Secondary operations should be considered and data provided, when those conditions exceed in capacity, working radius, or other limiting factors those of the primary operation.

I. Narrative Description of Primary Operation. Describe in detail the entire operation, giving all pertinent information _____

_____

_____

_____

_____

II. PRIMARY LIFTING REQUIREMENTS

1. Description of load (i.e., air conditioner, transformer, small boats, etc.). _____

   _____

   a. Size: Height _____ Ft. Length _____ Ft. Width _____ Ft.
   b. Weight: _____ pounds.
   c. Special or peculiar handling information (i.e., strong-back, equalizer beam, spreader bar, etc.). _____

   _____

   d. Identify aircraft, boats, etc., by model/type. _____

   _____

   e. Maximum weight: _____ pounds at minimum radius of _____ feet.

2. Maximum required radius _____ feet with load of _____ pounds.

3. Height or depth of load placement _____ (i.e., on top of roof, down in dry dock or on water etc.).

4. Sling height or special rigging dimensions. _____

   _____

5. Height, length, or width restrictions on crane. _____

   _____

6. Axle load (lbs.) or wheel/outrigger bearing capacity (psf) limitations. (Design capacities of piers, bridges, utility tunnels, roads, etc.)

   _____

   _____

Figure H-3

CRANE REQUIREMENTS DATA SHEET (Continued)

7. Maximum traveling lift (if required) ____ pounds.

8. Special devices or attachments required _____

9. Frequency of job requirement _____

III. Equipment to be Replaced

1. List characteristics of crane now being used which do not meet primary lifting requirements.

_____
_____
_____

2. Narrative description of operation as presently performed.

_____
_____

IV. Secondary Lifting Requirements

1. Narrative description of each secondary operation. (Provide only if primary requirements do not exceed the secondary requirements in reach, height, etc.). _____

2. Description of load and weight at required radius. _____

_____
_____

V. Additional Information

1. List or describe any additional information, data or requirements necessary or helpful in making equipment selection. _____

_____
_____

2. Size and type crane desired. _____

_____
_____

Activity Contact
For further details ___ ___ ___ ___

Name/Signature Code Phone No. Date

TEMC Review by ___ ___ ___ ___

Name/Signature Code Phone No. Date

Figure H-3 (cont'd)

CRANE REQUIREMENTS DATA SHEET
(Sample)

ACTIVITY NAME NAS CORPUS CHRISTI UIC 00216 PRIORITY 1, 2
TEMC: LANTDIV CLAIMANT UIC 00062 PRIORITY

Crane operations vary widely from one activity to another. The factors listed below are required to determine the size and type of equipm best meet the specific operating requirements. Since mobile cranes generally perform varied operations, the data provided should reflect t operating requirements of the primary operation of the crane. Secondary operations should be considered and data provided, when those conditions exceed in capacity, working radius, or other limiting factors those of the primary operation.

I. Narrative Description of Primary Operation. Describe in detail the entire operation, giving all pertinent information. Equipment is used for general purpose lifts on base. Loads weigh from 500 to 30,000 pounds and the radius varies from 10 feet to 70 feet.

II. PRIMARY LIFTING REQUIREMENTS

1. Description of load (i.e., air conditioner, transformer, small boats, etc.): Air conditioners (500 to 5000 lbs.); steel plate (2500 lbs.); transformers (1000 to 30000 lbs.); pipe, pallets, motors, generators.
   a. Size: Height max 10' Ft. Length max 22' Ft. Width max 10' Ft.
   b. Weight: maximum 30,000 pounds.
   c. Special or peculiar handling information (i.e., strong-back, equalizer beam, spreader bar, etc.)
   N/A
   d. Identify aircraft, boats, etc., by model/type: Crane is for general purpose lifts. Specific primary use identification N/A.
   e. Maximum weight: 30,000 pounds at minimum radius of 20 feet.

2. Maximum required radius 70 feet with load of 5500 pounds.

3. Height or depth of load placement on roof 46' high (i.e., on top of roof, down in dry dock or on water etc.).

4. Sling height or special rigging dimensions: No special rigging required.

5. Height, length, or width restrictions on crane: Height restriction only: must be able to travel (unloaded) under 12'8" overhang.

6. Axle load (lb.) or wheel/outrigger bearing capacity (psf) limitations. (Design capacities of piers, bridges, utility tunnels, roads, etc.) No limitations.

Figure H-4

CRANE REQUIREMENTS DATA SHEET (Sample) (Continued)

7. Maximum traveling lift (if required) 3000 pounds

8. Special devices or attachments required None

9. Frequency of job requirement Daily

III. Equipment to be Replaced

1. List characteristics of crane now being used which do not meet primary lifting requirements.
   Cannot lift 5500 lbs. at the required radius of 70 feet.

2. Narrative description of operation as presently performed.
   Two lifts now required instead of one

IV. Secondary Lifting Requirements

1. Narrative description of each secondary operation. (Provide only if primary requirements do not exceed the secondary requirements in reach, height, etc.)
   All primary requirements exceed secondary requirements.

2. Description of load and weight at required radius

V. Additional Information

1. List or describe any additional information, data or requirements necessary or helpful in making equipment selection.

2. Size and type crane desired.
   Code 8254, crane, hydraulic, 30 ton capacity, swing cab; similar or equal to Pollitup model Upush II.

Activity Contact
For further details

Name/Signature Code Phone No. Date

TEMC Review by

Name/Signature Code Phone No. Date

Figure H-4 (cont'd)

TRUCK TRACTOR DATA SHEET
(USER REQUIREMENTS)

INSTRUCTIONS: Fill in only those requirements that are essential. The less restrictive the requirements are, the greater the potential for expediting your procurement at reduced cost. Specification standard or industry good practice will be specified for procurement when values below are left blank.

ACTIVITY _____ UIC _____

TRUCK TRACTOR: - EQUIPMENT CODE _____

4X2 ___ 4X4 ___ 6X4 ___ 6X6 ___ Yard Spotter _____

Gross Vehicle Weight (GVW) required: _____ lbs.

Gross Combination Weight (GCW) required: _____ lbs.

DIMENSIONS: (Special restrictive requirements)

Length _____ in. Width _____ in. Height _____ in.

Wheel base _____ in. Turning circle _____ ft.

Ground clearance _____ in. Cab to axle/trunion _____ in.

Rear axle or bogie to center of fifth wheel _____ in.

Maximum Overall length of tractor-trailer combination _____ ft.

Fifth wheel Height maximum _____ in. Minimum _____ in.(laden or unladen)

WEIGHTS:

Maximum load on fifth wheel. _____ lbs.

Maximum pay load. _____ lbs.

CAB TYPE:

Conventional _____ Half _____

Tilt _____ Sleeper _____

Figure H-5

TRUCK TRACTOR DATA SHEET (USER REQUIREMENTS) (Continued)

ACCESSORIES:

Air conditioning _____ Air Ride Suspension_____

Spotlights _____ Air Ride Seats _____

ENGINE:

Rated horsepower _____ Engine compression brake _____

Special Equipment:

Fifth Wheel Type

Fore-aft rocking _____

Full Oscillating _____

Slider 24"_____

Hydraulic Lift _____

Size of King Pin

2-inch_____

3 1/2 inch_____

Trailer tow package (includes pintle hook, air glad hands and lighting socket at end of frame).

Tire tread (Highway - mud/snow, etc.) _____

Spare Tire and Wheel required: Yes ____ No___

Transmission:

Automatic_____

Over road type close ratio _____

Slow off road deep wide ratio _____

Hydraulic Retarder: Yes____ No_____

Manual type _____

Number of speeds forward _____

Special need for slow low gear _____

NOTE: Automatic transmission is the standard NAVY requirement unless otherwise requested

Figure H-5 (cont'd)

TRUCK TRACTOR DATA SHEET (USER REQUIREMENTS) (Continued)

Fuel Tanks extra capacity gallons_____

Winch, (front) Rating: (line pull) _____

(length and size of cable) _____

Winch, (rear) behind cab rating (line pull)_____

(length and size of cable)_____

Roller, rear of frame for folding gooseneck trailer._____

Controls, (electric) for bottom dump trailer_____

Lift / Tie-down attachments: Yes _____No _____

Air transportability: Yes _____ No _____

Types of semitrailers to be pulled:

	Length	Number of Axles	Landing Gear Clearance	Kingpin Setback
Dropdeck				
Low Bed				
Folding Gooseneck				
Tiltdeck				
Flatdeck				
Tank				
Dump				
Refuse				
Other (Describe)				

Send drawings of specialty type semitrailers if available.

Special Payloads to be hauled. _____

Similar or equal to: Make_____ Model_____

Prior buy reference: Contract Number_____MIPR Number_____

Figure H-5 (cont'd)

TRUCK TRACTOR DATA SHEET (USER REQUIREMENTS) (Continued)

Special Operational Requirements: (Describe in detail: Speeds, road conditions, special payloads, and any other significant factors.)

Activity Contact for further details:

Name/Signature	Code	Phone No.	Date

TEMC Review by:

Name/Signature	Code	Phone No.	Date

Figure H-5 (cont'd)

ECONOMIC ANALYSIS
(Procurement Vs. Lease)
(Sample)

	Navy-Owned	Leased
Vehicle description (EC/Vehicle Type):	_____	_____
Life expectancy	_____	_____
Annual miles driven	_____	_____
Vehicle MPG	_____	_____
Fuel cost per gallon	$_____	$_____
Maintenance cost ($X.XX/hr Labor cost, $X.XX/hr Materials cost)	$_____	$_____ (40%)
Acquisition cost	$_____	
Annual lease cost		$_____
Cost per mile comparison		
Vehicle Maintenance cost per mile	$_____	$_____
Operations cost per mile (25 MG)	$_____	$_____
Depreciation cost per mile	$_____	
Lease cost per mile		$_____
Total cost per mile	$_____	$_____

Cost Factors

1. The following data will be used to determine the costs associated with a Navy-owned vehicle:

   a. Equipment code.
   b. Established life expectancy per CASEMIS Equipment Code Descriptive Reference Table.
   * c. Acquisition cost of the vehicle per CASEMIS Equipment Code Descriptive Reference Table.
   d. Salvage value is established as 20% of acquisition cost.
   e. Actual mileage of assignment ("Class A or B" assignment justification mileage, or "C Pool" vehicle target mileage).
   * f. Vehicle Miles per Gallon (MPG) - Estimated (EPA) MPG from Federal Standard Numbers 292, 307, 794 (current editions).

* Note: This information is available from the TEMC if you do not have the referenced material.

Figure H-6

ECONOMIC ANALYSIS
Cost Factors (Cont'd)
(Sample)

g. Fuel cost per gallon (activity's contract cost for Defense fuel).
h. Approved activity labor and material rates.

2. The costs associated with a Navy-owned vehicle are to be calculated as follows:

a. Maintenance Cost per Mile - Calculate the maintenance cost per mile using the assignment mileage, P-300 man-hour input standards, activity labor rate, and the approved hourly material cost factor.
b. Operations Cost per Mile - Divide the established annual mileage by the Federal Standard MPG to obtain the gallons used per year. Multiply the gallons per year by the fuel cost to obtain the annual fuel cost. Divide the annual fuel cost by the established annual mileage for this specific application to obtain the operations (fuel) cost per mile.
c. Depreciation Cost per Mile - After subtracting the 20% salvage value, divide the acquisition cost by the established life expectancy (in miles).

3. The following data will be used to determine the costs associated with a Leased vehicle:

a. Annual Mileage - Same as used in the Navy-owned calculations.
* b. Vehicle MPG - Same as used in the Navy-owned calculations.
* c. Annual Lease Cost - The annual lease cost of the specific vehicle.
d. Fuel Cost per Gallon (activity's contract cost for Defense fuel).

4. The costs associated with a Leased vehicle are to be calculated as follows:

a. Lease Maintenance Cost per Mile - Forty percent of the maintenance cost of Navy-owned vehicles as previously calculated (forty percent is based on in-house maintenance of leased vehicles using a 3-year replacement cycle).
b. Operations Cost per Mile - Calculated the same as the new Navy-owned vehicle.
c. Annual Lease Cost per Mile - Calculated by dividing the annual lease cost by the established annual mileage.

* Note: This information is available from the TEMC if you do not have the referenced material.

Figure H-6 (cont'd)

ACTIVITY DATA SHEET
(Sample)

1.	Activity: NAS Fairfax		
2.	Major Claimant: CINCJETFLT		
3.	Total IO: 1120		
4.	Total Inventory: 1119		
5.	Applicable equipment code:	0319	
6.	Due-ins in applicable equipment code from funded/budgeted procurement:		25
7.	IOs in applicable equipment code:		114
8.	Inventory in applicable equipment code:		
	a. within age:	60	
	b. eligible for replacement:	54	
	c. total:	114	
9.	Activity labor rate per hour:		$10.00
10.	Activity material cost factor:		$ 8.00
11.	Prior fiscal year average utilization (miles) of vehicles in applicable equipment code:		10,000
12.	Prior fiscal year average utilization (miles) of vehicles in IO group:		9,000
13.	Annual mileage associated with this assignment:		11,000

Figure H-7

Report of Excess Personal Property (SF-120) (Sample)

PAGE 1 OF ____

STANDARD FORM 120 REV. APRIL 1957 GEN. SERV. ADMIN. FPMR (41 CFR) 101-43.311

REPORT OF EXCESS PERSONAL PROPERTY

1. REPORT NO.: N12345-5163-K
2. DATE MAILED: 15 Jun 95
3. TOTAL COST: $

4. TYPE OF REPORT (Check one only of "a," "b," "c," or "d"): a. ORIGINAL [X]; b. CORRECTED [ ]; c. PARTIAL W/D [ ]; d. TOTAL W/D [ ]; (Also check "e" and/or "f" if appropriate) e. OVERSEAS [ ]; f. CONTRACTORS [ ]

5. TO (Name and Address of Agency to which report is made) THRU
Commander, Atlantic Division, Code 12
NAVFACENGCOM, Norfolk, VA 23511-2699

6. APPROP. OR FUND TO BE REIMBURSED (If any)

7. FROM (Name and Address of Reporting Agency)
Naval Air Station
Anywhere

8. REPORT APPROVED BY (Name and Title)
LT N. Charge
LT, CEC, USN

9. FOR FURTHER INFORMATION CONTACT (Title, Address and Telephone No.)
LT.N. Charge
DSN 123-4567 or COM (111) 456-4567

10. AGENCY APPROVAL (If applicable)

11. SEND PURCHASE ORDERS OR DISPOSAL INSTRUCTIONS TO (Title, Address and Telephone No.)
See Block #7

12. GSA CONTROL NO.

13. FSC GROUP NO.	14. LOCATION OF PROPERTY (If location is to be abandoned give date)	15. REIM/REQD YES	15. REIM/REQD NO	16. AGENCY CONTROL NO.	17. SURPLUS RELEASE DATE
	N12345 NAS Anywhere		2		

18. EXCESS PROPERTY LIST

ITEM NO. (a)	DESCRIPTION (b)	COND. (c)	UNIT (d)	NUMBER OF UNITS (e)	ACQUISITION COST PER UNIT (f)	ACQUISITION COST TOTAL (g)	FAIR VALUE % (h)
001	FSN: 2320 USN: 94-02419 EC: 0313 Type/Capacity: Truck, Cargo Pickup GVW 4800 Make/Model: Dodge/D150 Year Mfg: 1978 Vehicle ID#D14BB8S173625 Accum Miles: 73929 Est. Cost to place in B-5 Condition: $3800 ESTIMATE TO RETURN 94-02419 to B-5 Condition 1. R&R ENGINE & OVERHAUL 2. R&R TRANSMSSION & OVERHAUL 3. REPLACE BOTH FRONT BRAKE ROTORS 4. REPLACE FRONT BRAKE PADS & OVERHAUL CALIPERS 5. REPLACE REAR BRAKE SHOES & WHEEL CYLINDERS 6. R&R & UPHOLSTER SEAT 7. REPAIR BODY DAMAGE LEFT FRONT FENDER 8. REPLACE TAILGATE 9. REPLACE TIE ROD ENDS 10. REPLACE BOTH LOWER BALL JOINTS 11. ALIGN FRONT END 12. PREPARE VEHICLE FOR PAINT & PAINT VEHICLE	B-X	EA	1	4130	4130 $925.00 $750.00 $300.00 $100.00 $ 70.00 $100.00 $500.00 $375.00 $ 50.00 $225.00 $ 50.00 $355.00 $3800.00	

STANDARD FORM 120 REV. APRIL 1957 EDITION (Use Standard Form 120A for Continuation Sheets) NSN 7540-00-634-4074 120-105 PREVIOUS EDITION USABLE

Figure H-8

TO _____ (DSN 565-8826/(757)445-8826) FROM (UIC) _____

CASEMIS INVENTORY & REGISTRATION LOAD SHEET

6 DIGIT EC	USN ID	YR	MFG	MODEL	SERIAL #	DATE RECEIVED	STATUS CODE	FUEL	TRANSFER UIC OR REMARKS

STATUS CODES
A = LEASED FROM COMMERCIAL SOURCES FILLING LEASE IO
F = COMMERCIALLY LEASED EQUIPMENT FILLNG NAVY-OWNED IO
G = GSA LEASED/RENTED EQUIPMENT FILLING LEASE IO
K = GSA LEASED/RENTED EQUIPMENT FILLING NAVY-OWNED IO
H = REHABILITATION/SERVICE LIFE EXTENSION PROGRAM (SLEP)
I = LEASED EQUIPMENT WITH OPTION TO PURCHASE - NAVY-OWNED IO
0 = GOVERNMENT OPERATED - NAVY--OWNED IO
C = CONTRACTOR OPERATED/CONTRACTOR REPLACED - NO IO
E = CONTRACTOR OPERATED/GOVERNMENT REPLACED - NAVY-OWNED IO
P = PENDING DISPOSAL
Y = PENDING REDISTRIBIITION
Z = DISPOSED EQUIPMENT

FUEL CODES
B = BI-FUEL (CAPABLE OF RUNNING ON CNG OR GAS)
D = DIESEL
E = ELECTRIC
G = GAS
H = E-85 ETHANOL
M = MULTIFUEL (DIESEL OR GAS COMBINED WITH CNG OR LPG)
N = DEDICATED CNG
0 = OTHER (HYDROGEN, SOLAR)
P = LPG
Q=LNG
T = M-85 METHANOL
Z = NON-FUELED (TRAILERS)

TO _____ **(DSN 565-8826/(757)445-8826)** FROM (UIC) _____

SHEET__OF__

Figure H-9

CASEMIS Inventory and Registration Load Sheet

Quality Deficiency Report (SF-3681

PRODUCT QUALITY DEFICIENCY REPORT ☐ CATEGORY I ☐ CATEGORY II

1a. FROM *(Originator)*			2a. TO *(Screening point)*		
1b. NAME, TELEPHONE NO. AND SIGNATURE		1c. DATE	2b. NAME, TELEPHONE NO. AND SIGNATURE		2c. DATE
3. REPORT CONTROL NO.	4. DATE DEFICIENCY DISCOVERED	5. NATIONAL STOCK NO. (NSN)	6. NOMENCLATURE		
7a. MANUFACTURER/CITY/STATE	7b. MFRS. CODE	7c. SHIPPER/CITY/STATE		8. MFRS. PART NO.	
9. SERIAL/LOT/BATCH NO.	10a. CONTRACT NO.	10b. PURCHASE ORDER NO.	10c. REQUISITION NO.	10d. GBL NO.	
11. ITEM ☐ NEW ☐ REPAIRED/ OVERHAULED	12. DATE RECD., MFRD., REPAIRED, OR OVERHAULED	13. OPERATING TIME AT FAILURE	14. GOVERNMENT FURNISHED MATERIAL ☐ YES ☐ NO		
15. QUANTITY	a. RECEIVED	b. INSPECTED	c. DEFICIENT	d. IN STOCK	
16. DEFICIENT ITEM WORKS ON/WITH — a. END ITEM *(Aircraft, mower, etc.)*	(1) TYPE/MODEL/SERIES			(2) SERIAL NO.	
b. NEXT HIGHER ASSEMBLY	(1) NATIONAL STOCK NO. (NSN)	(2) NOMENCLATURE	(3) PART NO.	(4) SERIAL NO.	
17. UNIT COST $	18. ESTIMATED REPAIR COST $	19a. ITEM UNDER WARRANTY ☐ YES ☐ NO ☐ UNKNOWN	19b. EXPIRATION DATE		

20. WORK UNIT CODE/EIC *(Navy and Air Force Only.)*

21. ACTION/DISPOSITION

☐ HOLDING EXHIBIT FOR ____ DAYS ☐ RELEASED FOR INVESTIGATION ☐ RETURNED TO STOCK ☐ DISPOSED OF ☐ REPAIRED ☐ OTHER *(Explain in Item 22)*

22. DETAILS *(Describe, to best ability, what is wrong, how and why, circumstances prior to difficulty, description of difficulty, cause, action taken, including disposition, recommendations. Attach copies of supporting documents. Continue on separate sheet if necessary.)*

23. LOCATION OF DEFICIENT MATERIAL

24a. TO *(Action Point)*	25a. TO *(Support Point)* *(Use Items 26 and 27 if more than one)*

Quality Deficiency Report (SF-368) (Continued)

28. FINDINGS AND RECOMMENDATIONS OF INVESTIGATION. *(Explain in detail. Continue on a separate sheet of paper, if necessary.)*

29. ACTION TAKEN

30. RESULTS OF DEPOT SURVEILLANCE

INSTRUCTIONS

1a. FROM (Originator) – Complete name of activity (no acronyms when sending deficiency report across component lines), activity address code (ACC), address including zip code of the activity originating the report.

1b. NAME, TELEPHONE NO., AND SIGNATURE – Provide name, telephone no., include all available telephone numbers: FTS; Autovon, and commercial) and signature of an individual who can serve as a contact for questions regarding the report and/or to request exhibits or samples.

1c. DATE – Enter date report was signed and forwarded to the screening or action point.

2a. TO (Screening Point) – The originating point will complete name of the screening point activity (no acronyms when deficiency report will be sent across component lines), the activity address code (AAC), address including zip code of the screening point where the report needs to be sent by the originator's activity. For those activities that do not have screening points, leave blank.

2c. DATE – Enter the date the person finished processing the report at the screening point.

3. REPORT CONTROL NUMBER – Number assigned to report when a numbering system is used. Those activities which are reporting quality deficiencies across component lines and are to comply with the DLA Regulation 4155.24 should reference the report control number as prescribed in the regulation.

7a. MANUFACTURER/CITY/STATE – Name of the manufacturer, the maintenance contractor, or Government activity which last repaired or overhauled the deficient item. For motor vehicles or components thereof, enter name of manufacturer of the vehicle or component, as appropriate.

7b. MANUFACTURER'S CODE – Code of the manufacturer as listed in Cataloging Handbook H4.1 (Name to code), Federal Supply Code for Manufacturers (United States and Canada).

7c. SHIPPER/CITY/STATE – When the shipper of an item is different from the manufacturer, also include the shipper's or supplier's name.

9. SERIAL/LOT/BATCH NO. – Manufacturer's serial, lot or batch number of deficient item as applicable.

10. CONTRACT; PURCHASE ORDER; REQUISITION; GOVERNMENT BILL OF LADING (GBL) NO. – Enter these numbers or any other available transportation document number in lieu of the GBL. Such numbers appear on the container, purchase document and/or the item. It is extremely helpful if these items are furnished when the material was supplied by GSA.

11. ITEM – Check the appropriate block; provide the dates manufactured and received in Block 12, if available.

13. OPERATING TIME AT FAILURE – Time item had been in operation since new, overhauled, or repaired when the deficiency was discovered, citing the appropriate performance element (miles, cycles, hours, etc.).

15c. QUANTITY DEFICIENT – Enter the quantity found deficient of those inspected.

15d. QUANTITY IN STOCK – Enter the quantity of material from the same manufacturer remaining in stock.

17. UNIT COST – Dollar value of the deficient item when known. Not applicable on reporting vehicles to GSA.

18. ESTIMATED REPAIR COST – Unit cost times number of units for replacement or estimated repair costs (including overhead) times number of units for correcting all the deficient items reported when it can readily be determined. Not applicable on reporting vehicles to GSA.

19. ITEM UNDER WARRANTY – Check if item is known to be covered by contractor warranty. If yes, provide expiration date.

21. ACTION/DISPOSITION – A check in the appropriate block to indicate the action taken or requested. When an exhibit or sample is being held, indicate the number of days in the space provided. (An exhibit or sample shall be held for a minimum of 30 calendar days from date the report is transmitted to the action point. Reporting activities are reminded that the packaging, packing and shipping containers are to be held along with the exhibits to facilitate investigation.) When none of the items indicate the actions or disposition taken or requested, check "Other" and identify the nature of the action taken or requested in item 22.

23. LOCATION OF DEFICIENT MATERIAL – Address and location of deficient material.

24a. TO (Action Point) – Name, in the clear address, including zip code of the action point to which the report is being submitted.

24c. DATE – Enter the date the report was forwarded to an action point or the date the findings and recommendations were completed.

28. FINDINGS AND RECOMMENDATIONS OF INVESTIGATION – Include the findings and recommendations for resolution of complaint.

29. ACTION TAKEN – State the action taken to resolve the complaint.

30. RESULTS OF DEPOT SURVEILLANCE – Show results of depot surveillance and planned action (i.e., replacement or repair by contractor, disposal, issue, etc.)

STANDARD FORM 368 BACK (REV. 10-85)

Figure H-10 (cont'd)

Quality Deficiency Report
(Sample)

PRODUCT QUALITY DEFICIENCY REPORT — ☐ CATEGORY I ☐ CATEGORY II

1a. FROM (Originator)	2a. TO (Screening point)
Commanding Officer Naval Air Station Calhoun TX 75943	Construction Engineering Support Office Code 15 1000 23rd Ave Port Hueneme CA 93043-4301
1b. NAME, TELEPHONE NO. AND SIGNATURE: Alfonse Gomez (691) 448-9612	1c. DATE: 4/12/95
2b. NAME, TELEPHONE NO. AND SIGNATURE: Carl Bailey (614) 328-9501	2c. DATE: 4/21/95

3. REPORT CONTROL NO.	4. DATE DEFICIENCY DISCOVERED	5. NATIONAL STOCK NO. (NSN)	6. NOMENCLATURE
N00594-95-0013		N/A	Truck, Firefighting Aircraft Rescue

7a. MANUFACTURER/CITY/STATE	7b. MFRS. CODE	7c. SHIPPER/CITY/STATE	8. MFRS. PART NO.
Joe Boaks Manufacturing Edge Mont Oklahoma	9735	Same as 7a.	Zf 12439

9. SERIAL/LOT/BATCH NO.	10a. CONTRACT NO.	10b. PURCHASE ORDER NO.	10c. REQUISITION NO.	10d. GBL NO.
N/A	N40001-94-C-2891	MIPR N 08685	N/A	94-1251

11. ITEM	12. DATE RECD., MFRD., REPAIRED, OR OVERHAULED	13. OPERATING TIME AT FAILURE	14. GOVERNMENT FURNISHED MATERIAL
☒ NEW ☐ REPAIRED/OVERHAULED	1/95	25 hrs	☐ YES ☐ NO

15. QUANTITY	a. RECEIVED	b. INSPECTED	c. DEFICIENT	d. IN STOCK
	1	1	1	1

16. DEFICIENT ITEM WORKS ON/WITH	(1) TYPE/MODEL/SERIES	(2) SERIAL NO.
a. END ITEM (Aircraft, mower, etc.)	1000 GPM Truck Fire Crash CF 58930L	48136-743-94-12

b. NEXT HIGHER ASSEMBLY	(1) NATIONAL STOCK NO. (NSN)	(2) NOMENCLATURE	(3) PART NO.	(4) SERIAL NO.

17. UNIT COST	18. ESTIMATED REPAIR COST	19a. ITEM UNDER WARRANTY	19b. EXPIRATION DATE
$ 150,000.00	$ 3500.00	☒ YES ☐ NO ☐ UNKNOWN	1/96

20. WORK UNIT CODE/EIC (Navy and Air Force Only.)

7160

21. ACTION/DISPOSITION

☐ HOLDING EXHIBIT FOR ____ DAYS ☐ RELEASED FOR INVESTIGATION ☐ RETURNED TO STOCK ☐ DISPOSED OF ☒ REPAIRED ☐ OTHER (Explain in Item 22)

22. DETAILS (Describe, to best ability, what is wrong, how and why, circumstances prior to difficulty, description of difficulty, cause, action taken, including disposition, recommendations. Attach copies of supporting documents. Continue on separate sheet if necessary.)

1. After vehicle is operated for approximately 15 minutes, loss of power steering occurs.
2. Solution - Install a larger hydraulic tank and an auxillary in line cooler.

23. LOCATION OF DEFICIENT MATERIAL

Bldg 480 NAS CALHOUN

24a. TO (Action Point)	25a. TO (Support Point) (Use Items 26 and 27 if more than one)
Same as 2a.	

24b. NAME, TELEPHONE NO. AND SIGNATURE	24c. DATE	25b. NAME, TELEPHONE NO. AND SIGNATURE	25c. DATE
Same as 2b.			

26a. TO (Support Point)	27a. TO (Support Point)

26b. NAME, TELEPHONE NO. AND SIGNATURE	26c. DATE	27b. NAME, TELEPHONE NO. AND SIGNATURE	27c. DATE

368-102
NSN 7540-00-133-5541

Figure H-11

STANDARD FORM 368 (REV. 10-85)
GENERAL SERVICES ADMINISTRATION
(FPMR 101-26.8)

Quality Deficiency Report (Sample-Continued)

28. FINDINGS AND RECOMMENDATIONS OF INVESTIGATION. *(Explain in detail. Continue on a separate sheet of paper, if necessary.)*

Found that hydraulic reservoir too small to allow for cooling of fluid.

Recommended the manufacture and installation of a larger hydraulic tank as well as an in-line oil cooler.

29. ACTION TAKEN

Manufactured and installed a larger hydraulic reservoir and an in-line cooler.

30. RESULTS OF DEPOT SURVEILLANCE

Recommended action brought fluid levels down to an acceptable level.

INSTRUCTIONS

1a. FROM (Originator) – Complete name of activity (no acronyms when sending deficiency report across component lines), activity address code (ACC), address including zip code of the activity originating the report.

1b. NAME, TELEPHONE NO., AND SIGNATURE – Provide name, telephone no., (include all available telephone numbers; FTS; Autovon, and commercial) and signature of an individual who can serve as a contact for questions regarding the report and/or to request exhibits or samples.

1c. DATE – Enter date report was signed and forwarded to the screening or action point.

2a. TO (Screening Point) – The originating point will complete name of the screening point activity (no acronyms when deficiency report will be sent across component lines), the activity address code (AAC), address including zip code of the screening point where the report needs to be sent by the originator's activity. For those activities that do not have screening points, leave blank.

2c. DATE – Enter the date the person finished processing the report at the screening point.

3. REPORT CONTROL NUMBER – Number assigned to report when a numbering system is used. Those activities which are reporting quality deficiencies across component lines and are to comply with the DLA Regulation 4155.24 should reference the report control number as prescribed in the regulation.

7a. MANUFACTURER/CITY/STATE – Name of the manufacturer, the maintenance contractor, or Government activity which last repaired or overhauled the deficient item. For motor vehicles or components thereof, enter name of manufacturer of the vehicle or component, as appropriate.

7b. MANUFACTURER'S CODE – Code of the manufacturer as listed in Cataloging Handbook H4.1 (Name to code), Federal Supply Code for Manufacturers (United States and Canada).

7c. SHIPPER/CITY/STATE – When the shipper of an item is different from the manufacturer, also include the shipper's or supplier's name.

9. SERIAL/LOT/BATCH NO. – Manufacturer's serial, lot or batch number of deficient item as applicable.

10. CONTRACT; PURCHASE ORDER; REQUISITION; GOVERNMENT BILL OF LADING (GBL) NO. – Enter these numbers or any other available transportation document number in lieu of the GBL. Such numbers appear on the container, purchase document and/or the item. It is extremely helpful if these items are furnished when the material was supplied by GSA.

11. ITEM – Check the appropriate block; provide the dates manufactured and received in Block 12, if available.

13. OPERATING TIME AT FAILURE – Time item had been in operation since new, overhauled, or repaired when the deficiency was discovered, citing the appropriate performance element (miles, cycles, hours, etc.).

15c. QUANTITY DEFICIENT – Enter the quantity found deficient of those inspected.

15d. QUANTITY IN STOCK – Enter the quantity of material from the same manufacturer remaining in stock.

17. UNIT COST – Dollar value of the deficient item when known. Not applicable on reporting vehicles to GSA.

18. ESTIMATED REPAIR COST – Unit cost times number of units for replacement or estimated repair costs (including overhead) times number of units for correcting all the deficient items reported when it can readily be determined. Not applicable on reporting vehicles to GSA.

19. ITEM UNDER WARRANTY – Check if item is known to be covered by contractor warranty. If yes, provide expiration date.

21. ACTION/DISPOSITION – A check in the appropriate block to indicate the action taken or requested. When an exhibit or sample is being held, indicate the number of days in the space provided. (An exhibit or sample shall be held for a minimum of 30 calendar days from date the report is transmitted to the action point. Reporting activities are reminded that the packaging, packing and shipping containers are to be held along with the exhibits to facilitate investigation.) When none of the items indicate the actions or disposition taken or requested, check "Other" and identify the nature of the action taken or requested in Item 22.

23. LOCATION OF DEFICIENT MATERIAL – Address and location of deficient material.

24a. TO (Action Point) – Name, in the clear address, including zip code of the action point to which the report is being submitted.

24c. DATE – Enter the date the report was forwarded to an action point or the date the findings and recommendations were completed.

28. FINDINGS AND RECOMMENDATIONS OF INVESTIGATION – Include the findings and recommendations for resolution of complaint.

29. ACTION TAKEN – State the action taken to resolve the complaint.

30. RESULTS OF DEPOT SURVEILLANCE – Show results of depot surveillance and planned action (i.e., replacement or repair by contractor, disposal, issue, etc.)

STANDARD FORM 368 BACK (REV. 10-85)

Figure H-11 (cont'd)

Motor Equipment Utilization Record (DD Form 1970) (Trip Ticket)

MOTOR EQUIPMENT UTILIZATION RECORD

DATE (YYMMDD)	TYPE OF EQUIPMENT	REGISTRATION NO./SERIAL NO.	ADMINISTRATION NO.

ORGANIZATION NAME	ACTION	TIME	MILES	HOURS	FUEL	OIL
1ST OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					
2D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					
3D OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					
4TH OPERATOR (Last Name, First, M.I.)	IN				REPORT TO (Last Name, First, M.I.)	
OPERATOR'S SIGNATURE	OUT				DISPATCHER'S SIGNATURE	
	TOTAL					

DESTINATION	TIME		RELEASED BY (Signature)	REMARKS
	ARRIVE	DEPART		
FROM 1.				
TO 2.				
TO 3.				
TO 4.				
TO 5.				
TO 6.				
TO 7.				
TO 8.				
TO 9.				
TO 10.				
TO 11.				
TO 12.				
TO 13.				
TO 14.				
TO 15.				
TO 16.				

DD FORM 81 APR 1970 SN 0102-LF-001-9701 (Continue on Reverse) PREVIOUS EDITIONS MAY BE USED

Figure H-12

Motor Equipment Utilization Record (Trip Ticket) (Continued)

TO 17.				
TO 18.				
TO 19.				
TO 20.				
TO 21.				
TO 22.				
TO 23.				
TO 24.				
TO 25.				
TO 26.				
TO 27.				
TO 28.				
TO 29.				

INSTRUCTIONS

*1. *Date.* Enter the calendar date the equipment is to be used.

2. *Type of Equipment.* Enter the type of equipment as designated in the equipment log.

3. *Registration Number or Serial Number.* Enter the equipment registration number or serial number.

4. *Administration Number.* Enter the unit bumper or administrative number.

5. *Organization Name.* Enter the organization to which the equipment is assigned.

*6. *Operator.* Enter the name of the equipment operator.

7. *Operator's Signature.* The equipment operator (item 6) will enter signature immediately upon receipt of equipment..

*8. *Time.* Indicate time to the nearest 5 minutes using the 24-hour clock.

a. *In.* Enter time equipment was returned from dispatch or use.

b. *Out.* Enter the time the equipment was released for operation by the dispatcher.

c. *Total.* Enter total time the equipment was in the possession of the operator. Time is obtained by subtracting the time listed in "Out" line from that listed on the "In" line.

*9. *Miles.* Will be recorded to the nearest whole mile.

a. *In.* The operator will enter the mileage reading when the equipment is returned. If odometer is inoperative, enter estimated mileage

b. *Out.* The dispatcher will enter the mileage reading at the time of dispatch.

c. *Total.* Enter the difference between the "Out" and "In" mileage.

*10. *Hours.* Will be recorded to the nearest whole hour. On those items which require servicing on an hourly basis and are not equipped with an hour meter, enter the estimated hours of operation.

a. *In.* The operator will enter the hour meter reading upon completion of the equipment usage.

b. *Out.* The dispatcher will enter the hour meter reading prior to equipment release.

c. *Total.* Enter the total hours dispatched for operation.

11. *Fuel/Oil.* Enter the amount of fuel (gallons) and/or oil (quarts) obtained for the equipment.

*12. *Report To.* Enter the name of the individual to whom the operator is to report.

13. *Dispatcher's Signature.* Self-explanatory

14. *Destination.* Indicate each location at which a trip begins and ends. Normally this starts from the equipment pool ("From" Line) and ends at the same place after one or more intervening destinations.

*15. *Time.* All time will be recorded using the 24-hour clock, rounded off to the nearest 5 minutes.

a. *Arrive.* Enter the arrival time at each destination.

b. *Depart.* Enter the departure time from the motor pool and each succeeding location.

16. *Released By.* The person in charge of equipment on dispatch will release by signing on the line indicating the destination where the equipment was released to the operator. Upon termination of equipment used, but not moved, the person in charge will release the equipment by signing in the top block of this column.

17. *Remarks.* The remarks column will be used by the operator to record unusual operation or abnormal occurrences during operation, or other information as directed.

*Items marked with an asterisk (*) have been registered in the DOD Data Element Program.

*U.S. GPO:1987-704-009/46557

Figure H-12 (cont'd)

Dispatcher's Log: (NAVFAC Form 11240/2)

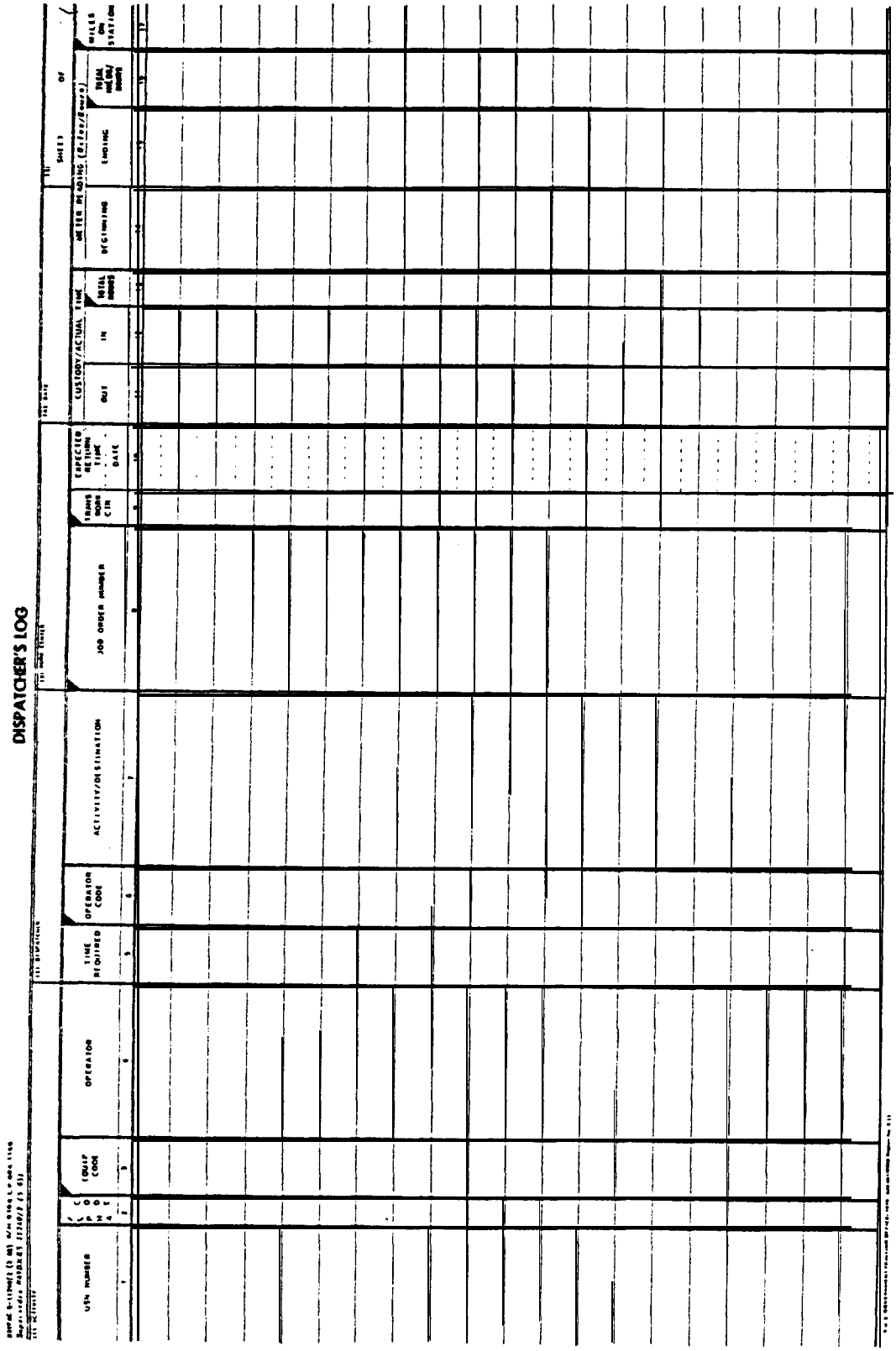


Figure H- 13

Group Transportation and Base Mass Transit Services Summary
(Sample)

From: Commanding Officer, Naval Station Anywhere
To: Commander, Naval Facilities Engineering Command
Via: Commanding Officer, Pacific Division, Naval Facilities Engineering Command

Subj : Annual Report for Transit Facility Control # 000000 for FY 96 (Group Home-to-work Transportation and/or Base Mass Transit Bus Services)

1. The following report is submitted covering transportation provided under Title 10, U. S. Code, Section 2632:

(a) Location: Place. State and/or County
Reporting Activity: Naval Station Anywhere
Activity Population Military: 9999 Civilian: 9999

(b) Navy-owned vehicles: USN Number, EC, and seating capacity.
91-00000 0063 36

(c) Leased Vehicles: Vehicle type, seating capacity, annual cost to lease.
_____ $

(d) Rate of fare: per trip 000 Round trip .75

(e) Average number passengers per day 30

(f)

(1) Total receipts	$ 6648.00
(2) Expenditures (Maintenance)	$ 3700.00
(3) Expenditures (Operations) including operators wages	$ 2570.00
(4) Total expenditures	$ 6270.00

(g) Total miles operated by facility during fiscal year 10,175

(h) Appropriation chargeable 0000000

(i) Disbursing Officer: Name and Symbol Number: A.B. See 0000

(j) Accounting Station Naval Facilities 00000

2. The receipts and expenditures shown above represent all operations of the transportation facility under Title 10, U. S. Code, Section 2632.

3. A statement indicating the continuing validity of this requirement for transportation is attached.

Signature and Title

Figure H- 14

Activity Utilization Report (NAVFAC Form 11240/9)

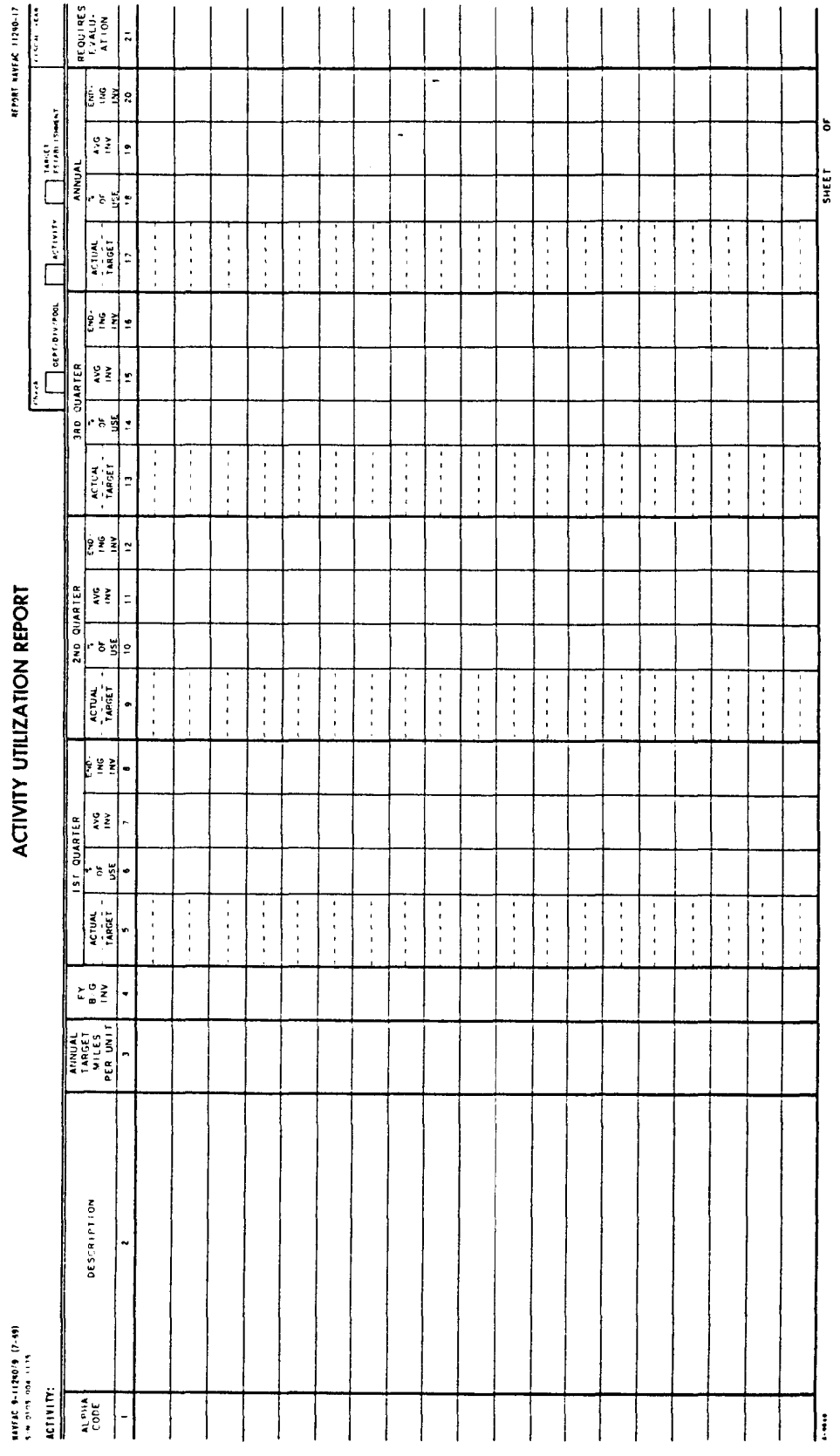


Figure H-15

Figure H-15

ALPHA CODES

Alpha Code	Description
A	Sedans
B	Bus-BOC-37 passengers and under
C	Bus-BOC-38 passengers and over
D	Bus-Integral
E	Station Wagon
F	Ambulances
G	Truck, 1/2 Ton Pickup
H	Panels-Carryalls-Truck 1/4-3/4 Ton
I	Truck and Truck Tractor - 1 Ton
J	Truck and Truck Tractor - 1-1/2 - 2 Ton
K	Truck and Truck Tractor - 2-1/2 Ton
L	Truck and Truck Tractor - 3 - 4 Ton
M	Truck and Truck Tractor - 5 - 10 Ton
N	Truck and Truck Tractor - 11 Ton and over
O	Trucks, Special Purpose or Design
P	Trailers
Q	Aircraft Ground Support Equipment
R	Material Handling Equipment (MHE)
S	Construction Equipment (utilization reporting required)
T	Construction Equipment (utilization reporting not required)
U	Grounds Maintenance Equipment
V	Railway Cars
W	Powered Railway Equipment
X	Fire Fighting Equipment
Y	Weight Handling Equipment (WHE)
Z	Miscellaneous transportation equipment

Figure H-16

U.S. Government Vehicle Operator's Identification Card
(OF-346)

OF 346 11/85 USOPM FPM Chapter 930	**U.S. Government Motor Vehicle Operator's Identification Card**	Card No.	Restrictions
Name of Operator *(Not Transferable)*	Sex	Signature of Operator *(Not valid until signed)*	QUALIFIED TO OPERATE
			Type Vehicle and/or Equipment / Capacity / Qualifying Official
Date of Birth	Social Security No.	Name and Location of Issuing Unit	
Height / Weight / Hair Color / Eye Color			
		Signature and Title of Issuing Official	OTHER RECORDS *(Optional)*
Date Issued	Date Expires		
The holder of this card is qualified to operate U.S. Government vehicles and/or equipment specified, subject to the restrictions set forth on the other half of this card. Card must be carried at all times when operating Government vehicles.			NSN 7540-00-634-3999 50346-101

(Front)

PRIVACY ACT STATEMENT

Solicitation of this information is authorized by 40 U.S.C. 471 and 5 CFR Part 930 Subpart A, which require OPM to regulate Federal employees use of Government-owned or leased motor vehicles. Executive Order 9397 authorized agencies to use the Social Security Number (SSN) as an identifier in government personnel record systems. Your SSN and other data provided is used primarily by the National Drivers Register Service to check your driving record. Other possible uses include disclosure to former employers or law enforcement agencies to obtain additional related information. Furnishing your SSN as well as the other data is voluntary. However, failure to provide any of the data requested may result in your not being issued a U.S. Government Motor Vehicle Operator's Identification Card. When driving a motor vehicle is a prerequisite to employment, you may not be able to obtain/retain employment without such a card.

(Back)

Figure H- 17

Construction Equipment Operator's License
(NAVFAC 11260/2)
(Sample)

CONSTRUCTION EQUIPMENT OPERATOR LICENSE
NAVFAC 11260/2 (9-74)
Supersedes NAVDOCKS 2754
S/N 0105-LF-004-1510

CARD NO.
N62688-0000-6-30

NAME OF OPERATOR
E. J. McGee

DATE ISSUED
8-22-95

DATE EXPIRES
6-19-97

DATE OF BIRTH	COLOR OF HAIR	COLOR OF EYES	HEIGHT	WEIGHT
6-19-50	Brown	Blue	5'11"	180lb.

THE HOLDER OF THIS CARD IS QUALIFIED TO OPERATE U.S. GOVERNMENT HEAVY EQUIPMENT AS SPECIFIED ON REVERSE OF THIS CARD

SIGNATURE OF ISSUING OFFICIAL

TITLE
CERTIFIED EXAMINER

SIGNATURE OF OPERATOR

TITLE OF POSITION
Equipment Operator

NOT TRANSFERABLE *Card must be carried at all times when operating Government equipment.*

(Front)

QUALIFIED TO OPERATE

EQUIPMENT TYPE	SIZE AND CAPACITY	ATTACHMENT	TYPE CON-TROLS	EXAM.
Front Loader	3/4 YD	Bucket	Hyd	EHB
Dozer	75DBHP	Blade	Hyd	EHB
Grader	12'MLBD	All	Hyd	EHB
Excavator	40,000 lbs	Bucket	Hyd	EHB

☆ U.S. Government Printing Office: 1984—705-012/7317 2-1

(Back)

Figure H-18

Application for Construction Equipment Operator's License (NAVFAC 11260/1) (Sample)

Read the PRIVACY ACT STATEMENT on reverse before completing this application

APPLICATION FOR CONSTRUCTION EQUIPMENT OPERATOR LICENSE

NAVFAC 11260/1 (REV. 5/76)

PART I – APPLICATION

1. NAVAL ACTIVITY	2. APPLICANT'S NAME	3. RANK, RATE OR CIVILIAN STATUS
Naval Station Norfolk	E. J. McGee	Equipment Operator WG10

4. DEPARTMENT, DIVISION AND/OR SHOP ASSIGNED TO	5. APPLICANT'S JOB TITLE
P.W.D. Transportation Division	Heavy Equipment Operator

6. DESCRIPTION OF EQUIPMENT LICENSE REQUESTED

(a) TYPE OF EQUIPMENT	(b) TYPE OF CONTROL	(c) TYPE OF ATTACHMENT
Excavator	Hydraulic	Bucket

7. STATEMENT OF QUALIFYING EXPERIENCE

Applicant has had 4 years experience in private contractor employment. He has had two years with the Navy as a heavy equipment Operator.

8. DESCRIPTION OF EQUIPMENT APPLICANT IS CURRENTLY LICENSED TO OPERATE

Employee is presently licensed to operate Front End Loaders, Tractor Dozers, and Motor Graders

9. SPONSOR'S STATEMENT OF APPLICANT'S READINESS AND/OR PREPARATORY TRAINING FOR TEST *(NOTE: The sponsor can be either a qualified instructor or licensed operator)*

The applicant, Mr. McGee has demonstrated proficiency in operating the equipment' he has made application for during a 6 week training period.

Signature _____
Sponsor

PART II – REQUEST FOR ADMINISTERING TESTS AND EXAMINATIONS AND ISSUING LICENSE

FROM: Transportation Division Director Date 15 Aug 199_

TO: P.W.D. License Examiner

It is requested that the license for equipment described in item 6 above be issued to this applicant upon his successful completion of the required examinations and tests.

Signature _____

Title _____
Department, Division or Shop Supervisor

(OVER)

Figure H-19

Application for Construction Equipment Operator License (NAVFAC 11260/1) (Sample)

PART III – ACTION ON SUBJECT APPLICATION

FROM: P.W.D. License Examiner
TO: Transportation Division Director

Date 20 Aug 199_

[X] Arrangements will be made to proceed with examinations and tests as requested.

[ ] No action will be taken on this application for the following reason:

Examination scheduled for 21 Aug 199_.

Signature _____

Title _____

PART IV – LICENSE ACTION

FROM: P.W.D. License Examiner
TO: Transportation Division Director

Date 22 Aug 199_

[X] The subject license has been issued to the applicant as requested. License No. N62688-0000-6-30

[ ] The applicant has failed his physical examination.

[ ] The applicant has failed to qualify for the subject license.

_____ number of days *(the established waiting period)* must elapse before a new application may be made for this license.

Signature _____

Title _____

PRIVACY ACT STATEMENT

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PL-93-579) (N00011 C02) which require that Federal agencies must inform individuals who are requested to furnish information about themselves as to the following facts concerning the information requested.

1. AUTHORITY: 5 U.S.C. 301 Departmental Regulations
2. PRINCIPAL PURPOSE(S): To apply for a license to operate government-owned vehicles.
3. ROUTINE USE(S): To be used by agency officials to determine the employee's eligibility to operate government-owned vehicles. May be used by safety and security officials to verify individual's qualifying experience.
4. MANDATORY OR VOLUNTARY DISCLOSURE: The disclosure of information requested is voluntary. However, failure to complete the form will result in nonissuance of license.

NAVFAC 11260/1 (BACK) 2 ☆U.S. Government Printing Office: 1982—666-166/6784 2-1

Figure H- 19 (con' t)

CONSTRUCTION EQUIPMENT OPERATOR LICENSE RECORD
NAVFAC 11260/3 (Rev. 3-76)
S/N 0105-LF-012-6015

LICENSE NO.	NAME	DATE OF BIRTH	SPECIAL REQUIREMENTS FOR VISION	HEARING	OTHER
N62688-0000-6-30	E. J. McGee	6-19-50	None	Hearing Aid required	N/A

EQUIPMENT LICENSED TO OPERATE

EQUIPMENT TYPE DATA			LICENSING DATA						
BASIC UNIT	ATTACHMENT	TYPE OF CONTROL	ISSUING ACTIVITY	EXAMINER	DATE ISSUED	DATE REVOKED	EXPIRATION DATE	RENEWAL DATE	DATE OF PHYSICAL EXAM.
Front Loader	Bucket	Hyd	PWD NAVSTA NORFOLK	E. H. Barnes	7-20-93		7-20-95	6-19-95	6-12-95
Dozer	Blade	Hyd	PWD NAVSTA NORFOLK	E. H. Barnes	7-20-93		7-20-95	6-19-95	6-12-95
Grader	All	Hyd	PWD NAVSTA NORFOLK	E. H. Barnes	7-20-93		7-20-95	6-19-95	6-12-95
Excavator	Bucket	Hyd	PWD NAVSTA NORFOLK	E. H. Barnes	7-20-93		7-20-95	6-19-95	6-12-95

NOTE: INFORMATION ON THIS FORM IS SUBJECT TO SAFEGUARD AND DISCLOSURE CONDITIONS OF THE PRIVACY ACT OF 1974.

*U.S. Government Printing Office: 1988-505-007/90716 2-1

Figure H-20

Construction Equipment Operator License Record (NAVFAC 11260/3) (Sample)

OUT OF SERVICE ANALYSIS
(Sample)

Date _____

		QTY	INV	% OF INV
1.	AUTOMOTIVE (A-N)			
	1. Inventory		243	
	2. Out of Service:			
	A. Waiting (OSW)	7		2.9
	B. Maintenance (OSM)	2		.8
	C. Parts (OSP)	16		6.6
	D. Total (OS)	25		10.3
II.	OTHER VEHICLE/EQUIPMENT (O-Y) LESS R			
	1. Inventory		228	
	2. Out of Service:			
	A. Waiting (OSW)	5		2.2
	B. Maintenance (OSM)	6		2.6
	C. Parts (OSP)	13		5.7
	D. Total (OS)	24		10.5
III.	MATERIAL HANDLING EQUIPMENT R			
	1. Inventory		35	
	2. Out of Service:			
	A. Waiting (OSW)	0		0
	B. Maintenance (OSM)	1		2.9
	C. Parts (OSP)	4		11.4
	D. Total (OS)	5		14.3
IV.	MISCELLANEOUS (Z)			
	1. Inventory		72	
	2. Out of Service:			
	A. Waiting (OSW)	0		0
	B. Maintenance (OSM)	1		1.4
	C. Parts (OSP)	2		2.8
	D. Total (OS)	3		4.2
V.	TOTAL			
	1. Inventory		578	
	2. Out of Service:			
	A. Waiting (OSW)	12		2.1
	B. Maintenance (OSM)	10		1.7
	C. Parts (OSP)	35		6.1
	D. Total (OS)	57		9.9
VI.	REIMBURSABLE ($)			
	1. Inventory		116	
	A. Waiting (OSW)	1		.9
	B. Maintenance (OSM)	0		.0
	C. Parts (OSP)	0		.0
	D. Total (OS)	1		.9

Figure H-21

Operator's Inspection Guide and Trouble Report
(NAVFAC 9-11240/13)

OPERATOR'S INSPECTION GUIDE AND TROUBLE REPORT	
REGISTRATION NO.	ODOMETER READING
Use this form as a guide when performing before and after operation inspections. Check (✓) items that require servicing by maintenance personnel.	

	1. DAMAGE *(Exterior/Interior/Missing Components)*
	2. LEAKS *(Oil, Gas, Water)*
	3. TIRES *(Check inflation, abnormal wear)*
	4. FUEL, OIL, WATER SUPPLY *(Antifreeze in season)*
	5. BATTERY *(Check water level, cables, etc.)*
	6. HORN
	7. LIGHTS/REFLECTORS/MIRRORS/TURN SIGNALS
	8. INSTRUMENTS *(Oil, Air, Temperature, etc.)*
	9. WINDSHIELD WIPER
	10. CLEAN WINDSHIELD/VEHICLE INTERIOR
	11. CARGO, MOUNTED EQUIPMENT
	12. STEERING
	13. SAFETY DEVICES *(Seat belts, flares, etc.)*
	14. DRIVE BELTS/PULLEYS
	15. BRAKES *(Drain air tank when equipped)*
	16. OTHER *(Specify in "Remarks")*

DATE	OPERATOR'S SIGNATURE

REMARKS

NAVFAC 9-11240/13 (12-69) ☆ U.S.G.P.O.: 1989-627-001/80143 A-23796
Supersedes DD Form 1358
S/N 0105-LF-004-1195

Figure H-22

Shop Repair Order (NAVFAC 9-11200/3A)

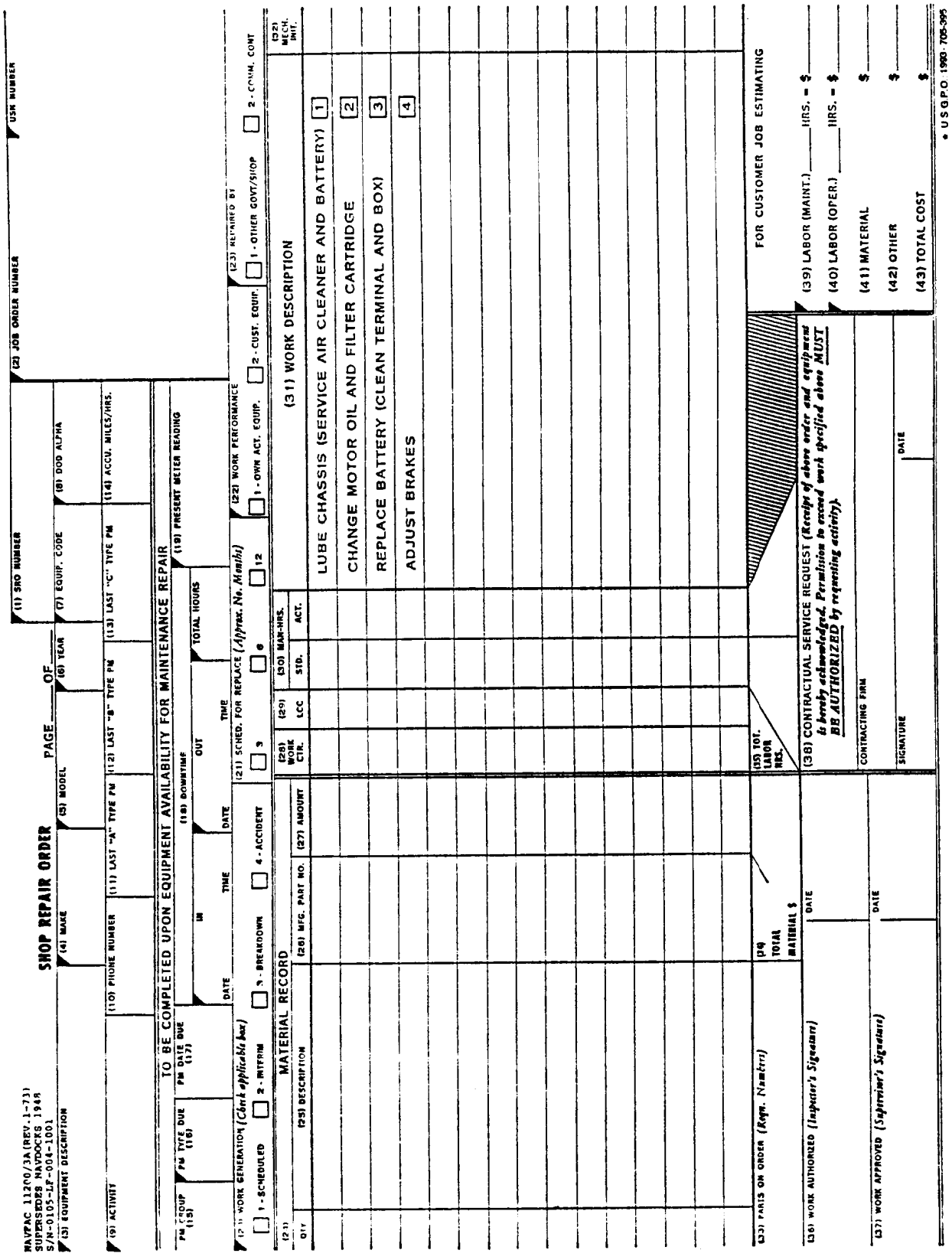


Figure H-23

NAVAIR 9-11500/ABIB-671
S/N 0105-004-1020

SHOP REPAIR ORDER
(Continuation Sheet)

PAGE ____ OF ____

(1) SRO NUMBER | (2) JOB ORDER NO | USN NUMBER

MATERIAL RECORD

(24) QTY	(25) DESCRIPTION	(26) MFG. PART NO.	(27) AMOUNT

(28) WORK CTR.	(29) LCC	(30) MAN-HRS. STD.	(30) MAN-HRS. ACT.	(31) WORK DESCRIPTION	(32) MECH. INIT.

TOTAL LABOR HRS.

$

NOTE: Add the Total Amount of Column (27) to Item (34) on the original SRO. Add Total Hours of Col. 30 to Item (35) on the original SRO.

Figure H-23 (Cont'd)

Maintenance Inspection/Service Record
(NAVFAC 11200/46)

MAINTENANCE INSPECTION/SERVICE RECORD

NEXT MAINTENANCE DUE MILES/HOURS:	DATE	
➡ * *When NO service is performed, POST DATA from PRIOR STICKER*		
SERVICES PERFORMED	* MILES/HOURS	* DATE
☐ OIL CHANGE		
☐ FILTER CHANGE		
☐ LUBRICATE CHASSIS		
☐ SERVICE AIR CLEANER		
☐ ENGINE TUNE-UP		
☐ SMOG CONTROL DEVICE		
☐ SAFETY INSPECTION		

LAST PM *(circle type)*	A	B	C

NAVFAC 11200/46 (8-70)
Supersedes NavDocks 9-11200/5

Figure H-24

Operator's Daily PM Report, Construction and Allied Equipment (NAVFAC Form 11260/4)
(Sample)

OPERATOR'S DAILY PM REPORT
CONSTRUCTION & ALLIED EQUIPMENT
NAVFAC 11260/4

Use Reverse Side for Remarks
Explanatory Notes on Reverse Side.

USN NO. 44-05178
FUEL 12
OPR HRS 3

NO.	ITEM	OK ✓	SERVICES PERFORMED
1	RADIATOR SOLUTION		
2	GEN. & FAN BELT		ADJUSTED
3	ENGINE OIL LEVEL		
4	AIR CLEANER		
5	PRECLEANER		
6	BATTERY		ADDED WATER
7	HYD. OIL LEVEL		
8	LUBRICATION		
9	TIRE CONDITION		
10	SAFETY EQUIP.		
11	GENERAL COND.		
12	FUEL LEVEL		ADDED 12 GAL
13	INSTRUMENTS		
14	SHUTDOWN PRECAUTIONS		
15	OTHER		

DATE 12/11/88

OPERATOR'S SIGNATURE R.R. Ryan

OPERATOR'S DAILY SERVICES

1	Fill radiator to proper level. Rempve debris from core.
2	Inspect belts for proper tension, alinements and condition.
3	Fill to proper level, inspect for leaks.
4	Inspect and clean oil bath and dry type as required.
5	Clean filter jar as often as conditions warrant.
6	Visually inspect for conditions. Fill to proper level.
7	Fill to proper oil levels and inspect for leaks.
8	Perform daily lubrication services as designated by the Transportation Division.
9	Check tire pressure with gage. Inflate as necessary to recommended pressure. Remove glass, stones, nails, etc.
10	Inspect for condition, safety guards, boom stops, radius indicators, warning devices, ladders, fire extinguishers, etc.
11	Inspect unit for general condition. Correct or report any deficiencies requiring mechanics attention.
12	Fill fuel tank as necessary.
13	Check all gages and meters for proper operation.
14	Perform prescribed shutdown services such as securing machines, draining air tanks, cover exhaust stacks, close hoods, etc.
15	List any deficiencies noted during operation.

REMARKS:

Figure H-25

DoD PROPERTY RECORD
(DD 1342)

DOD PROPERTY RECORD	1. ☐ ACTIVE ☐ INITIAL ☐ IDLE ☐ CHANGE	2. JULIAN DATE	3. I.D./GOVERNMENT TAG NO.	Form Approved OMB No. 22-R0209

SECTION I - INVENTORY RECORD

4. COMMODITY CODE	5. STOCK NUMBER	6. ACQUISITION COST	7. TYPE CODE	8. YR OF MFG	9. POWER CODE	10. STATUS CODE	11. SVC CODE	12. COMMAND CODE	13. ADM OFFICE CODE

14. NAME OF MANUFACTURER	15. MFR'S CODE	16. MANUFACTURER'S MODEL NO.	17. MANUFACTURER'S SERIAL NO.

18. LENGTH	19. WIDTH	20. HEIGHT	21. WEIGHT	22. CERTIFICATE OF NON-AVAILABILITY NUMBER	23. PEP NO.	24. ARD	25. CONTRACT NUMBER

26. DESCRIPTION AND CAPACITY

CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

27 ELECTRICAL CHARACTERISTICS

QUANTITY	HORSEPOWER	VOLTS	PHASE	CYCLE	AC	DC	SPEED	TYPE AND FRAME NUMBER

28. PRESENT LOCATION	28a. DIPEC CONTROL NO.
	29. POSSESSOR CODE

SECTION II - INSPECTION RECORD

		YES	NO			YES	NO
30.	CAN ITEM BE STORED AND MAINTAINED ON SITE FOR AT LEAST 12 MONTHS?			42.	MUST ITEM BE REPAIRED/REBUILT/OVERHAULED TO PERFORM ALL FUNCTIONS? $		
31.	HAS ITEM BEEN REBUILT OVERHAULED? IF SO, WHEN? DATE			43.	DO QC RECORDS INDICATE SATISFACTORY PERFORMANCE? IF NO, EXPLAIN UNDER REMARKS BELOW		
32.	HAS ITEM BEEN MODIFIED FROM ORIGINAL CONFIGURATION? IF SO, EXPLAIN UNDER REMARKS BELOW			44.	ARE MANUALLY OPERATED MECHANISMS IN WORKING ORDER? IF NO, DESCRIBE UNDER REMARKS BELOW		
33.	WAS ITEM INSPECTED UNDER POWER? IF NOT EXPLAIN UNDER REMARKS BELOW			45.	ARE SCALES, DIALS AND GAUGES WORKING AND READABLE? IF NO, DESCRIBE UNDER REMARKS BELOW		
34.	ARE MAINTENANCE COSTS NORMAL? IF NOT EXPLAIN UNDER REMARKS BELOW			46.	ARE HYDRAULIC PUMPS, VALVES, AND FITTINGS OPERATING PROPERLY? IF NO, DESCRIBE UNDER REMARKS BELOW		
35.	ARE SAFETY DEVICES ADEQUATE AND SATISFACTORY? IF NOT, EXPLAIN UNDER REMARKS BELOW			47.	ARE ELECTRONIC SYSTEMS AND CONTROLS OPERATING PROPERLY? IF NO, DESCRIBE UNDER REMARKS BELOW		
36.	ARE INSTALLATION INSTRUCTIONS AVAILABLE FOR TRANSFER?			48.	HOW MANY HOURS WAS ITEM USED BY CURRENT POSSESSOR?		
37	ARE OPERATING INSTRUCTIONS AVAILABLE FOR TRANSFER?			49.	EXPLAIN UNDER REMARKS LAST USE OF EQUIPMENT DESCRIBED IN ITEM 26 ABOVE		
38.	WAS ITEM LAST USED ON A FINISHING OPERATION?			50.	ESTIMATED COST FOR PACKING, CRATING, HANDLING $		
39	WILL ADJUSTMENTS OR CALIBRATION CORRECT DEFICIENCIES?			51.	INDICATE DATE ITEM WILL BE AVAILABLE FOR REDISTRIBUTION		
40.	IS ITEM SEVERABLE WITHOUT DAMAGE TO COMPONENTS? IF NOT GIVE THEIR REPLACEMENT COST $			52.	CONDITION CODE		
41	IS ITEM IN OPERABLE CONDITION?			53.	OPERATING TEST CODE.		

SECTION III - REMARKS

54 REMARKS

REMARKS CONTINUED ON REVERSE SIDE ☐ YES ☐ NO

SECTION IV - DISPOSITION RECORD

55 CONSIGNEE (NAME AND ADDRESS, INCLUDING ZIP CODE)	56. TYPE OF DISPOSITION ☐ DONATION ☐ DESTRUCTION ☐ SALE ☐ ABANDONMENT	56a. DATE OF DISPOSITION AND PROCEEDS IF SOLD

SECTION V - VALIDATION RECORD

57 VALIDATION (TYPED NAME(S) AND SIGNATURES(S))

DD FORM 1 MAY 70 1342 S/N 0102-LF-001-3420 EDITION OF 1 AUG 77 MAY BE USED UNTIL EXHAUSTED PAGE 1 OF 2 PAGES

Figure H-26

PREPARATION INSTRUCTIONS FOR DoD PROPERTY RECORD, DD 1342

Block	Entry
1	Active. Initial. Idle. Change. To register a new acquisition insert an "X" in the "Active" and "Initial" Blocks. Insert an "X" in the "Change" Block for equipment modification, alteration, or conversion.
2	Julian Date. Enter the five-digit Julian Date when the form was prepared.
3	I.D./Government Tag No. Enter the USN/USNG registration number, if known.
4	Commodity Code. Leave blank.
5	Stock Number. Enter the National Stock Number (NSN), if known. The item NSN is usually shown in Block 16 of DD Form 250.
6	Acquisition Cost. Enter the contract cost in whole dollars from the Contract, or from Block 19 of DD Form 250. Include the cost of standard attachments procured and delivered with the basic unit.
7	Type Code. Enter "4."
8	Yr of Mfg. Enter the last two digits of the year of manufacture.
9	Power Code. Enter "90" for diesel-engine driven; enter "91" for gasoline-engine driven; or leave blank for nonengined.
10	Status Code. Leave blank.
11	SVC Code. Service Vehicle Category. Leave blank.
12	Command Code. Leave blank.
13	ADM Office Code. Enter the six-digit UIC of the equipment allowance holder, such as the Command that submits the annual allowance and requirements review. When unknown, leave blank.
14	Name of Manufacturer. Self-explanatory.
15	Mfg's Code. Enter the five-digit CAGE code (Commercial and Government Entity) shown in Block 9 on the DD Form 250.

16 Manufacturer's Model No. Self-explanatory.

17 Manufacturer's Serial No. Enter the chassis serial number.

18 Length. Enter the shipping length in inches.

19 Width. Enter the shipping width in inches.

20 Height. Enter the shipping height in inches.

21 Weight. Enter the shipping weight in pounds.

22 Certificate of Nonavailability Number. Enter the Military Interdepartmental Purchase Request (MIPR) number under which the item was procured, as shown in Block 16 on the DD Form 250.

23 PEP No. Leave blank.

24 ARD. Leave blank.

25 Contract Number. Enter the contract number under which the item was procured as shown in Block 1 on the DD Form 250.

26 Description and Capacity. Enter the Equipment Code (EC) long description. Continue Block 26 on the reverse side and enter the following data. Applicable information is mandatory.

A. *General*
- (1) Warranty period
- (2) Warranty mileage
- (3) Line setting code
- (4) Date equipment received

B. *Power Data*
- (1) Primary engine
  - (a) Fuel type
  - (b) Make
  - (c) Model and series
  - (d) Serial number
  - (e) Engine specification/build code
- (2) Secondary engine
  - (a) Fuel type
  - (b) Make
  - (c) Model and series
  - (d) Serial number
  - (e) Engine specification/build code

Figure H-26 (cont'd)

Block	Entry

26 (Continued)

C. *Transmission Data*
   (1) Main
      (a) Type and speeds
      (b) Make
      (c) Model and series
      (d) Transmission specification/build code
   (2) Auxiliary
      (a) Type and speeds
      (b) Make
      (c) Model and series
      (d) Transmission specification/build code

D. *Body Data*
   (1) Cab type, capacity, and model number
   (2) Cargo body type, capacity, and model number
   (3) GVW, wheel base, and chassis model number

E. *Axle Data*
   (1) Front axle ratio, type, make, model, Mfr. specification/build code
   (2) Rear axle ratio, type, make, model, Mfr. specification/build code

F. *Wheel and Tire Data*
   (1) Wheels and drive data
   (2) Front
      (a) Quantity
      (b) Size, ply, load range, tube or tubeless
      (c) Tread (Mfr. tread design number)
      (d) Wheel type, number of lugs
   (3) Rear
      (a) Quantity
      (b) Size, ply, load range, tube or tubeless
      (c) Tread (Mfr. tread design number)
      (d) Wheel type, number of lugs

G. *Track Data*
   (1) Pad type and size

H. *Hydraulic System Data*
   (1) Pump type, make, model, Mfr. part number

(2) Cylinders make, model, Mfr. part number

Figure H-26 (cont'd)

Block	Entry

26 (Continued)

I. *Brake System Data*
- (1) Type (hydraulic, air, electric)
- (2) Disc or drum
- (3) S-cam or wedge

J. *Battery Data*
- (1) Quantity
- (2) BCI code (for example, 2HN, 6TN)
- (3) Post type
- (4) Size, L/W/H
- (5) AMPs
- (6) Volts

K. *Manuals (operator, technical, and parts)*

L. *Collateral Equipage and Attachments*
- (1) Fire extinguisher
  - (a) Type
  - (b) Quantity
  - (c) Size

M. *Additional Data and Special Features*
- (1) If a water distributor:
  - (a) Water pump data
  - (b) Sprinkler data
  - (c) Tank data
- (2) If dump truck:
  - (a) Power transfer data
- (3) Fuel and cooling systems capacities
- (4) If generator set:
  - (a) Voltage
  - (b) Capacity
  - (c) Phase
  - (d) Cycle
  - (e) Amps

N. *Options and Accessories Record*
- (1) Power takeoff
- (2) Attachments (include serial number, part number, and all parts data possible)

Figure H-26 (cont'd)

Block	Entry

26 (Continued)

O. *Parts Data* (enter for each: nomenclature, Mfr. part number)
(1) Starter
(2) Generator/alternator
(3) Regulator
(4) Belt set fan
(5) Belt set generator/alternator
(6) Belt set power steering
(7) Element, filter, fuel, primary & secondary
(8) Element, filter, water
(9) Element, filter, oil, primary & secondary
(10) Element, filter, hydraulic
(11) Element, filter, air, primary & secondary
(12) Exhaust system, dual or single, vertical or horizontal
(13) Spark plug
(14) Fuel/injection pump
(15) Carburetor

NOTE: *Manufacturers identify vehicle component parts with unit/division codes. Forward copies of all line set tickets, bill of materials, calibration codes, service parts identification labels, certification labels, or any parts identification information associated with a piece of equipment, with the equipment's DD Form 1342.*

27 Leave blank.

28 Present Location. Enter name and location of the Activity in possession (custodian) of the item.

28A Leave blank.

29 Possessor Code. Enter the six-digit UIC of the equipment custodian. The UIC must match the Activity listed in Block 28.

30 to 51 Leave blank.

52 Condition Code. Enter the equipment condition code. Condition Codes are listed in Appendix I.

53 Leave blank.

Figure H-26 (cont'd)

Block	Entry

54. Remarks.

A. *Transaction Code.* Enter the applicable single digit Transaction Code (TC) that designates the reason for the addition, deletion, or correction to inventory records. Transaction codes are defined as follows:

Transaction Code	Definition
1	Acquisition: Initial receipt of new procurement from other military departments, government agencies, or commercial sources. Include receipt from stock at NCBCs in Gulfport and Port Hueneme.
2	Acquisition: By transfer from the Navy activities or Navy stock activities, other than those listed in Transaction Code 1.
3	Disposition: Transfer to another Navy activity or Navy stocking activity.
4	Disposition: Disposition by sale, scrap, donation, loss, or transfer to non-Navy activities.
5	Status Code Change: Used only when a previously reported status code in Block 54B is being changed.
6	Modification: Change in previously reported equipment description (Block 26) and Equipment Code.
7	Record Correction: Used only when any of the following previously reported data need to be changed - - year of manufacture, name of manufacturer, equipment description (without changing EC), bureau code, DoD code (without changing EC), and state code.

Figure H-26 (cont'd)

B. *Status Code.* Enter the applicable Status Code (SC). Status Code is a single-alpha code that designates the condition for assignment of the item. Status Codes are defined as follows:

Status Code	Definition
C	Contract: Navy-owned equipment assigned to contractors who perform on government contracts.
G	General Services Administration owned equipment leased for Navy use.
H	Held: Navy-owned equipment held for rehabilitation or reassignment.
M	MUSE: Mobile Utilities Support Equipment
O	Operational: Navy-owned equipment in regular use (other than Status Code T)
T	Tactical Units: Navy-owned equipment assigned to the following operating forces not listed in the *Naval Shore Activities Catalog*, OPNAV P09B23-105, Part 2: Active Ships; Naval Mobile Construction Battalions (NMCB); Naval Cargo Handling and Port Groups (NAVCHAPGRU); Amphibious Construction Battalions (PHIBCB); Construction Battalion Units (CBU); Naval Construction Force (NCF); Naval Construction Training Centers (NAVCONSTRACEN); and Special Operating Units (SOU).

C. *Equipment Code.* Enter the six-digit Equipment Code (EC).

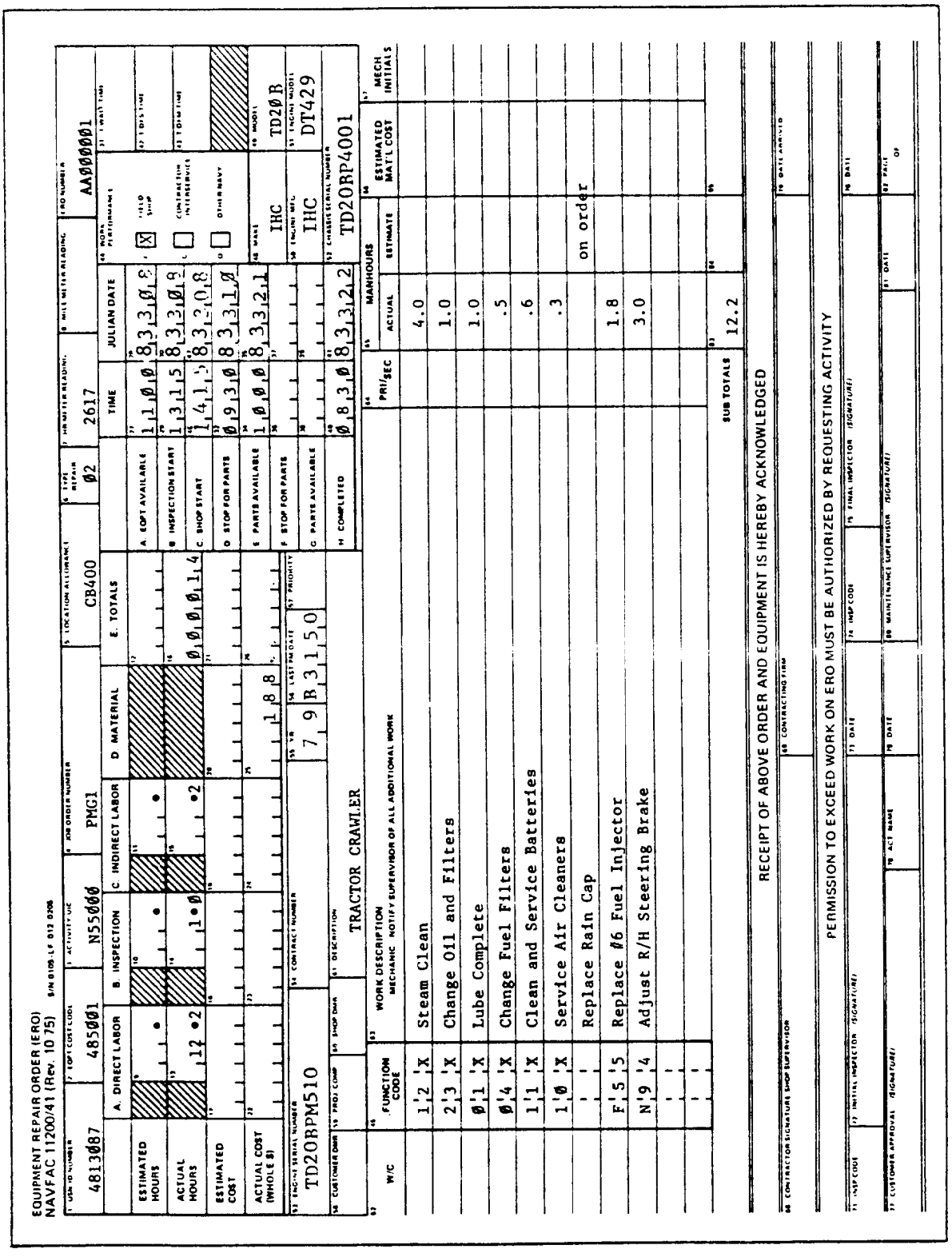
D. *Date.* Enter the date received.

55,56,56A Leave blank.

57 Validation. Enter the name and title of the person who furnishes the technical information.

NOTE: *Page 2 does not concern CASEMIS. Make no entries.*

Equipment Repair Order (NAVFAC 11200/41A



EQUIPMENT REPAIR ORDER (ERO)
NAVFAC 11200/41 (Rev. 10-75)

1 USER ID NUMBER	2 TOT COST CODE	3 ACTIVITY UIC	4 JOB ORDER NUMBER	5 LOCATION ALLOWANCE	6 TYPE REPAIR	7 METER READING	8 MILE METER READING	9 ERO NUMBER
4813087	485001	N55000	PMG1	CB400	02	2617		AA000001

	A. DIRECT LABOR	B. INSPECTION	C. INDIRECT LABOR	D. MATERIAL	E. TOTALS
ESTIMATED HOURS					
ACTUAL HOURS	12.2	1.0			0.0 0.0 11.4
ESTIMATED COST					
ACTUAL COST (WHOLE $)				188	

	TIME	JULIAN DATE
A. EQT AVAILABLE	1100	83108
B. INSPECTION START	1315	83109
C. SHOP START	1411	83108
D. STOP FOR PARTS	0930	83110
E. PARTS AVAILABLE	1000	83121
F. STOP FOR PARTS		
G. PARTS AVAILABLE		
H. COMPLETED	0830	83122

10 WORK PERFORMED: [X] FIELD SHOP [ ] CONTRACTOR INTERSERVICE [ ] OTHER NAVY

11 TOT MAN-HRS

12 EST DOWN TIME

13 EST DOWN TIME

14 MAKE: IHC

15 MODEL: TD20B

51 ENGINE SERIAL NUMBER	52 CONTRACT NUMBER	53 PRIORITY
TD20BPM510		

54 CUSTOMER ORD	55 PROJ CODE	56 SHOP ORD	57 DESCRIPTION	58 LAST PM DATE
			TRACTOR CRAWLER	79 R 31 50

59 ENGINE MFG	60 ENGINE MODEL
IHC	DT429

61 CHASSIS SERIAL NUMBER: TD20RP4001

62 W/C	63 FUNCTION CODE	64 WORK DESCRIPTION MECHANIC NOTIFY SUPERVISOR OF ALL ADDITIONAL WORK	65 MANHOURS PRI/SEC	65 MANHOURS ACTUAL	65 MANHOURS ESTIMATE	66 ESTIMATED MAT'L COST	67 MECH INITIALS
	12 X	Steam Clean		4.0			
	23 X	Change Oil and Filters		1.0			
	01 X	Lube Complete		1.0			
	04 X	Change Fuel Filters		.5			
	11 X	Clean and Service Batteries		.6			
	10 X	Service Air Cleaners		.3			
		Replace Rain Cap			on order		
	55	Replace #6 Fuel Injector		1.8			
	94	Adjust R/H Steering Brake		3.0			
			SUB TOTALS	12.2			

RECEIPT OF ABOVE ORDER AND EQUIPMENT IS HEREBY ACKNOWLEDGED

68 CONTRACTOR SIGNATURE/SHOP SUPERVISOR | 68 CONTRACTING FIRM | 70 DATE ARRIVED

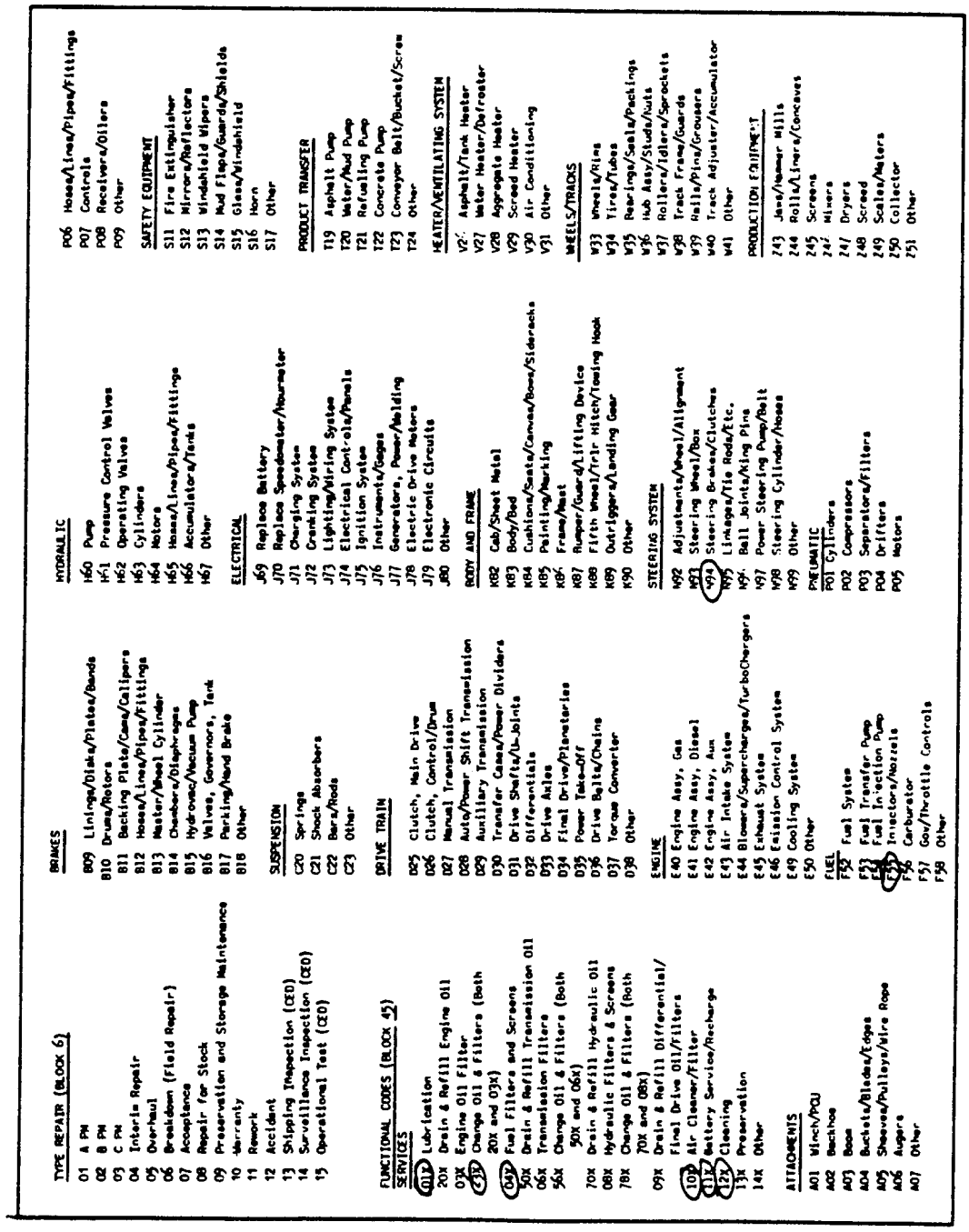
PERMISSION TO EXCEED WORK ON ERO MUST BE AUTHORIZED BY REQUESTING ACTIVITY

71 INSP CODE | 72 INITIAL INSPECTION /SIGNATURE/ | 73 DATE | 74 INSP CODE | 75 FINAL INSPECTION /SIGNATURE/ | 76 DATE

77 CUSTOMER APPROVAL /SIGNATURE/ | 78 ACT NAME | 79 DATE | 80 MAINTENANCE SUPERVISOR /SIGNATURE/ | 81 DATE | 82 PAGE OF

Figure H-27

Equipment Repair Order
(Continued)



TYPE REPAIR (BLOCK 6)

01 A PM
02 B PM
03 C PM
04 Interim Repair
05 Overhaul
06 Breakdown (Field Repair)
07 Acceptance
08 Repair for Stock
09 Preservation and Storage Maintenance
10 Warranty
11 Rework
12 Accident
13 Shipping Inspection (CED)
14 Surveillance Inspection (CED)
15 Operational Test (CED)

FUNCTIONAL CODES (BLOCK 45)

SERVICES

01X Lubrication
20X Drain & Refill Engine Oil
03X Engine Oil Filter
04X Change Oil & Filters (Both 20X and 03X)
05X Fuel Filters and Screens
06X Drain & Refill Transmission Oil
06X Transmission Filters
56X Change Oil & Filters (Both 50X and 06X)
70X Drain & Refill Hydraulic Oil
08X Hydraulic Filters & Screens
78X Change Oil & Filters (Both 70X and 08X)
09X Drain & Refill Differential/Final Drive Oil/Filters
10X Air Cleaner/Filter
11X Battery Service/Recharge
12X Cleaning
13X Preservation
14X Other

ATTACHMENTS

A01 Winch/PTO
A02 Backhoe
A03 Boom
A04 Buckets/Blades/Edges
A05 Sheaves/Pulleys/Wire Rope
A06 Augers
A07 Other

BRAKES

B09 Linings/Disks/Plates/Bands
B10 Drums/Rotors
B11 Backing Plate/Cams/Calipers
B12 Hoses/Lines/Pipes/Fittings
B13 Master/Wheel Cylinder
B14 Chambers/Diaphragms
B15 Hydrovac/Vacuum Pump
B16 Valves, Governors, Tank
B17 Parking/Hand Brake
B18 Other

SUSPENSION

C20 Springs
C21 Shock Absorbers
C22 Bars/Rods
C23 Other

DRIVE TRAIN

D25 Clutch, Main Drive
D26 Clutch, Control/Drum
D27 Manual Transmission
D28 Auto/Power Shift Transmission
D29 Auxiliary Transmission
D30 Transfer Cases/Power Dividers
D31 Drive Shafts/U-Joints
D32 Differentials
D33 Drive Axles
D34 Final Drive/Planetaries
D35 Power Take-Off
D36 Drive Belts/Chains
D37 Torque Converter
D38 Other

ENGINE

E40 Engine Assy, Gas
E41 Engine Assy, Diesel
E42 Engine Assy, Aux
E43 Air Intake System
E44 Blowers/Superchargers/TurboChargers
E45 Exhaust System
E46 Emission Control System
E49 Cooling System
E50 Other

FUEL

F52 Fuel System
F53 Fuel Transfer Pump
F54 Fuel Injection Pump
F55 Injectors/Nozzels
F56 Carburator
F57 Gov/Throttle Controls
F58 Other

HYDRAULIC

H60 Pump
H61 Pressure Control Valves
H62 Operating Valves
H63 Cylinders
H64 Motors
H65 Hoses/Lines/Pipes/Fittings
H66 Accumulators/Tanks
H67 Other

ELECTRICAL

J69 Replace Battery
J70 Replace Speedometer/Hourmeter
J71 Charging System
J72 Cranking System
J73 Lighting/Wiring System
J74 Electrical Controls/Panels
J75 Ignition System
J76 Instruments/Gages
J77 Generators, Power/Welding
J78 Electric Drive Motors
J79 Electronic Circuits
J80 Other

BODY AND FRAME

K82 Cab/Sheet Metal
K83 Body/Bed
K84 Cushions/Seats/Canvas/Bows/Sidracks
K85 Painting/Marking
K86 Frame/Mast
K87 Bumper/Guard/Lifting Device
K88 Fifth Wheel/Tr1r Hitch/Towing Hook
K89 Outriggers/Landing Gear
K90 Other

STEERING SYSTEM

N92 Adjustments/Wheel/Alignment
N93 Steering Wheel/Box
N94 Steering Brakes/Clutches
N95 Linkages/Tie Rods/Etc.
N96 Ball Joints/King Pins
N97 Power Steering Pump/Belt
N98 Steering Cylinder/Hoses
N99 Other

PNEUMATIC

P01 Cylinders
P02 Compressors
P03 Separators/Filters
P04 Drifters
P05 Motors

P06 Hoses/Lines/Pipes/Fittings
P07 Controls
P08 Receivers/Oilers
P09 Other

SAFETY EQUIPMENT

S11 Fire Extinguisher
S12 Mirrors/Reflectors
S13 Windshield Wipers
S14 Mud Flaps/Guards/Shields
S15 Glass/Windshield
S16 Horn
S17 Other

PRODUCT TRANSFER

T19 Asphalt Pump
T20 Water/Mud Pump
T21 Refueling Pump
T22 Concrete Pump
T23 Conveyor Belt/Bucket/Screw
T24 Other

HEATER/VENTILATING SYSTEM

V26 Asphalt/Tank Heater
V27 Water Heater/Defroster
V28 Aggregate Heater
V29 Screed Heater
V30 Air Conditioning
V31 Other

WHEELS/TRACKS

W33 Wheels/Rims
W34 Tires/Tubes
W35 Bearings/Seals/Packings
W36 Hub Assy/Studs/Nuts
W37 Rollers/Idlers/Sprockets
W38 Track Frame/Guards
W39 Rails/Pins/Grousers
W40 Track Adjuster/Accumulator
W41 Other

PRODUCTION EQUIPMENT

Z43 Jaws/Hammer Mills
Z44 Rolls/Liners/Concaves
Z45 Screens
Z46 Mixers
Z47 Dryers
Z48 Screed
Z49 Scales/Meters
Z50 Collector
Z51 Other

Figure H-27 (Cont'd)

EQUIPMENT REPAIR ORDER and SINGLE LINE-ITEM CONSUMPTION DOCUMENT NAVSUP Form 1250-10 Internal Flow and Distribution

STEP 1

PREVENTIVE MAINTENANCE CLERK. Initiates ERO completing blocks 1, 2, 3, 4, 5, 6, 27, 28, 44, 48, 49, 50, 51, 53, 55, 56, 61, and enters next ERO number from ERO log in ERO number block. Enter all information from ERO in log,. Attach hard card to ERO and pass to Direct Turnover/Cost Control Clerk.

NOTE: *Ensure all EROs for field crew are coded 06, in block 6, for all repairs made in the field.*

STEP 2

DIRECT TURNOVER/COST CONTROL CLERK. Will research DTO Log and Summary Sheet. Fill out DTO Information Sheet (see figure 3-10) and attach it to ERO. Research history jackets for work deferred and enters on the DTO Information Sheet. If complete 1250-1s are attached from Collateral, enter work description in block 63 and “On Order” in block 66. Have Maintenance Supervisor sign 1250-1s into Repair Parts Custodian. Pass ERO to the Initial Inspector.

STEP 3

INITIAL INSPECTOR. Will thoroughly inspect equipment using Inspection Guide, paragraphs 3203 and 3204. Enter all previous work deferred off to DTO Information Sheet in block 63 of ERO. Complete blocks 7, 8, 14, 29, 30, 45, 63, 72, and 73, and blocks 54 and 82 when applicable. Pass ERO to Maintenance Supervisor for signature.

NOTE: *When utilizing SAMMS EM, pass ERO package to Preventive Maintenance Clerk for completed entry and print.*

STEP 4

MAINTENANCE SUPERVISOR. Will ensure that ERO and package is properly completed and that work description is clear and concise. If everything is OK, and work described is authorized to be started, sign block 80 and date block 81. Pass ERO and completed package to the appropriate shop.

Figure H-28

NOTE (1): *Ensure an 06 ERO is made out for all Intern repairs made by field crew that exceed one hour.*

NOTE (2): *All PMs performed by field crew will remain 01 or 02.*

STEP 5

SERVICE OR REPAIR SHOP SUPERVISOR. Will review work descriptions and schedule equipment into shop. If OK, sign block 68. When work can be assigned to a mechanic, complete blocks 46 and 47, remove green copy of ERO and worksheet and return them to protective folder. Shop Supervisor will retain as remaining copies of ERO. Issues DTO parts at this time. Before signing NAVSUP Form 1250-1s for repair parts, Shop Supervisor will ensure that equipment cannot be repaired without those parts. Only the Shop Supervisor or his assistant sign NAVSUP Form 1250-1s.

STEP 6

MECHANIC. If additional parts are required to accomplish repairs, he will notify the Shop Supervisor of the parts needed. (Shop Supervisor will then task the Technical Libraries to research the parts and fill out a NAVSUP Form 12501 or 2. Obtain Shop Supervisor's signature on the NAVSUP Form 12501 or 2 and issue repair parts to the mechanic. Obtain receipt signature of mechanic). Mechanic will complete all possible work listed in block 63 and enter hours and or tenths of hours expended on the item of repair in block 65. He will initials and enter his rate for each repair made in block 67. When all possible work has been completed and all appropriate blocks on the ERO have been filled in, pass complete package containing green copy of ERO and worksheet back to Shop Supervisor. At this time the mechanic with clean hands, will initial and enter his rate on the white copy of the ERO for work performed.

STEP 7

SHOP SUPERVISOR. Upon receipt of mechanic's ERO, worksheet and initials on white ERO copy, the Shop Supervisor will inspect equipment to ensure that all repair parts bought, manufactured or use from other equipment has been entered on worksheet. (All work to be deferred will be initialed by the Maintenance Supervisor). If unit is to be deadlined, ensure blocks 40 and 41 are completed. Then recount all parts numbers, prices and quantities for repair parts and petroleum used, on ERO worksheet. Forward completed paperwork package to Final Inspector and unit to the final inspection line.

Figure H-28 (cont)

NOTE: *If repair parts required are NC/N/S and all efforts and means available have been expended, fill in "stop for parts" section of ERO and immediately hand-carry completed ERO package containing the NC/N/S NAVSUP Form 1250/l -2s for the part or parts that deadlined the equipment to the Maintenance Supervisor. Move unit to deadline area and preserve for deadline in accordance with COMSECONDNCBKOMTHIRDNCB Instruction 11200.1 series.*

STEP 8

FINAL INSPECTION. Will perform prestart inspection. Before operating, makes visual inspection to ensure all repairs were properly made. Operate unit for 15 minutes after normal temperature has been reached to ensure dependability. If unit is OK, leave it at Dispatch, along with hard card and obtain Dispatcher's signature in block 77. Date block 79. Inspector will sign block 75 and date block 76.

NOTE (1): *At this time, the Final Inspector will enter total time for the final inspection in block 15 of green copy of ERO only. Forward package to Cost Control.*

NOTE *(2): For SAMMS, EM pass ERO package to Preventive Maintenance Clerk for final print.*

STEP 9

MAINTENANCE SUPERVISOR. Will review complete ERO package to ensure all repairs and paperwork were properly completed. He will sign all NAVSUP Form 1250-l/-2s for DTO (NC/NIS) and will indicate priority in block 3 of 1250-1/-2. Ensure that block 10 (APL NO.) of NAVSUP Form 1250-l/-2 contains proper ERO number in blocks 14 and 15 (WC and USN). Forward complete ERO package to DTO/Cost Control. If unit is deadlined, see Step 9 Note.

NOTE: *As soon as deadlined unit's ERO package arrives from Shop Supervisor, ensure that unit cannot return to service. If not, immediately sign NC/NIS NA VSUP Form 1250-l/-2s and assign priority in block 3. Forward complete package to DTO/Cost Control Clerk. Time elapsed for NAVSUP Form 1250-l/-2 processing and turning into repair parts for ordering should not exceed one hour from time entered to "stop for parts" block on deadlined ERO. If unit to be deadlined has 01 or 02 ERO (PM), defer the item that disabled the unit and immediately open an 04 (interim repair) ERO, complete all blocks except 15, 16, 25, 75, and 76. Enter the item that disabled the unit in block 63.*

Figure H-28 (cont)

STEP 10

DIRECT TURNOVER/COST CONTROL CLERK. Will take all signed (but not processed NC/NlS) DTO chits and log them in, see step 3 of DTO Flow Chart. (At this time, have PM record clerk log ERO in (date and time) and record all PM information on PM Record Card and close out in the computer). Cost Control Clerk will continue with blocks 13, 15, 16, and 25. See paragraph 3301 for block-by-block instructions on filling in all blocks of ERO. On the back of ERO (W) and continuation (W) circle each functional code from block 45 only, on work that was actually completed. Pass to Maintenance Supervisor for final review. If units is deadlined, see Step 10 Note.

NOTE: *When NC/N/S NAVSUP Form 1250-l/-2 and ERO package is received from Maintenance Supervisor for unit to be deadlined, immediately check to see if the ERO is a PM. If it is, immediately close out the PM ERO and open an 04 (interim). Ensure that NAVSUP Form 1250-l/-2 contains the 04 ERO number in blocks 14 and 15, and not the PM ERO number. When this is done, log the NAVSUP Form 1250-l/-2 in the DTO Log, then check the DTO procedures (flow chart), figure 3- 13 for details. Ensure that all blocks, except 15, 16, 25, 75, and 76 on ERO are completed. Ensure "stop for parts" time and dates (blocks 32 and 33) are completed and accurate. Enter equipment on deadline status board. File complete ERO in history jacket. Move history jacket to deadline file.*

STEP 11

MAINTENANCE SUPERVISOR. Will review all portions of ERO to ensure all summaries were completed accurately. Compare work description in Block 63 to ERO worksheet. If ERO (W) and (H) copies and ERO worksheets are completed neatly and accurately. Forward package to PM record clerk for filing and mailing. If there are mistakes, pass it back to Cost Control Clerk for correcting.

STEP 12

PREVENTIVE MAINTENANCE CLERK. After Maintenance Supervisor has made his final review of the EROs, pull blue copies of the ERO, continuation sheet, and ERO worksheet and file in history jacket. Forward all white copies of ERO and continuation sheet to:

Civil Engineer Support Office
Attn 1542R
Naval Construction Battalion Center
1000 23'd Avenue, Bldg 1443
Port Hueneme, CA 93043-4301

Send via serialized cover letter or e-mail monthly.

Figure H-28 (cont)

APPENDIX I. TRANSPORTATION EQUIPMENT ITEM CODES

SUPPLY CONDITION CODES

Code	Title	Definition
A	SERVICEABLE (ISSUABLE WITHOUT QUALIFICATION)	New, used, repaired, or reconditioned material which is serviceable and issuable to all customers without limitation or restriction. Including material with more than 6 months shelf life remaining.
B	SERVICEABLE (ISSUABLE WITH QUALIFICATION)	New, used, repaired, or reconditioned material which is serviceable and issuable for its intended purpose but which is restricted from issue to specific units, activities, or geographical areas by reason of its limited usefulness or short service life expectancy. Includes material with 3 through 6 months shelf life remaining.
C	SERVICEABLE (PRIORITY ISSUE)	Items which are serviceable and issuable to selected customers, but which must be issued before Condition A and B material to avoid loss as a usable asset. Includes material with less than 3 months shelf life remaining.
D	SERVICEABLE (TEST/ MODIFICATION)	Serviceable material which requires test, alterations, modifications, conversions or disassembly. This does not include items which must be inspected or tested immediately prior to issue.
E	UNSERVICEABLE (LIMITED RESTORATION)	Material which involves only limited expense or effort to restore to serviceable condition and which is accomplished in the storage activity where the stock is located.
F	UNSERVICEABLE (REPAIRABLE)	Economically repairable material which requires repair, overhaul, or reconditioning includes repairable items which are radioactively contaminated.
G	UNSERVICEABLE (INCOMPLETE)	Material requiring additional parts or components to complete the end item prior to issue.
H	UNSERVICEABLE (CONDEMNED)	Material which has been determined to be unserviceable and does not meet repair criteria, includes condemned items which are radioactively contaminated.
S	UNSERVICEABLE (SCRAP)	Material that has no value except for its basic material content.

DISPOSAL CONDITION CODES

Code	Title	Definition
1	UNUSED-GOOD	Unused property that is usable without repairs and identical or interchangeable with new items from normal supply source.
2	UNUSED-FAIR	Unused property that is usable without repairs but is deteriorated or damaged to the extent that utility is somewhat impaired.
3	UNUSED-POOR	Unused property that is usable without repairs but is considerably deteriorated or damaged. Enough utility remains to classify the property better than salvage.
4	USED-GOOD	Used property that is usable without repairs and most of its useful life remains.
5	USED-FAIR	Used property that is usable without repairs but is somewhat worn or deteriorated and may soon require repairs.
6	USED-POOR	Used property that may be used without repairs, but is considerably worn or deteriorated to the degree that remaining utility is limited or major repairs will soon be required.
7	REPAIRS REQUIRED GOOD	Required repairs are minor and should not exceed 15% of original acquisition cost.
8	REPAIRS REQUIRED FAIR	Required repairs are considerable and are estimated to range from 16% to 40% of original acquisition cost.
9	REPAIRS REQUIRED POOR	Required repairs are major because the property is badly damaged, worn, or deteriorated, and estimated to range from 41% to 65% of original acquisition cost.
X	SALVAGE	Property has some value in excess of its basic material content, but repair or rehabilitation to use for the originally intended purpose is clearly impractical. Repair for any use would exceed 65% of the original acquisition cost.
S	SCRAP	Material that has no value except for its basic material content.

The FEDERAL CONDITION CODE is composed of two characters, an alphabetic SUPPLY CONDITION CODE and an alpha/numeric DISPOSAL CONDITION CODE

TRANSACTION CODES

Transaction Codes. A transaction code (TC) is a single-digit code to designate the cause of addition, deletion, or correction to inventory records (CASEMIS). (Use in block 54 of DD 1342.)

Code	Definition
1	Acquisition - initial receipt of new procurement from other military departments, Government agencies, or commercial sources, including receipt from stock at the Naval Construction Battalion Centers, Gulfport, Davisville, and Port Hueneme.
2	Acquisition - by transfer from other Navy activities or Navy stocking activities other than those listed in Code 1.
3	Disposition - transfer to another Navy activity or to Navy stocking activity.
4	Disposition - disposition by sale, scrap, donation, loss, or transfer to non-Navy activities.
5	Status Code Change - insert the new status code of the item (TC5 will be used only when a previously reported status code is being changed).
6	Modification - change in description and NAVFAC equipment code.
7	Record Correction - insert "TC7" to indicate that a change is required in the year of manufacture, name of manufacturer, change of item description (without changing equipment code), bureau code, change of DOD code (without changing equipment code), and/or change of state code. This code will not be used for any other corrections.
8	Acquisition - reentry into active use or inventory of an item that was retrieved from a disposal point.
9	Deletion - to report a previously erroneously reported acquisition.

STATUS CODES FOR SHORE ACTIVITIES

Code	Title	Definition
A	RENTED	Leased from commercial source filling Lease IO
C	CONTRACTED	Contractor operated/Contractor replaced - No IO
E	CONTRACTOR IO	Contractor operated/Government replaced - Navy owned
F	LEASE-OWN IO	Commercially leased equipment filling Navy owned IO
G	GSA RENTAL	GSA leased/rented equipment filling lease IO.
H	REHAB/REASSIGN	Rehabilitation/Service Life Extension Program (SLEP)
I	LEASE-PURCHASE IO	Leased equipment with option to purchase - Navy owned
K	GSA-OWN IO	GSA leased/rented equipment filling Navy owned IO
O	OPERATIONAL	Government operated - Navy owned IO
P	PENDING DISPOSITION	Pending disposal
Y	REDISTRIBUTE	Pending redistribution.
Z	DISPOSITION	Disposed of equipment

STATUS CODES FOR NCFs/SOUs

(Used in block 54 of DD 1342)

Code	Title	Definition
C	CONTRACT	Navy-owned equipment assigned to contractors who perform on government contracts.
G	GSA	GSA owned equipment leased for Navy use.
H	HELD	Navy owned equipment held for rehabilitation or reassignment.
M	MUSE	Mobile Utilities Support Equipment.
O	OPERATIONAL	Navy owned equipment in regular use (other than Status Code T).
T	TACTICAL UNITS	Navy owned equipment assigned to the following operating forces not listed in the Naval Shore Activities Catalog, OPNAV P09B23-105, Part 2: Active Ships; Naval Mobile Construction Battalions (NMCB); Naval Cargo Handling and Port Groups (NAVCHAPGRU); Amphibious Construction Battalions (PHIBCB); Construction Battalion Units (CBU); Naval Construction Force (NCF); Naval Construction Training Centers (NAVCONSTRACEN); and Special Operating Units (SOU).

APPENDIX J. PAINTING AND MARKING OF CESE

1. **CHEMICAL AGENT RESISTANT COATING (CARC) (for NCFs/SOUs).** The CARC System is a combination of pretreatments, primers, and top coats. After surface preparation and pretreatment, exteriors of vehicles are painted with an epoxy primer, then with an aliphatic polyurethane top coat. CARC is a toxic substance. Safety precautions must be observed while painting with CARC.

a. Safety.

(1) No person is to apply more than one quart of CARC a day.

(2) Only one person is permitted to paint a piece of equipment at a time.

(3) Clothing to provide full skin coverage is mandatory.

(4) Rubber gloves must be worn to protect hands.

(5) A respirator is mandatory when painting with CARC.

(6) A face shield is mandatory.

(7) It is strictly prohibited to paint equipment components which reach temperatures of 400^{o}F or more (exhaust systems, turbo chargers). It is also recommended that heat transfer components (radiators, transmissions, engines) not be painted, because CARC is an insulating material.

(8) It is prohibited to weld or use a cutting torch on CARC painted surfaces, because it will produce airborne toxic materials. CARC must be completely removed by either sandblasting or stripping with solvent followed by high-pressure washing. Protective clothing and a respirator must be worn during CARC removal.

(9) All residue from sanding and leftover CARC from painting is a HAZARDOUS MATERIAL and must be handled with care and disposed of in accordance with regulations and instructions. Prior to use, review all material safety data sheets (MSDS) for each paint and solvent.

b. Paint National Stock Numbers. The NSNs for commonly used quantities of CARC primers and topcoats are shown in Table J-1. If you need the NSN for other colors, check appendix B of TM 43-0139.

TABLE J-1. Paint National Stock Numbers

(1) **Primer (wash) pretreatment**

DoD-P-15328	Size	NSN 8030-00-
	1-1/4 QT	850-7076
	1-1/4 GL	281-2726
	5 GL	165-8577

(2) **Primers**

Epoxy-Polyamide, MIL-P-23377
(Contains chromates for use on nonferrous surfaces)

Color	Size	NSN 8010-
Deep yellow	1 PT	00-229-4813
Deep yellow	1 QT	00-142-9279
Deep yellow	2 QT	00-935-7080
Dark green	2 GL	00-082-2450
Deep yellow	2 GL	01-048-6539
Deep yellow	10 GL	00-082-2477

Epoxy, Coating, MIL-P-53022
(Corrosion inhibiting. Lead and chromate free. For ferrous and nonferrous surfaces)

Color	Size	NSN 8010-01-
White	1/4 QT	193-0516
White	1-1/4 GL	193-0517
White	5 GL	187-9820

Epoxy, Water reducible, MIL-P-53030
(Lead and chromate free. For ferrous and nonferrous surfaces)

Color	Size	NSN 8010-01-
Reddish-brown	1-1/4 QT	193-0519
Reddish-brown	1-1/4 GL	193-0520
Reddish-brown	1 GL	193-0521

Epoxy, VOC compliant, MIL-P-85582
(Lead free, contains chromates, water reducible)

Color	Size	NSN 8010-01-
Light green	1 QT	218-0856
Light green	1 GL	218-7354

TABLE J-1. Paint National Stock Numbers (Continued)

(3) **CARC**

CARC Single Component Topcoat, MIL-C-53039
(Lead and chromate free; low VOC)

Color	Size	NSN 8010-01-
Green 383	1 QT	229-7546
Green 383	1 GL	229-9561
Green 383	5 GL	229-7547
Brown 383	1 QT	229-7543
Brown 383	1 GL	229-7544
Brown 383	5 GL	229-7545
Black	1 QT	229-7540
Black	1 GL	229-7541
Black	5 GL	229-7542
Sand	1 QT	234-2934
Sand	1 GL	234-2935
Sand	5 GL	234-2936
Tan 686	1 QT	276-3638
Tan 686	1 GL	276-3639
Tan 686	5 GL	276-3640
Aircraft Green	1 QT	246-0717
Aircraft Green	1 GL	246-0718
Aircraft Green	5 GL	246-0719

CARC Two-Component Topcoat, MIL-C-46168, Type II
(Lead and chromate free)

Color	Size	NSN 8010-01-
Green 383	1-1/4 QT	160-6741
Green 383	1-1/4 GL	162-5578
Green 383	5 GL	160-6742
Brown 383	1-1/4 QT	160-6744
Brown 383	1-1/4 GL	160-6745
Brown 383	5 GL	160-6746
Black	1-1/4 QT	141-2419
Black	1-1/4 GL	131-6254
Black	5 GL	131-6261

TABLE J-1. Paint National Stock Numbers (Continued)

CARC Two-Component Topcoat, MIL-C-46168, Type II (continued)
(Lead and chromate free)

Color	Size	NSN 8010-01-
Sand	1-1/4 QT	141-2416
Sand	1-1/4 GL	130-3347
Sand	5 GL	131-6259
Tan 686	1-1/4 QT	260-0910
Tan 686	1-1/4 GL	260-0909
Tan 686	5 GL	260-0908
Aircraft Green	1-1/4 QT	141-2420
Aircraft Green	1-1/4 GL	131-6255
Aircraft Green	5 GL	131-6262
Interior Aircraft Gray	1-1/4 QT	170-7583
Interior Aircraft Gray	1-1/4 GL	146-2649
Interior Aircraft Gray	5 GL	170-0132

(Used on Special Electronic Mission Aircraft)

CARC Two-Component Topcoat, MIL-C-46168, Type IV
(Lead and chromate free; high solids, low VOC)

Color	Size	NSN 8010-01-
Green 383	1-1/4 QT	260-7481
Green 383	1-1/4 GL	260-0911
Green 383	5 GL	260-0912
Brown 383	1-1/4 QT	260-7482
Brown 383	1-1/4 GL	260-0916
Brown 383	5 GL	260-0917
Black	1-1/4 QT	260-0913
Black	1-1/4 GL	260-0914
Black	5 GL	260-0915
Sand	1-1/4 QT	260-0921
Sand	1-1/4 GL	260-0922
Sand	5 GL	260-7483

TABLE J-1. Paint National Stock Numbers (Continued)

(4) **Thinner, MIL-T-81772**

Type (Used with.....)	Size	NSN 8010-
Type I (Polyurethane)	1 GL	00-181-8080
Type I (Polyurethane)	5 GL	00-181-8079
Type I (Polyurethane)	55 GL	00-280-1751
Type II (Epoxy)	1 GL	01-200-2637
Type II (Epoxy)	5 GL	01-212-1704
Type II (Epoxy)	55 GL	01-168-0684

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c. Painting Instructions

(1) CARC Test. Equipment painted with CARC should have "CARC" stenciled near the data plate. If not stenciled, wet a cloth with acetone and rub hard on the painted surface for 10 seconds. Wet a clean corner of the cloth with acetone and rub the same spot another 10 seconds. If no paint comes off the second time, it is CARC (the first rub may remove overspray and make you think it is not CARC).

(2) Spot Painting or Repainting. CARC painted equipment must be spot painted or repainted with CARC only. CARC may be used on equipment painted by the alkyd method, but alkyd paint must not be used on CARC painted equipment. When painting unit identification markings, bumper markings and vehicle tie down, use only CARC. Using alkyd paint for this gives you areas where chemical agents will be retained.

(3) Areas to Avoid CARC. Do not use CARC on fabric, metals that have anodized or parkerized finishes (such as weapons), hoses or flexible surfaces. CARC won't last on wood because wood expands and contracts with weather changes, and CARC is not flexible enough to move with wood, so it will crack and peel off.

(4) Step-by-Step Touch Up. There are a number of steps to follow when you apply CARC. If you skip a step or take a shortcut, you'll end up with a coating that peels easily or one that bubbles up and falls off.

(a) Surface Preparation. Surface preparation is important. If you skip or skimp on it, the paint won't stick to the surface. You can apply CARC over old CARC or alkyd paint as long as the old surface is clean and tightly bonded to the surface. Clean off all rust, corrosion, oil, grease, moisture, dirt, and loose or blistered paint. CARC will blister if applied over lacquer, even if it's covered by alkyd paint.

(b) Painting. Prepare ferrous metal (steel and iron) or aluminum surfaces as listed below.

1 Wash with liquid detergent, NSN 7930-00-282-9699, and water; Rinse with fresh water and let dry.

2 Remove all loose paint and rust by sanding or by using an orbital grinder. When you sand old paint, use a respirator designed to filter out dust, because the old paint may contain lead or chromates. Use a HEPA vacuum, such as NSN 7910-01-068-5662, to clean up.

3 Feather the edges of good paint by sanding, or with steel wool.

4 As soon as possible (but no longer than four hours later) clean the area to be painted with thinner, NSN 8010-00-181-8079.

5 If the old paint is sound, and you didn't have to sand to bare metal, you don't need the pretreatment and primer, and you can skip to Step 7. Otherwise, immediately coat all bare metal surfaces with coating compound NSN 8030-00-850-7076. This protects the surface and helps the primer bond to the surface. Keep the compound off the surrounding paint because it can keep the primer from bonding to old paint.

6 After the coating is dry (at least 30 minutes but no more than 24 hours) paint it with primer NSN 8010-01-193-0516. Stir each component separately until uniform. Mix the two parts well, then let stand 30 minutes before you use the primer. Don't mix more than you can use that day, because you can't save any mixed primer. It will harden in the pot within 15 hours, and there is no way to prevent hardening.

7 After application, the primer will dry hard in 30 to 90 minutes, and you can add the CARC topcoat. Use either the two-component or single part CARC. Stir thoroughly before use.

8 The topcoat dries to the touch in 30 minutes and is thoroughly dry in 4 to 6 hours. It will be cured enough to withstand impact (walking on it) in 6 to 8 hours. Complete curing takes 7 to 14 days.

d. Unused Paint. Treat as hazardous waste any leftover paint and topcoat component B, if it goes bad in the can. Good component B should be clear to pale yellow. If it's thickened or crystalline in consistency, seal it and get rid of it. You can find disposal information in the Material Safety Data Sheets (MSDS), or at the local Environmental Office.

2. CAMOUFLAGE PAINTING OF CESE EQUIPMENT

a. General

(1) Authorization for Camouflage. As noted in Chapter 2, paragraph 2.14.1.e, authorization for camouflage painting of CESE may only be granted by a cognizant Theater Commander or higher authority.

(2) Camouflage Patterns. All CESE equipment required to be painted camouflage will use the new 3-Color Camouflage Patterns (3-CCP). Use only printed design patterns in the technical manual, *U. S. Marine Corps Camouflage Paint Patterns,* TM 4750-15/2-2. The 3-CCP system analyzes the equipment to note geometric shapes, such as corners and side view mirrors, and spreads patches of paint over them, thus blending them. Camouflage colors are applied in patches and patterns that are determined by computer programs. Pattern replacement and the ratio of black to green and brown must be precise to afford maximum concealment.

(3) 3-CCP System. The 3-CCP is a system of contrasting color bands and patches applied over the base color (Green 383) to disrupt the silhouette or outline of the vehicle or equipment item. These bands of color which break up the outline are keyed to vehicle surface features such as door handle, door lock, or fender that are identifying features of that class or type of equipment.

(4) Other than 3-CCP. Those equipment items that do not have a 3-CCP are to remain the base color (Green 383) unless otherwise directed by higher authority.

b. Application Instructions

(1) Pattern Marking. Marking the pattern on the equipment is critical and must be within 1-inch tolerance of the appropriate drawing in the TM 4750-15/2-2 (Figure J-1). Outline the pattern with chalk and use the reference points on equipment to help keep the correct shape for each color area. Do not use straight, vertical, or horizontal lines. All unit identification, USN registration, and safety markings are to be removed and later reapplied to the equipment using lusterless camouflage CARC (Figure J-2). After the chalked pattern has been inspected for accuracy, chalk should be replaced with CARC paint applied by a small artist's brush, since CARC will not adhere to chalk. Mark the pattern with numbers or letters which tell the painter what color to use in a "paint by number" method.

(2) Color Areas. Fill in the color areas with the required color paint using the instructions for CARC painting covered in this appendix.

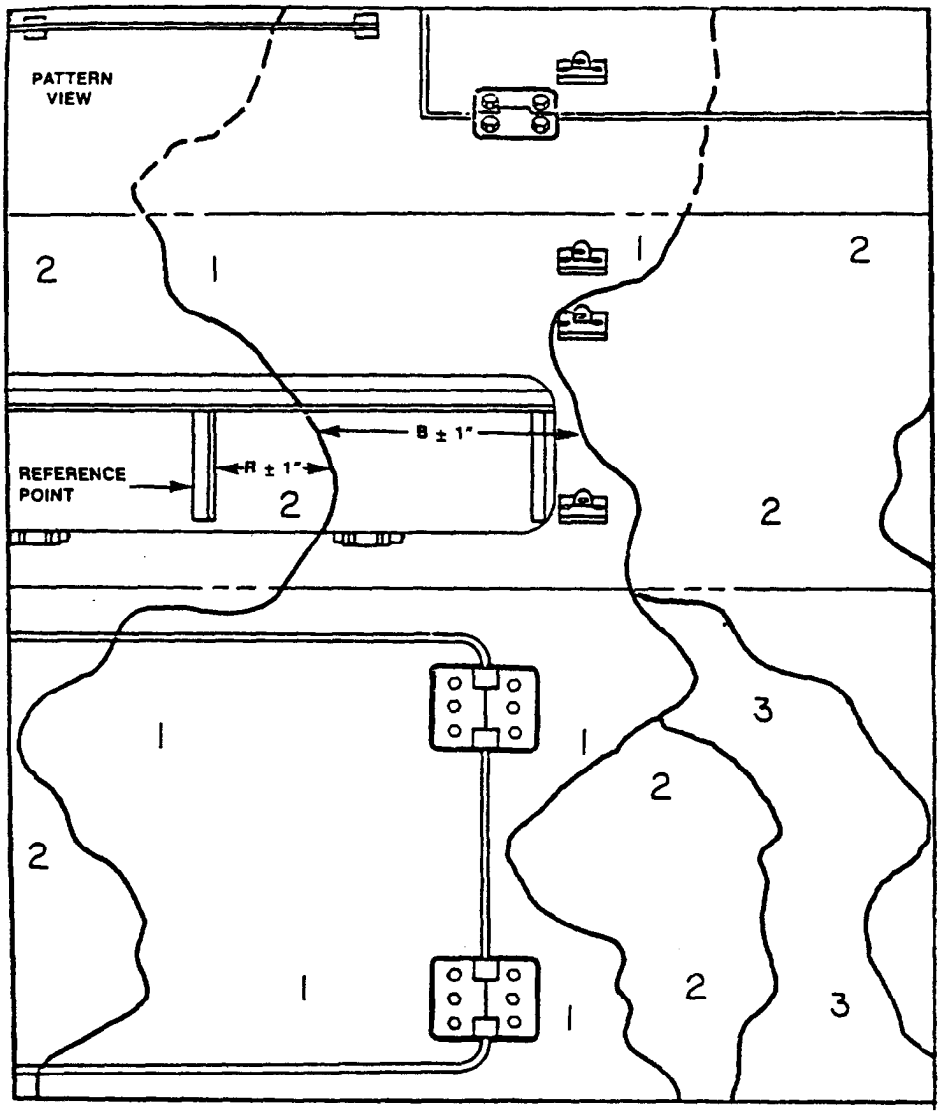
c. Colors for Different Geographic Locations and Climates

(1) Desert. For desert environments one color, Sand 33303, is to be used over the entire piece of equipment.

(2) Winter or Arctic. For winter or arctic conditions white paint shall be used as follows:

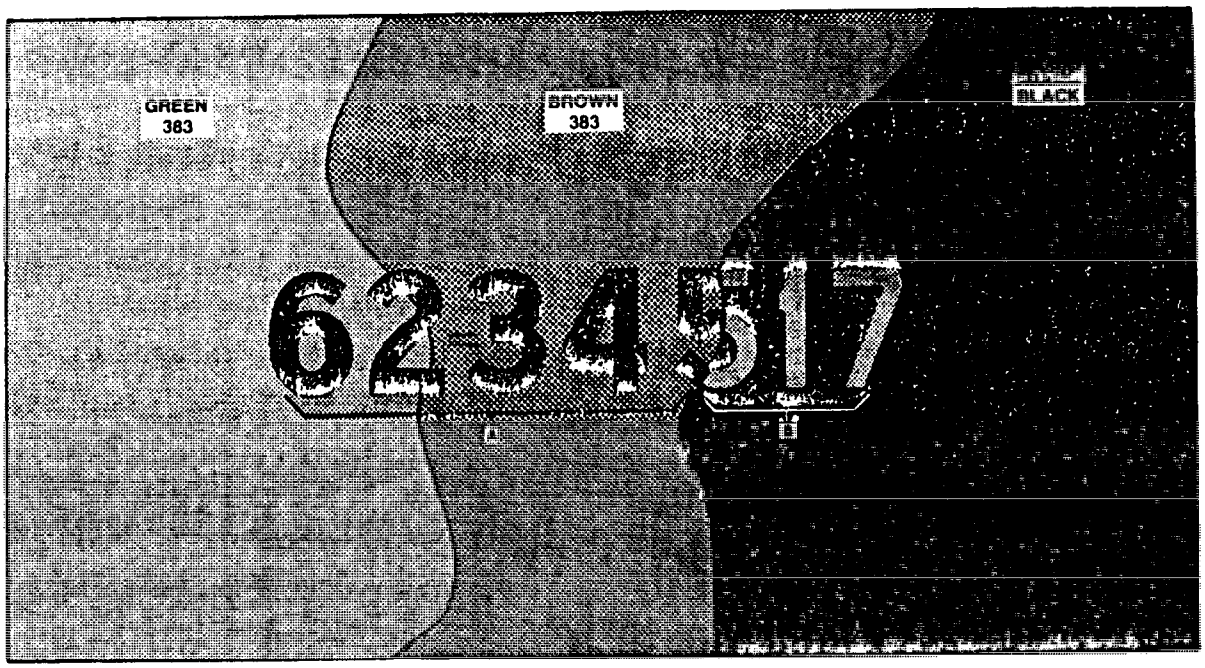
-15% or less snow cover: no change
-15% to 80% snow cover: paint green portion of 3-CCP white
-80% or above snow cover: paint all white

NOTE: *Type of white paint and coverages will be determined by the cognizant Theater Commander.*



R = REFERENCE DISTANCE
B = BAND WIDTH

FIGURE J-I. Definition of Tolerance of 3-Color Camouflage Patterns



A. STENCIL REGISTRATION NUMBERS IN BLACK ON GREEN OR BROWN SURFACES

B. STENCIL REGISTRATION NUMBERS IN GREEN 383 ON BLACK SURFACES.

NOTE: WHEN STENCILING REGISTRATION NUMBERS ON A WHITE SURFACE USE BROWN 383.

FIGURE J-2. Application of Registration Numbers over 3-Color Camouflage Patterns

Vehicle and Equipment Colors and Markings

Vehicle Equipment Type	Equipment Codes	Equip Color & Chip No.	Markings Color	Special Colors and/or Marking
Sedan	All	White 17886	Blue	See Note (6)
Station Wagons	All	White 17886	Blue	See Note (6)
Buses	0061-0070	White 17886	Blue	See Note (1) (6)
Buses, School	0063	Yellow 13415	Black 17038	See Note (1)
Ambulance	0333, 0334	White 17886	Orange/Blue	See para 2.14.13
Ambulance Field	0331, 0332	White 17886	Black 17038	See para 2.14.13
Trucks, General Purpose	All	White 17886	Blue	See Note (5) (6)
Trailers, aluminum	All	Unpainted	Black 17038	See Note (5) (7)
Trailers, steel	All	White 17886	Blue	See Note (5) (6) (7)
Motorcycles, Scooters	0902, 0903	Yellow 13538	Black 17038	See Note (1)
Construction and Allied Equipment	2110-5910 (except 5820-5842)	Yellow 13538	Black 17038	See Notes (1)(2)
Refuse Equipment	5820-5842	White 17886	Black 17038	See Note (2)
Railway Cars	6100-6160, 6400	Aluminum*	Black 17038	See Notes (2)(3)
Railway Ordnance Boxcar	6115	White Epoxy	Black 17038	See Note (2)
Railway Miscellaneous	6210, 6310, 6700 6220, 6230, 6320 6240, 6370, 6250, 6600	Yellow 13538	Black 17038	See Note (2)
Railway Caboose	6340	Red 11105	Black 17038	See Note (2)
Railway Locomotives	6530-6580	Yellow 13538	Black 17038	See Note (2)
Truck, Fire, Structural, Aerial, Brush/Grass	7310-7400	Lime Yellow 13670	Black 17038	See Note (4)
Trucks; Rescue and other Fire Fighting Vehicles Used in Aircraft Operations	7100-7230	Lime Yellow 13670	Black 17038	See Note (4)
Weight Handling Equipment	8160-8430	Yellow 13538	Black 17038	See Notes (1)(2)
Trucks and Trailers	0744-0756 (except 0746-0751)	Yellow 13538	Red	See Note (1) (7)
Fuel Trucks	0746-0751	White	Black 17038	See Note (3)
Aviation and Ground Fuel Servicing	0890	Yellow 13538		See para 2.14.5 thru 2.14.7

*2 lbs. aluminum pigment spec. TT-P-32. Type II Class B, 1 gal spar varnish MIL-V-1174.

Figure J-3

Notes from Figure J-3:

Note (1): Black and yellow prismatic retro-reflective sheeting diagonal warning stripes shall be installed on the front and rear of buses. Other items of transportation equipment operating in congested industrial areas or constitute a traffic hazard shall also be so striped. This shall include construction, weight handling, railway, vehicles and equipment used exclusively for servicing aircraft on runways, taxiways, landing strips, etc. with the exception of NAVAIR Support Equipment (SE) which shall be painted white with yellow reflective marking tape in accordance with NAVAIR Instruction. Counterweights and boom tips on weight handling equipment shall be marked with black and yellow diagonal reflectorized warning stripes.

Note (2): Black is authorized for the chassis or understructure of all vehicles and equipment.

Note (3): Exterior black with white lettering is authorized for car railway, dump, hopper, side and bottom dump.

Note (4): Interior black (wrinkle type) enamel will be mandatory for these types of vehicles and equipment.

Note (5): All vehicles and equipment used exclusively on aircraft operating areas, excluding ramps, shall be painted yellow; No. 13538 with the exception of NAVAIR SE which shall be painted white with yellow reflective marking tape in accordance with NAVAIR Instruction.

Note (6): Markings on vehicles painted white shall be reflective color (blue) See para 2.14.4.b(4)(b).

Note (7): 49 CFR 571, Federal Motor Vehicle Safety Standards (FMVSS) requires conspicuity markings on trailers and semi-trailers.

3. **Corrosion Control**

a. Corrosion Conditions**.** Civil Engineer Support Equipment (CESE) is assigned to many locations where atmospheric and environmental conditions can cause severe corrosion and a reduction in equipment life. Corrosion can be slowed by proper cleaning and the correct application and maintenance of protective coatings such as paint, undercoating, and preservatives. Body corrosion occurs primarily where poor ventilation caused by clogged drain holes or accumulations of mud and sand allow moisture to remain on unprotected metal surfaces.

(1) Rustproofing**.** All automotive CESE shall be core treated. Only material that meets U.S. Government Specification MIL-C-0083933A (MR), *Corrosion Preventive, Rustproofing, Undercarriage* shall be used. Appendix m lists all commercial products that meet this specification. Proper application and preparation of the areas to be coated or recoated is necessary. Surfaces shall be reasonably clean, dry, and free from excessive rust, oil, grease, dust, road tar, and other foreign matter. Core treatment of a vehicle shall be inspected during each preventive maintenance (PM) service; one scratch through the preservative can cause corrosion to start beneath the rustproofing.

(2) Other Preservatives**.** Appendix M identifies and describes the different preservative compounds applicable on CESE. Additional information can be obtained from NAVFAC P-434, *Construction Equipment Department Management and Operations Manual.*

b. Equipment Cycling**.** Equipment not used regularly must be cycled and exercised to protect it from deterioration. Cycling is "*an operation or series of operations that recur regularly and, when completed, constitute one complete performance,*" which means that all parts of an item of equipment have been operated at their rated capacity for their intended use. Vehicles shall be road-tested under a load through their full gear range; generators shall be operated under rated load. Starting and running an engine cycles the engine but not the vehicle.

c. Live Storage**.** Equipment subject to long periods of nonutilization (a period of two PM cycles) absorbs maintenance man-hours, invites improper use, and often suffers excess deterioration. Such equipment, other than cranes, may be placed in live storage in accordance with the provisions set forth in Appendix N.

NOTE: *All cranes must be maintained in an active status and cycled weekly.*

d. Deadline Preservation**.** All deadline vehicles and equipment awaiting repairs must be inspected, cycled, and preserved to prevent deterioration. Deadline equipment shall be parked in a separate location that is easily accessible and adequately drained. This location shall be out of the main traffic flow, but still highly visible. Constant surveillance of the deadline reduces cannibalization. Deadline equipment must not be removed from the PM schedule; in fact, it should be inspected more often. Each time an item is inspected, it should be cycled as much as mechanically possible; for example, if a dump truck is down for wheel seals, cycle the engine and the hydraulic dump. Each inspection shall also ensure that all

disassembled components are tagged, covered, and stored, all machine surfaces are preserved, all openings are covered and weathertight, no unrecorded cannibalization has taken place since the last inspection, and all required parts are on order. A Preventive Maintenance ERO/SRO shall be used for this inspection.

e. Beach Operations**.** Every effort must be made to minimize equipment operation near salt water. Equipment should be left behind the dune line, protected from high water and salt spray. The following procedures will minimize damage caused by operating equipment in and around salt water.

(1) Pre-inspection**.** Prior to beach operations, equipment shall be thoroughly inspected and prepared. Ensure that all equipment is in good operating condition, so that the possibility of failure in the water is reduced. Inspect to ensure that the fan disconnect works and all fording equipment is connected and watertight. Use of water resistant greases, antiseize, and antirust compounds will reduce corrosion.

(2) Operating Precautions**.** To reduce the possibility of radiator damage, equipment shall enter the water as slowly as possible. Ensure that the equipment does not become submerged below its high water mark, especially when swell and surf action are present. Caution must also be taken when operating in low tides, because of the incoming tide. Dozers are not to be used to anchor causeways for extended periods.

(3) Servicing After Operations**.** Immediately after operating CESE in or around salt water, thoroughly clean and wash with fresh water. Ensure that all areas are washed and all accumulations of wet sand removed. A thorough "B" preventive maintenance inspection should be performed, with special attention given to possible contamination of gearbox and fluid reservoirs. If salt water is detected, the reservoir and the system must be emptied, flushed, and refilled with the appropriate fluid.

f. Recovery Procedures**.** Immediately after recovering equipment that has been submerged, the following procedures must be taken:

(1) Thoroughly wash and clean the equipment with fresh water and ensure that all accumulations of sand and mud are removed.

(2) Wash and flush out engine with an oil and diesel fuel mixture. Remove the sparkplugs or fuel injectors and turn the engine over.

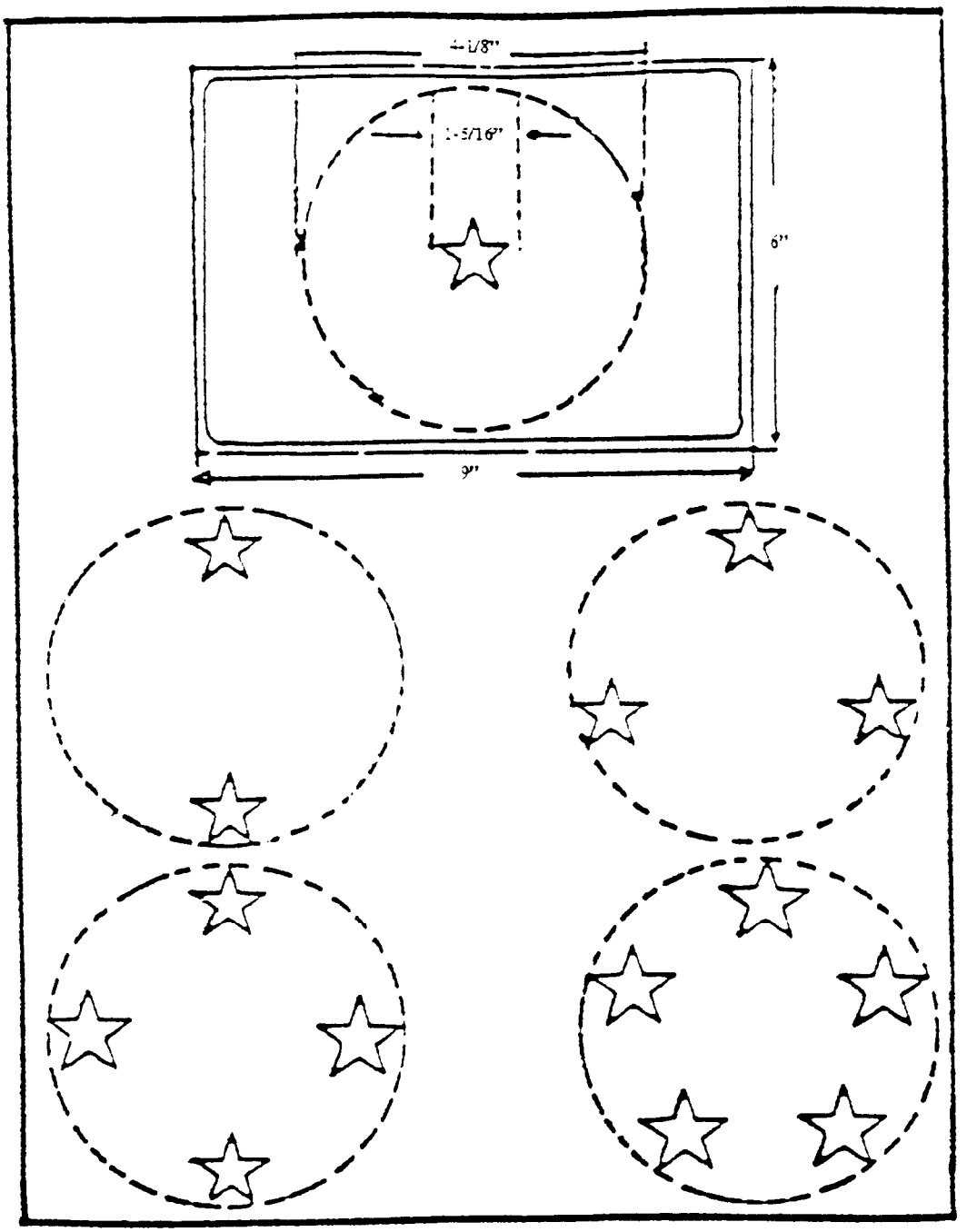
(3) Wash and flush out all fluid reservoirs and compartments. Replace all filters.

(4) Run engine and operate all equipment parts for several hours to prevent freezing. If the engine will not start, disassemble, clean, and reassemble.

DoT Placard for Flammables

Figure J-4

Navy Flag Officer Designation Plate



1. Vehicle flag plates of flag officers eligible for command at sea will consist of white stars on a blue background.

2. Vehicle flag plates of flag rank specialists not eligible for command at sea will consist of blue stars on a white background.

Figure J-5

Locations of Markings

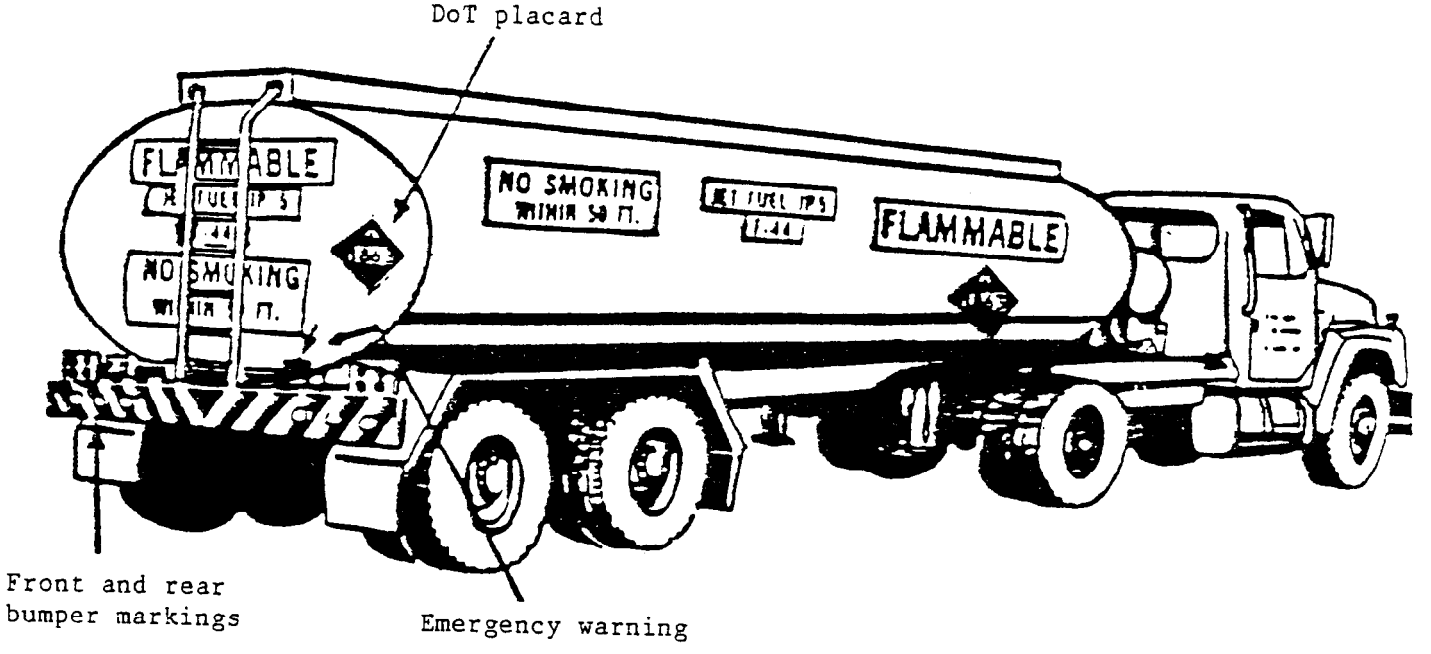
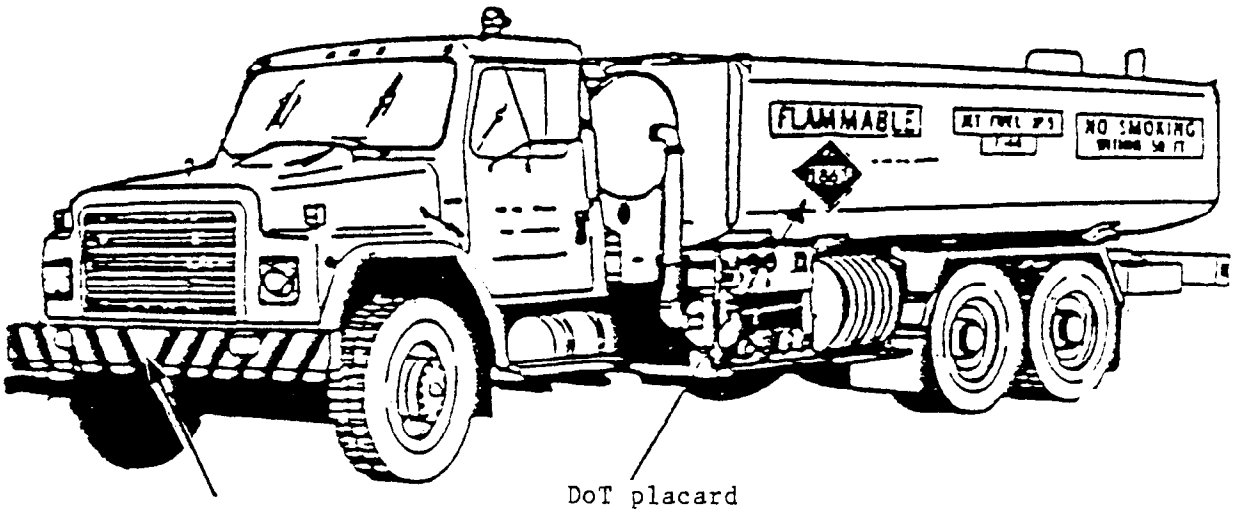


Figure J-6

Locations of Markings



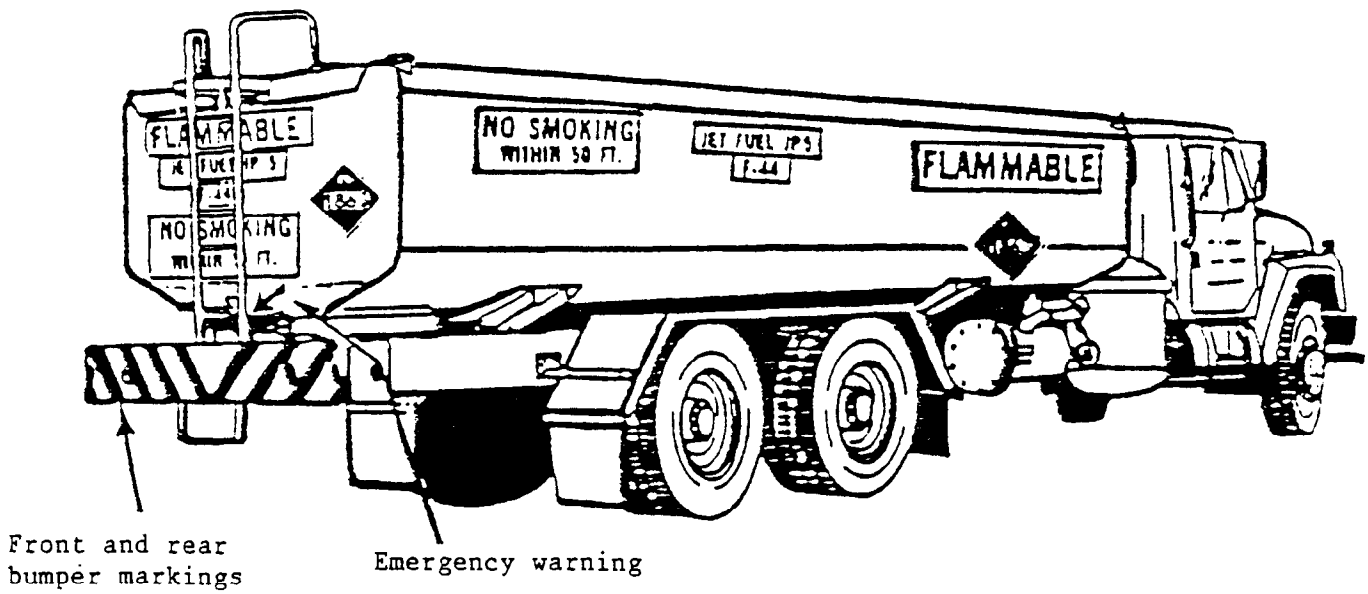
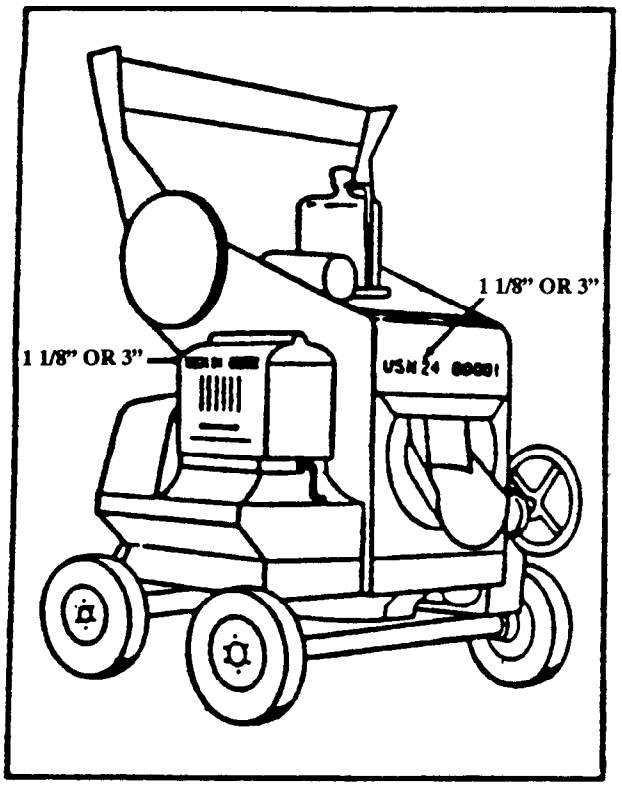
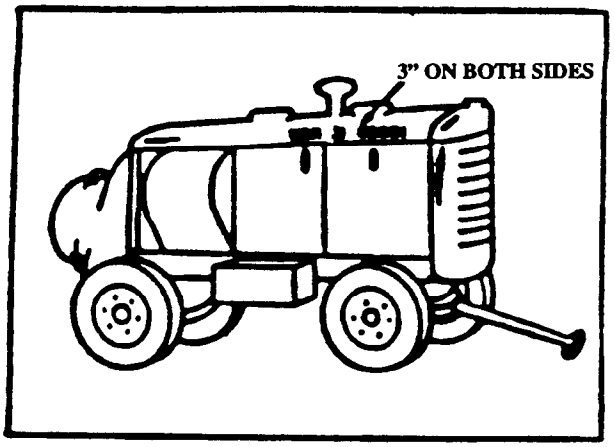
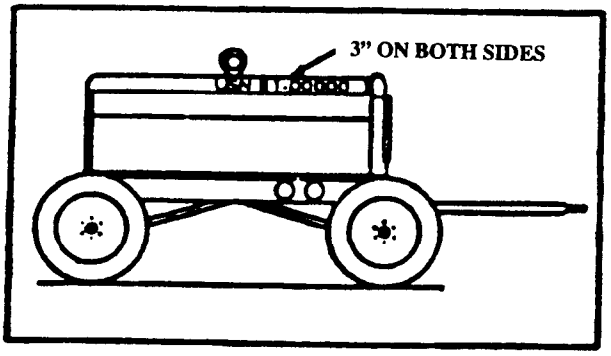


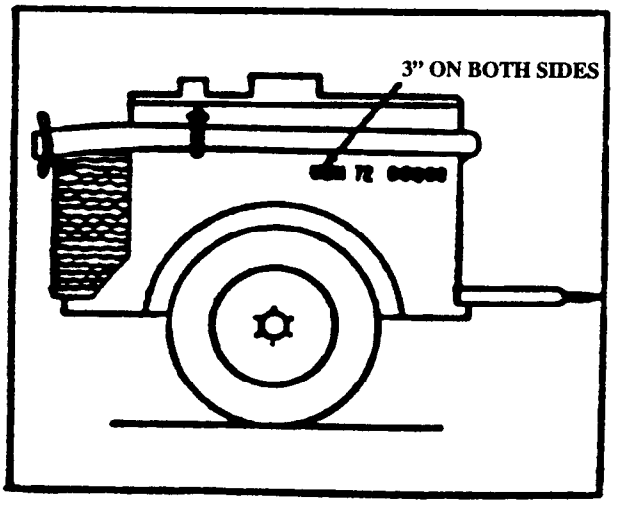
Figure J-6 (continued)

Locations of Markings









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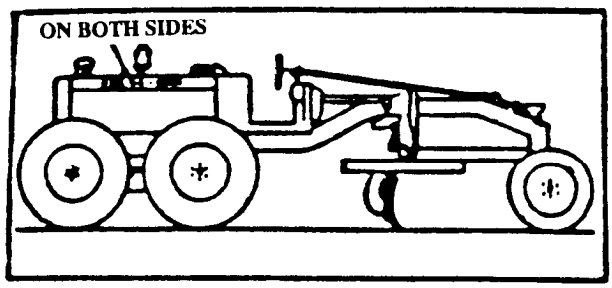
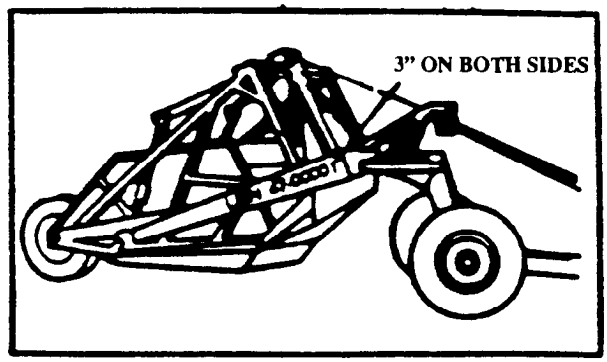
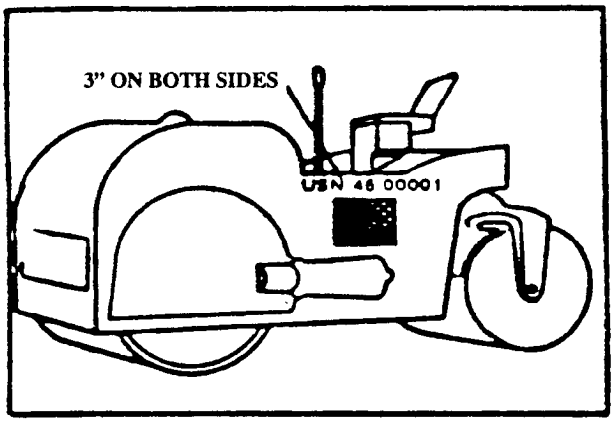
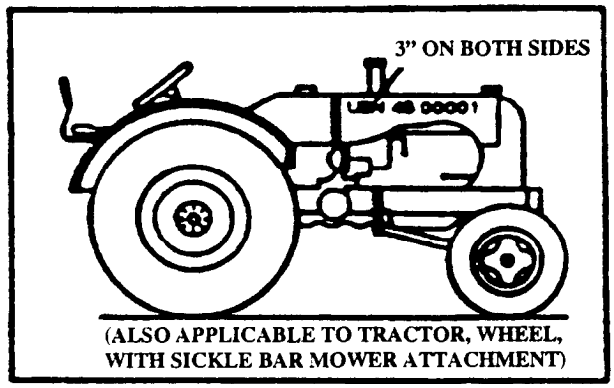
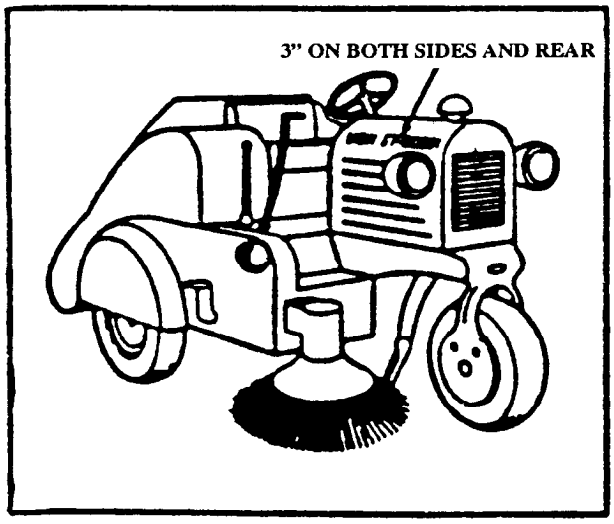










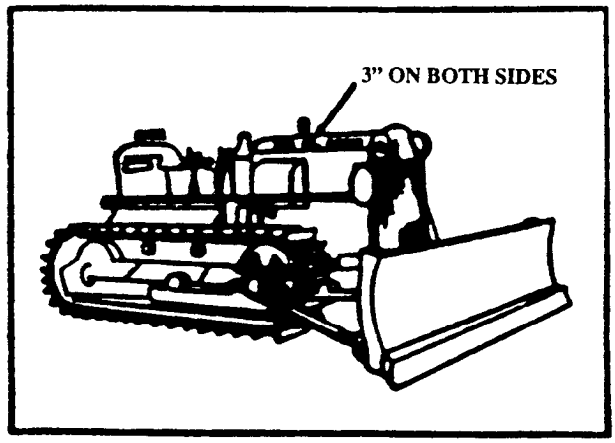
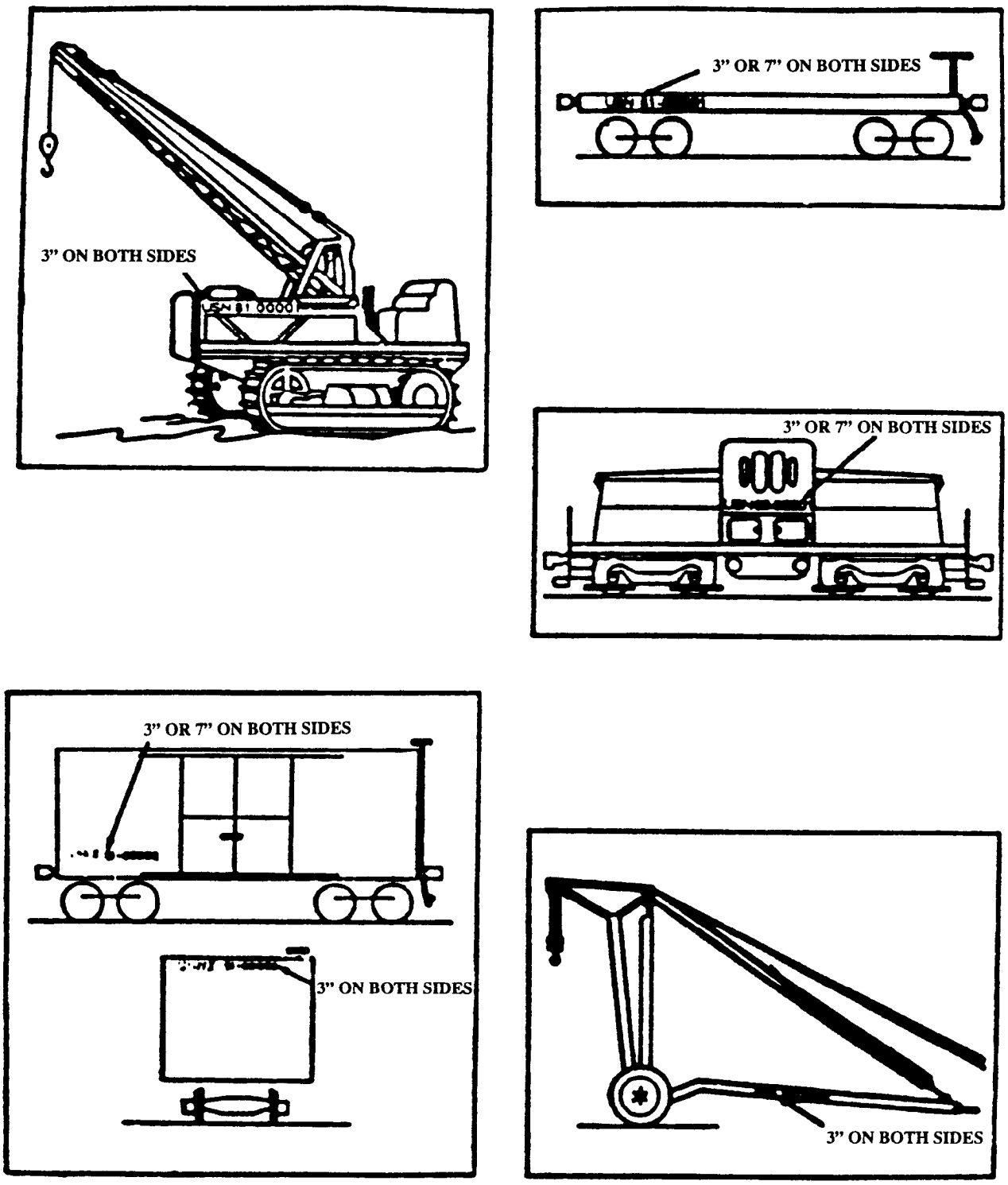


Figure J-6 (continued)

Locations of Markings



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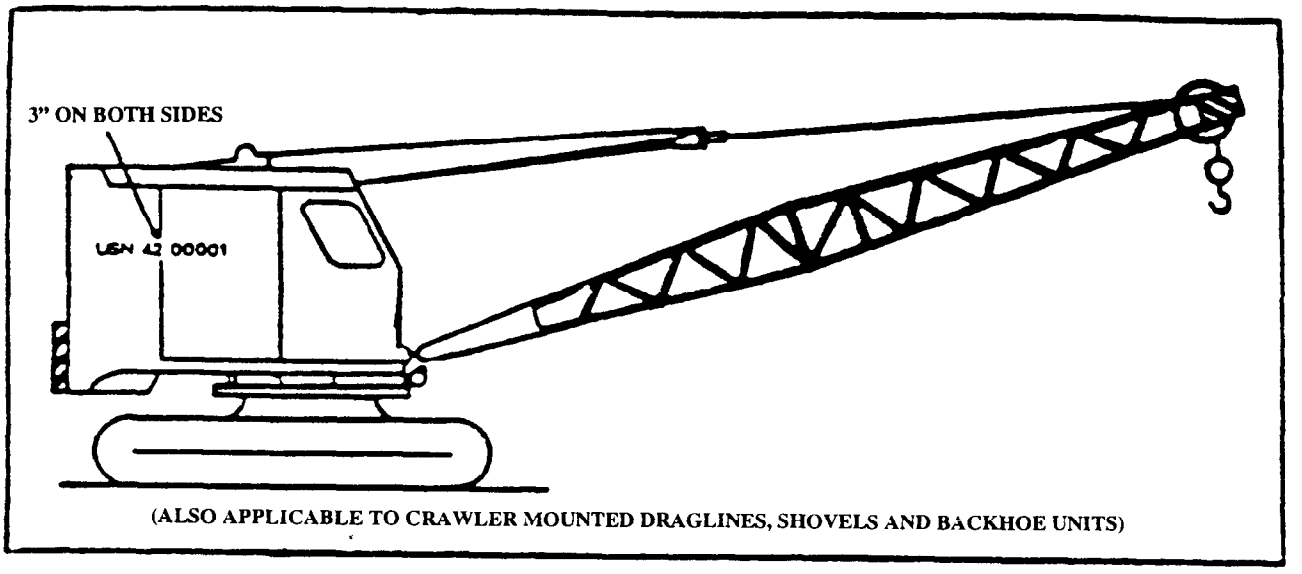

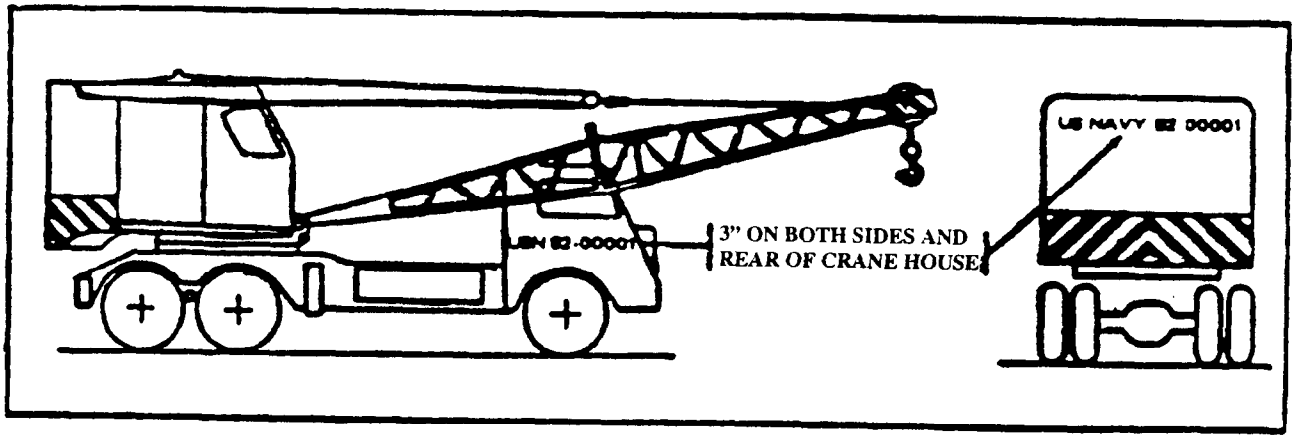

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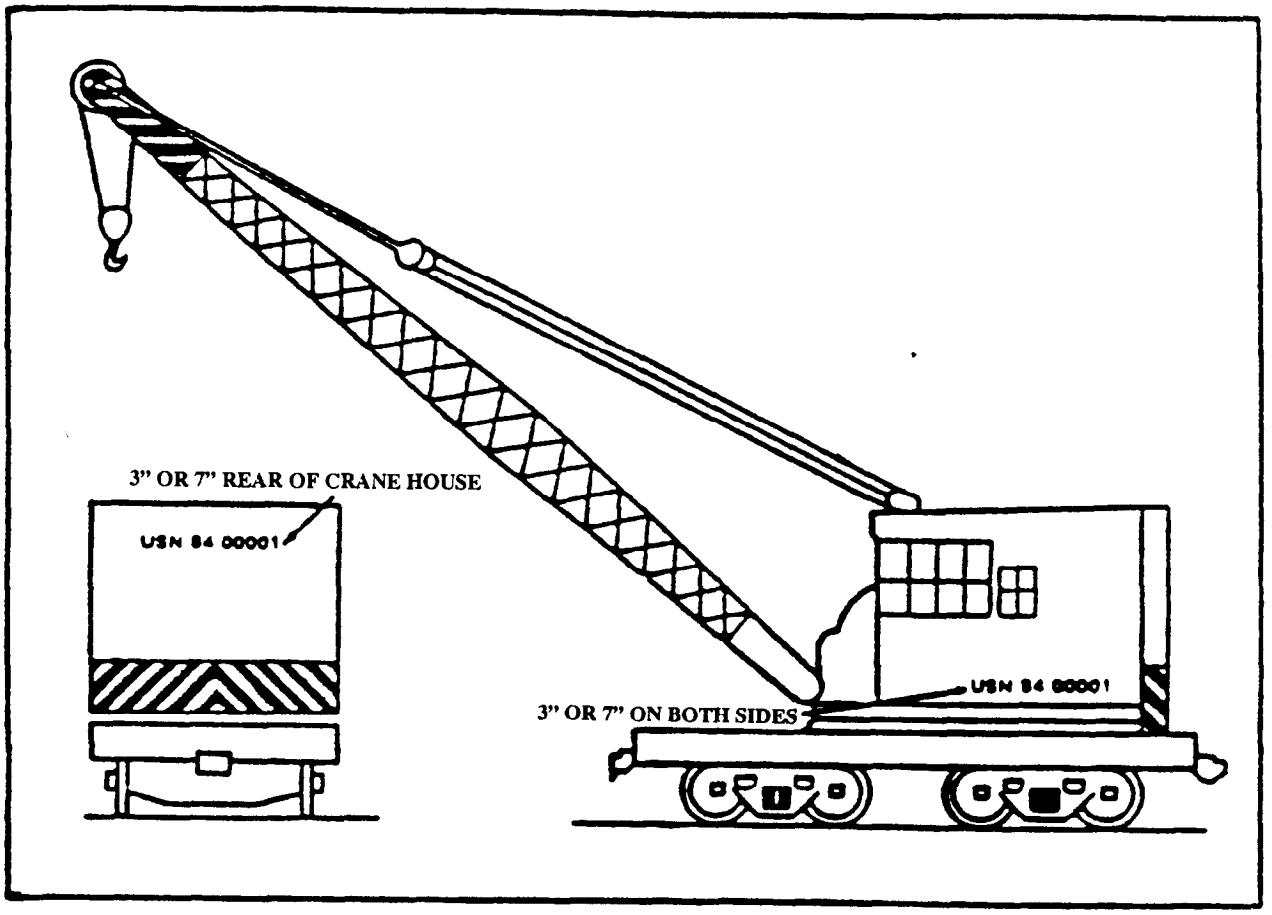

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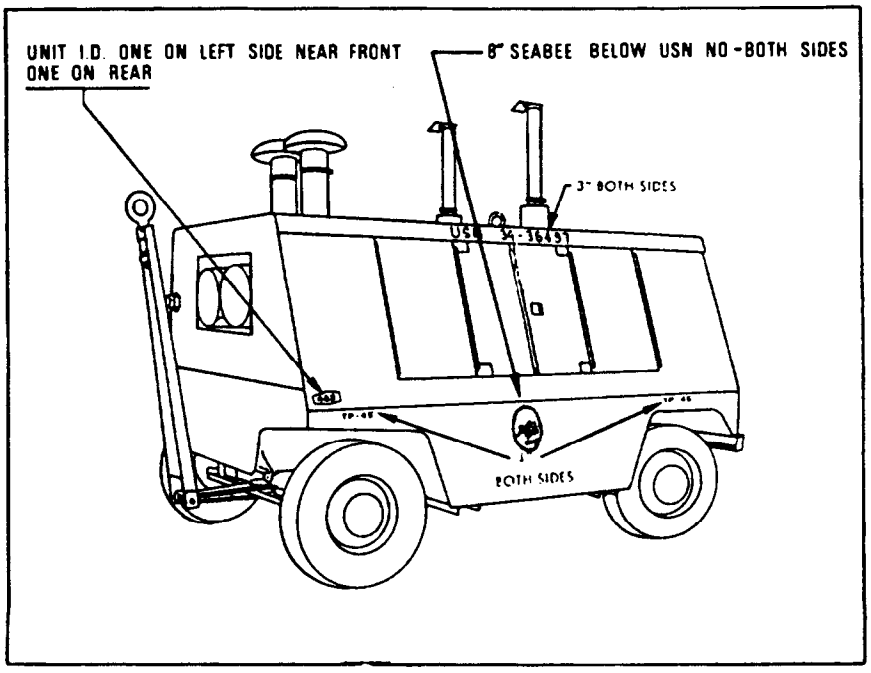

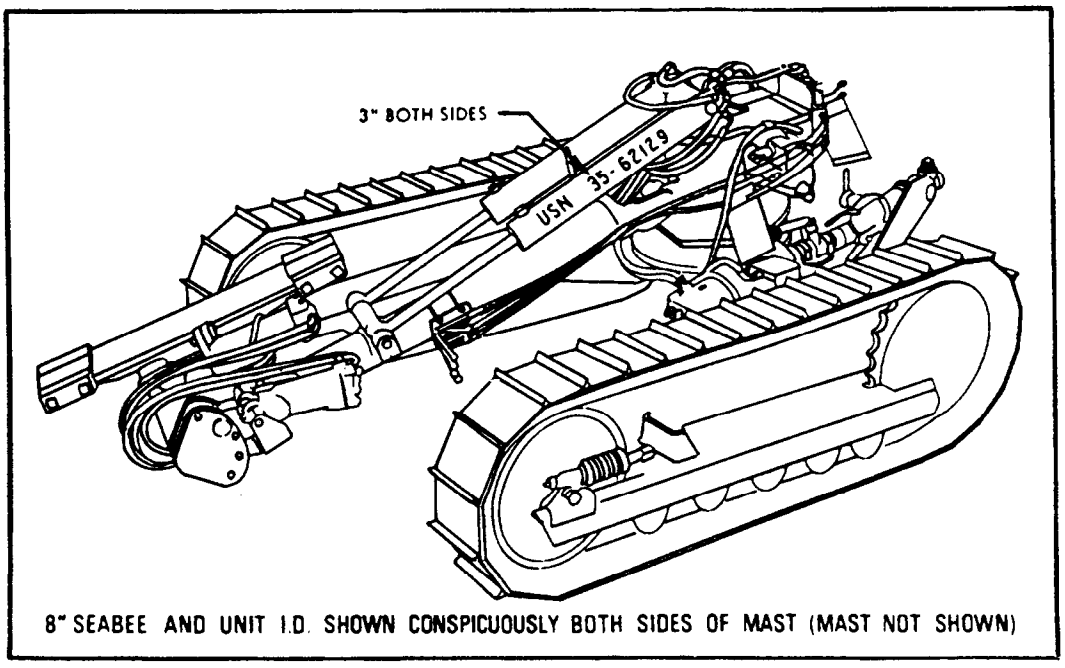

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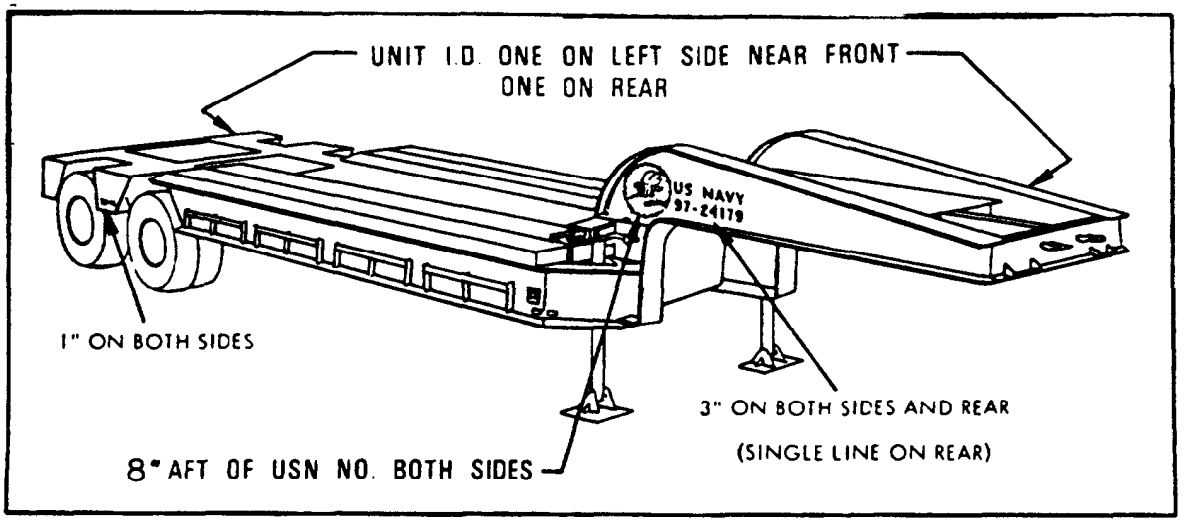

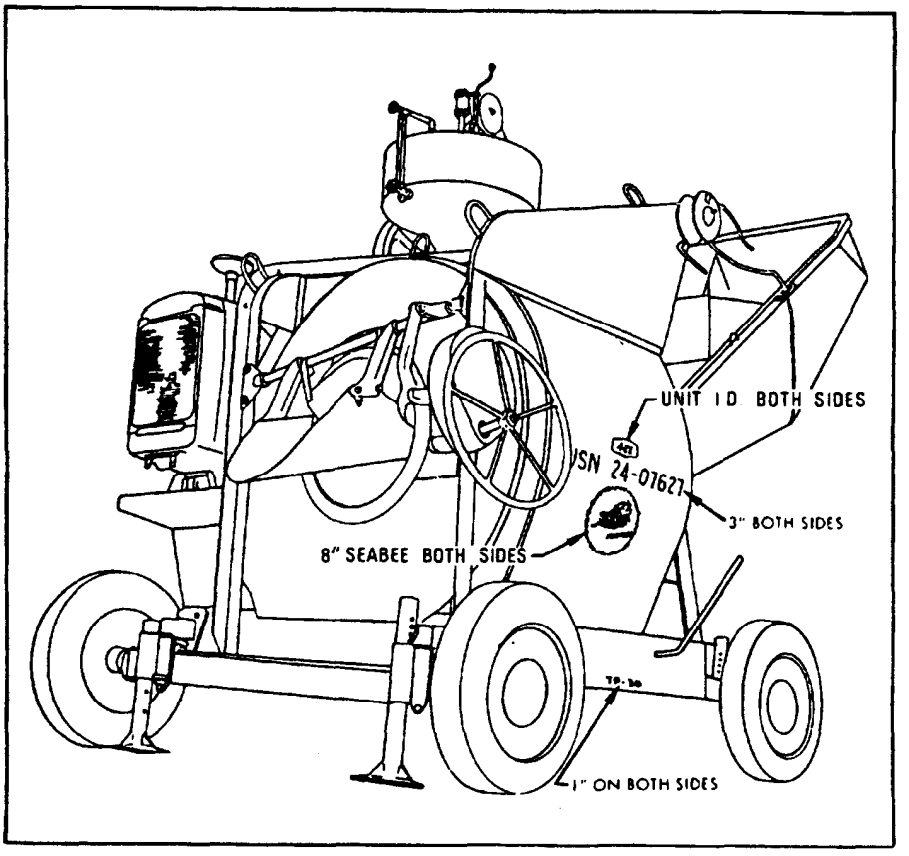

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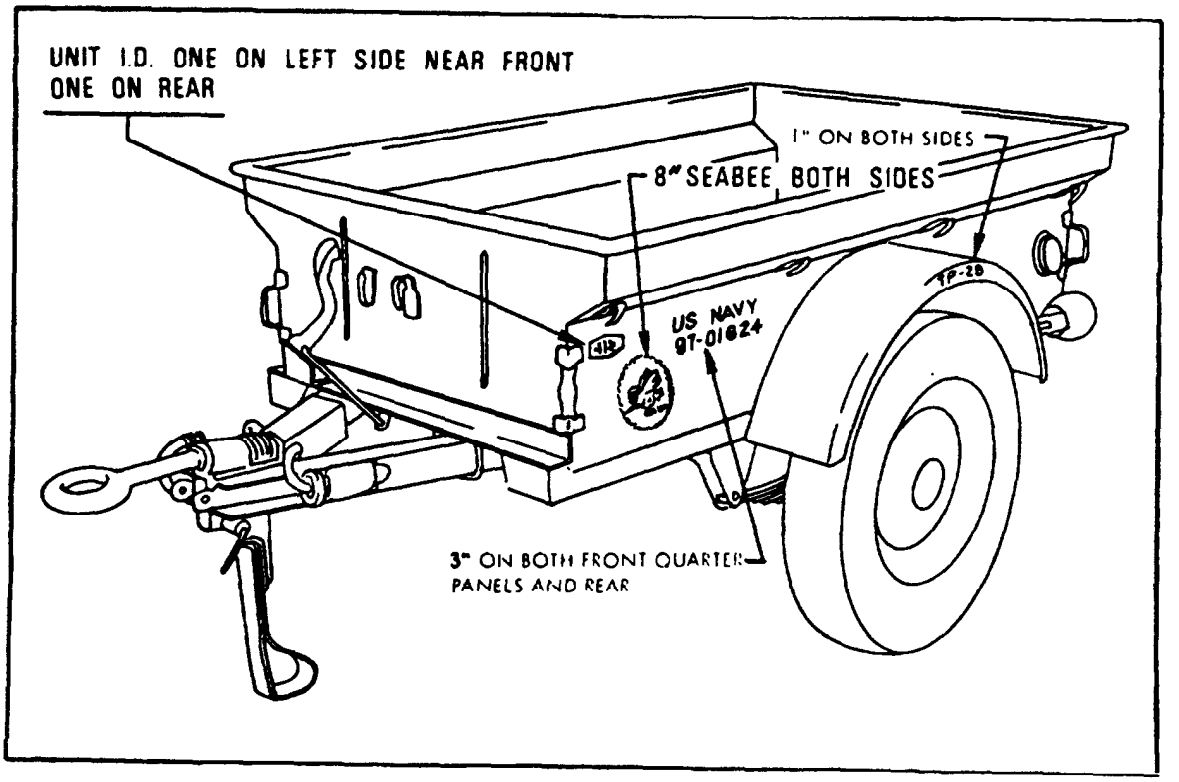

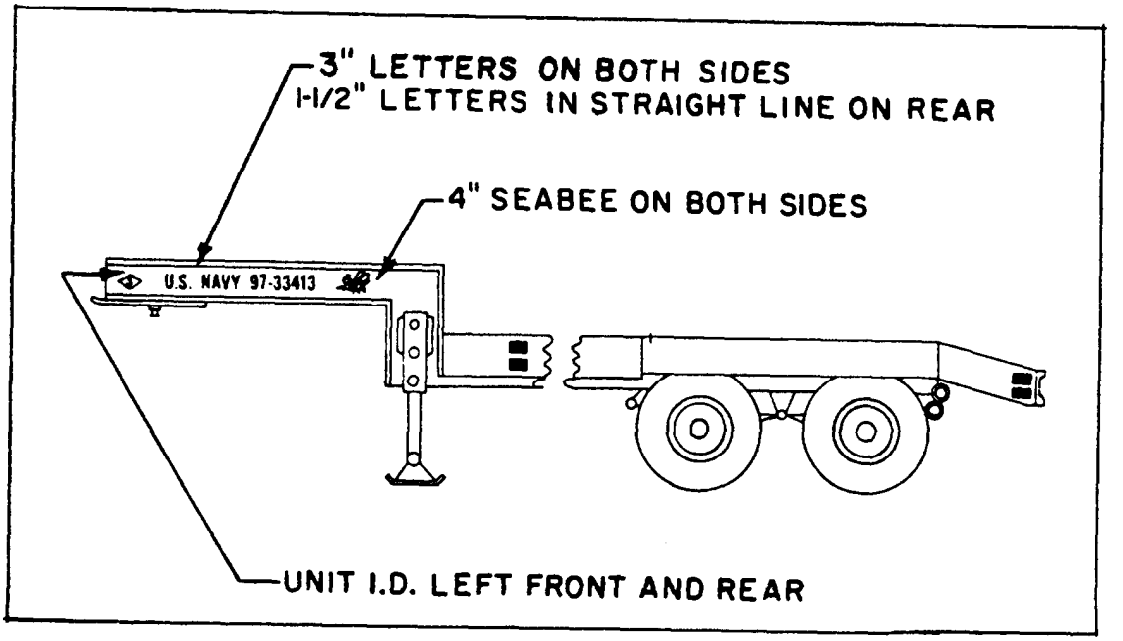

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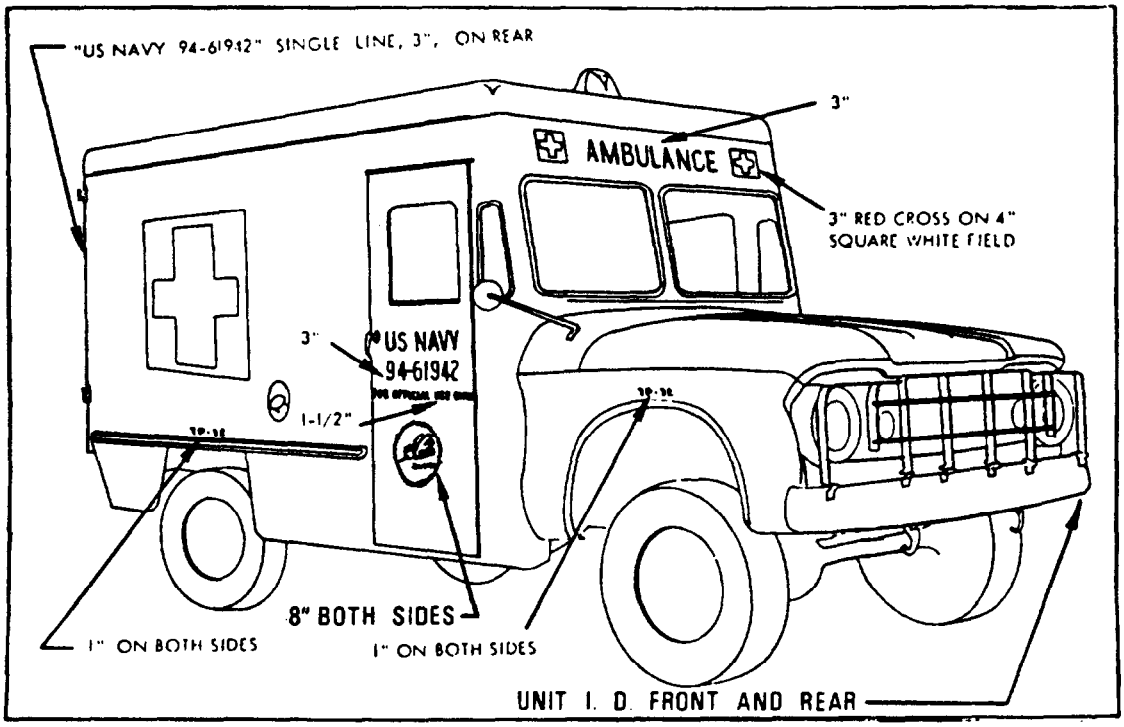

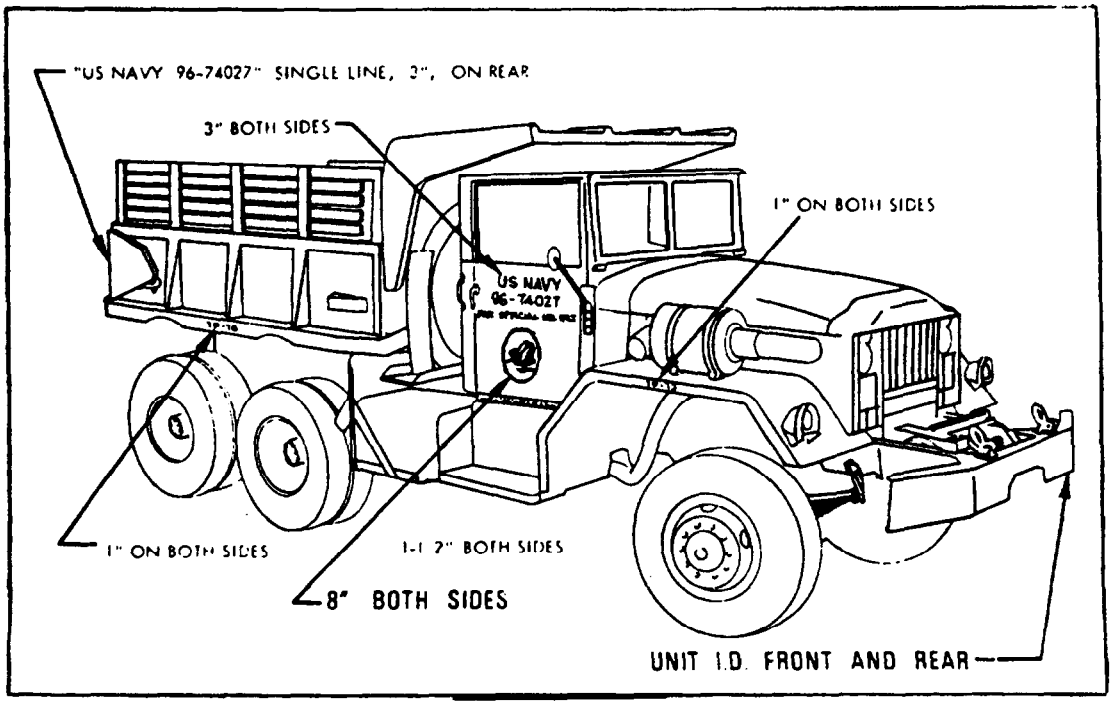

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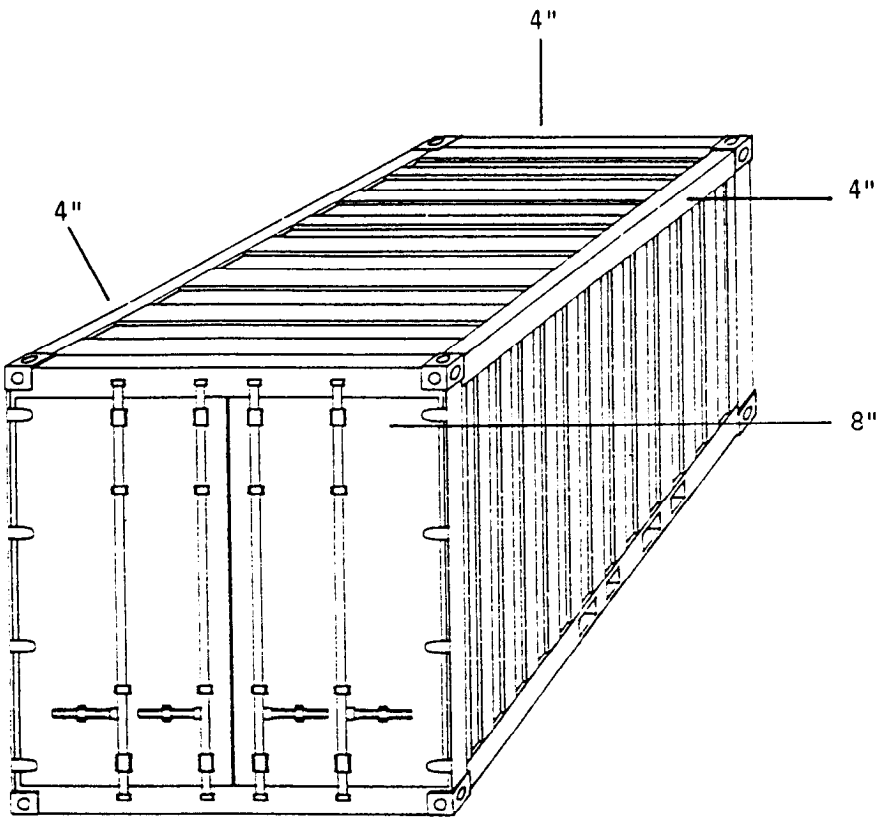


8 inch Seabee on left door above USNG number

4 inch Seabee on sides and end above USNG number

Figure J-6 (continued)

APPENDIX K. NAVAL CONSTRUCTION FORCE (NCF) AUTOMOTIVE EQUIPMENT INSPECTION GUIDE

Item	Service			Item Description
	A	**B**	**C**	
1		X	X	Valve Mechanism. Adjust valves as the need for service is indicated by valve noises or engine performance.
2		X	X	Ignition System. Check condition of distributor cap and rotor. Check timing and distributor spark advance.
3		X	X	Spark Plugs. Clean and gap spark plugs. Replace as required.
4	X	X	X	Fuel System. Check fuel filter and fuel pump screens and bowls. Clean or replace as required. Adjust idle speed and fuel mixture as required.
5	X	X	X	Choke and Throttle Controls. Check the choke, throttle linkage, engine shut-off and emergency shut-off for proper operation. Lubricate as required.
6		X	X	Governor. Inspect all linkage and pins for wear and the operating efficiency of the governor under varying load conditions. Notice signs of surging or improper operation. Lubricate as required. Using tachometer, check engine governed speed.
7	X	X	X	Fuel Tank and Shut-Off Valves. Inspect fuel tanks for condition of mounting brackets, plugged air vents, and fuel lines for leaks or chafing. Check shut-off valve for proper operation.
8	X	X	X	Lights. Inspect all lights, signals, and reflectors. Check condition of trailer jumper cables and junction boxes on truck-tractors. Visually check headlight alignment.
9	X	X	X	Battery. Check water level. Clean battery, terminal connections, remove battery and clean box, check hold-down bolts and brackets.

Item	Service			Item Description
	A	**B**	**C**	
10		X	X	Starter. Check that mounting bolts are tight and the cable connections are clean and tight.
11	X	X	X	Instruments and Controls. Check all instruments, gauges, switches, controls, and warning devices for proper operation.
12	X	X	X	Cooling Systems. Check and tighten radiator mounts and hose connections. Clean and straighten radiator fins, as necessary. Test antifreeze. Drain, flush, and refill cooling system at manufacturer's recommended service interval for mileage/hour usage.
13	X	X	X	Fan Assembly and Fan Belts. Inspect fan assembly. Inspect fan belts for cracks, frayed edges, and adjust tension to manufacturer's specifications.
14	X	X	X	Exhaust System. Check for exhaust gas leakage, and excessive noise. Check rain caps.
15	X	X	X	Clutch. Check for clutch slippage. Check that free travel is in accordance with manufacturer's specifications.
16	X	X	X	Hydraulic Brakes. Check pedal travel; fluid level; brake line condition; check for leaks; road test.
17	X	X	X	Full Air or Air Over Hydraulic Brakes. Drain air reservoirs. Check air pressure buildup. Check brake chamber push rod. Check quick application valve and for complete release of all brakes. Check tractor protection valve controls in normal and emergency positions. Check operation of emergency brake application for trailers. Check brake hose condition. Road test to determine if brakes function properly. Test low air pressure alarm.
18		X	X	All Brakes. Inspect for wear and damage. Check and lube wheel bearings as required by the manufacturer. Perform Item 16 or 17, as applicable.

Item	Service			Item Description
	A	**B**	**C**	
19	X	X	X	Leaks. Visually inspect the engine compartment, brake drums, and beneath the vehicle for indications of water, oil, fuel, or transmission fluid leaks.
20	X	X	X	Lubricate. Lubricate, using lube charts and manufacturer's specifications. Check fluid levels and fill, as required.
21		X	X	Engine Oil and Oil Filter. Oil change intervals shall be based on the vehicle manufacturer's recommended maintenance interval for mileage/hour usage.
22	X	X	X	Air Cleaner. Check screens and oil level, service as necessary. Replace or clean elements, as required.
23		X	X	Trunion Axle Bearings. Lubricate.
24	X	X	X	PCV Valve. Check positive crankcase ventilation system for proper operation. Clean or replace components, as required.
25	X	X	X	Vacuum Brake Booster Air Cleaner. Clean and lubricate.
26	X	X	X	Turbochargers, Superchargers. Check for leaks and proper operation.
27	X	X	X	Gear Boxes. Check mounting and assembly bolts, breathers, lube levels, and indications of leaking gaskets or seals. Drain and refill at manufacturer's recommended service interval for mileage/hour usage.
28		X	X	Automatic Transmission. Do Item 27, then check automatic transmission in accordance with the vehicle manufacturer's recommended procedures. Check and adjust shifting linkage.
29	X	X	X	Universal and Slip Joints. Inspect and lubricate U-joints and slip joints in accordance with manufacturer's recommendations. Tighten all driveline bolts.

Item	Service			Item Description
	A	**B**	**C**	
30	X	X	X	Hydraulic System. Check lines for leaks, packing glands for adjustment, controls for excessive wear. Check reservoir fluid level and vent openings. Hydraulic oil and filter change intervals will use the ON condition system. The system's oil is sampled and analyzed, but oil is not changed unless oil analysis indicates it needs to be changed, or the system's hours have reached manufacturer's recommended maintenance interval.
31	X	X	X	Air Compressor, Valves and Lines. Check oil level. Clean air filters and drain water traps. Check compressor unloader safety valve, belts and pulleys, and adjust in accordance with manufacturer's specifications. Check for leaks.
32	X	X	X	Steering System. Check the steering linkage for excessive looseness, proper alignment, and adjust the steering system in accordance with manufacturer's recommended procedures, if necessary.
33	X	X	X	Differential. Check lube levels. Check for unusual noises and indications of leaking gaskets or seals. Drain and refill at manufacturer's recommended service interval for mileage/hour usage.
34	X	X	X	Axles. Retighten axle flange nuts. Check for leaks.
35	X	X	X	Tires. Check for cuts, uneven wear, proper inflation and sizes. Replace missing valve caps. Check for matching tire size of duals, tandem bogies, and multidrives (4x4s, 6x6s).
36	X	X	X	Wheels. Check for rim damage and inspect for worn and elongated stud holes. Retighten all lug nuts.
37	X	X	X	Springs. Check for broken leaves or coils, loose U-bolts, or shackles.

Item	Service			Item Description
	A	**B**	**C**	
38	X	X	X	Shock Absorbers. Check for leakage. If faulty shock absorber action is suspected, remove the shock absorbers and perform bench tests in accordance with manufacturer's recommended procedures.
39	X	X	X	Frame. Check cross members, slide rails, brackets, welds, bolts, and rivets for condition and alignment.
40	X	X	X	Fifth Wheel. Check fifth wheel mounting plate, mounting plate bolts and safety lock. Check for cracked frame rails.
41	X	X	X	Engine and Transmission Mountings. Inspect supports for looseness or breaks.
42	X	X	X	Cab. Check doors, windows, glass, seats, seat belts, cushions, mirrors, body bolts, frames, sheet metal, paint and identification markings, floor, and ensure drain holes are not obstructed.
43	X	X	X	Accident Damage. Inspect for accident damage, loose or defective parts.
44	X	X	X	Windshield Wipers. Check the windshield wipers for condition and proper operation.
45	X	X	X	Safety Guards. Check all safety guards and be sure they are properly installed, secure, and in good condition.
46	X	X	X	Trailer and Semitrailer. Perform applicable operations. Check king pins for wear. Lubricate landing gear.
47	X	X	X	Parts and Components. Check miscellaneous parts and components (collateral equipage), as required.

APPENDIX L. NAVAL CONSTRUCTION FORCE (NCF) CONSTRUCTION EQUIPMENT INSPECTION GUIDE

Item	Service			Item Description
	A	**B**	**C**	
1		X	X	Valve Mechanism. Adjust valves as the need for service is indicated by valve noises or engine performance.
2		X	X	Ignition System. Check condition of distributor cap and rotor. Check timing and distributor spark advance.
3		X	X	Spark Plugs. Clean and gap spark plugs. Replace as required.
4	X	X	X	Fuel System. Check fuel filter and fuel pump screens and bowls. Clean or replace, as required. Adjust idle speed and fuel mixture, as required.
5	X	X	X	Choke and Throttle Controls. Check the choke, throttle linkage, engine shut-off and emergency shut-off for proper operation.
6		X	X	Governor. Inspect all linkage and pins for wear and the operating efficiency of the governor under varying load conditions. Notice signs of surging or improper operation. Lubricate as required. Using tachometer, check engine governed speed.
7	X	X	X	Fuel Tank and Shut-Off Valves. Inspect fuel tanks for condition of mounting brackets, plugged air vents, and fuel lines for leaks or chafing. Check shut-off valve for proper operation.
8	X	X	X	Lights. Inspect all lights, signals, and reflectors.
9	X	X	X	Battery. Check water level. Clean battery, terminal connections, remove battery and clean box, check hold-down bolts and brackets.

Item	Service			Item Description
	A	**B**	**C**	
10		X	X	Generators. Check bearing seals for leaks. Clean dust and oil from air passages. Check condition of slip ring, commutator, and brushes for wear and proper alignment. Instruments must function properly. Lubricate as required.
11		X	X	Starter. Check that mounting bolts are tight and the cable connections are clean and tight.
12	X	X	X	Instruments and Controls. Check all instruments, gauges, switches, controls, and warning devices for proper operation.
13		X	X	Water Charge and Time Device. Inspect for functional accuracy and operation.
14	X	X	X	Cooling Systems. Check and tighten radiator mounts and hose connections. Clean and straighten radiator fins as necessary. Test antifreeze. Drain, flush, and refill cooling system at manufacturer's recommended service interval for mileage/hour usage.
15	X	X	X	Fan Assembly and Fan Belts. Inspect fan assembly. Inspect fan belts for cracks, frayed edges, and adjust tension in accordance with manufacturer's specifications.
16	X	X	X	Exhaust System. Check for exhaust gas leakage and excessive noise. Check rain caps.
17	X	X	X	Clutch. Check for clutch slippage. Check that free travel is in accordance with manufacturer's specifications.
18	X	X	X	Hydraulic Brakes. Check pedal or lever travel; fluid level; brake line condition; check for leaks; road test.

Item	Service			Item Description
	A	**B**	**C**	
19	X	X	X	Full Air or Air Over Hydraulic Brakes. Drain air reservoirs. Check air pressure buildup. Check brake chamber push rod. Check quick application valve and for complete release of all brakes. Check tractor protection valve controls in normal and emergency positions. Check operation of emergency brake application for trailers. Check brake hose condition. Road test to determine if brakes function properly. Test low air pressure alarm.
20		X	X	All Brakes. Inspect for wear and damage. Check and lube wheel bearings as required by manufacturer. Then perform Item 18 or 19, as applicable.
21	X	X	X	Leaks. Visually inspect the engine compartment, brake drums, and beneath the vehicle for indications of water, oil, fuel, or transmission fluid leaks.
22	X	X	X	Lubricate. Lubricate using lube charts and manufacturer's specifications. Check fluid levels and refill, as required.
23		X	X	Engine Oil and Oil Filter. Oil change intervals shall be based on the manufacturer's recommended maintenance interval for mileage/hour usage.
24	X	X	X	Air Cleaner. Check screens and oil level, service as necessary. Replace or clean elements, as required.
25	X	X	X	Turbochargers and Superchargers. Check for leaks and proper operation.
26	X	X	X	Gear Boxes. Check mounting and assembly bolts, breathers, lube levels, indications of leaking gaskets or seals. Drain and refill at manufacturer's recommended service interval for mileage/hour usage.
27		X	X	Automatic Transmission. Do Item 26, then check automatic transmission in accordance with the manufacturer's recommended procedures. Check and adjust shifting linkage.

Item	Service			Item Description
	A	**B**	**C**	
28	X	X	X	Exposed Drive Chains. Check for wear and broken or cracked links and rollers. Adjust tension, if required.
29	X	X	X	Belts, Drive. Inspect for alignment, cracked and frayed edges. Adjust in accordance with manufacturer's specifications.
30	X	X	X	Universal and Slip Joints. Inspect and lubricate U-joints and slip joints in accordance with manufacturer's recommendations. Tighten all driveline bolts.
31	X	X	X	Air Compressor, Valves, and Lines. Check oil level. Clean air filters and drain water traps. Check compressor unloader safety valve, belts, and pulleys, and adjust in accordance with manufacturer's specifications. Check for leaks.
32	X	X	X	Hydraulic System. Check lines for leaks, packing glands for adjustment, controls for excessive wear. Check reservoir fluid level and vent openings. Hydraulic oil and filter change intervals will use the ON condition system. The system's oil is sampled and analyzed, but oil is not changed unless oil analysis indicates it needs to be changed, or the system's hours have reached manufacturer's recommended maintenance interval.
33	X	X	X	Steering System. Check the steering linkage for excessive looseness, proper alignment, and adjust the steering system in accordance with manufacturer's recommended procedures, if necessary.
34	X	X	X	Differential. Check lube levels. Check for unusual noises and indications of leaking gaskets or seals. Drain and refill at manufacturer's recommended service interval for mileage/hour usage.
35	X	X	X	Final Drives. Check lube levels, security of bolts and capscrews. Check for leaks.

Item	Service			Item Description
	A	**B**	**C**	
36	X	X	X	Tires. Check for cuts, uneven wear, proper inflation and sizes. Replace missing valve caps. Check for matching tire size of duals, tandem bogies, and multidrives (4x4s and 6x6s).
37	X	X	X	Wheels. Check for rim damage and inspect for worn and elongated stud holes. Retighten all lug nuts.
38		X	X	Crawler Track Assembly. Check plates, linkage, pins, and bushings for wear. Check track shoe mounting. Inspect and adjust track tension in accordance with manufacturer's instructions.
39	X	X	X	Sprockets. Check for tooth wear and alignment.
40	X	X	X	Rollers. Check for oil leaks, broken flanges, flat spots, and worn faces. Rollers should turn freely.
41	X	X	X	Springs. Check for broken leaves or coils, loose U-bolts, or shackles.
42	X	X	X	Frame. Check cross members, slide rails, brackets, welds, bolts, and rivets for condition and alignment.
43	X	X	X	Engine Mounts. Inspect supports for looseness or breaks.
44	X	X	X	Cab. Check doors, windows, glass, seats, seat belts, cushions, mirrors, body bolts, frames, sheet metal, floors, paint and identification markings, and ensure drain holes are not obstructed.
45	X	X	X	Accident Damage. Inspect for accident damage, loose or defective parts.
46	X	X	X	Windshield Wipers. Check the windshield wipers for condition and proper operation.
47	X	X	X	Safety Guards. Check all safety guards and be sure they are properly installed, secure, and in good condition.

Item	Service			Item Description
	A	**B**	**C**	
48	X	X	X	Power Control Units. Cable-type: Check oil levels; check for leaks and worn or glazed linings and bands. Hydraulic-type: Check operation of control valves and pumps. Inspect piston rods and linkage for wear. Check for leaks.
49	X	X	X	Buckets. Check for loose plates, rivets, welds, fasteners, tooth and bit holders, and improper working latches.
50	X	X	X	Cutting Edges and End Bits. Check attaching bolts or clips. Check distance that wear is approaching mold board or bit holder.
51	X	X	X	Bearings and Bushings. Inspect grease seals for leaks. Check bearings for adjustment and alignment. Lubricate as required.
52	X	X	X	Moldboard and Lift Arms. Check pins, pivot socket, bolts, welds, and shifting mechanism. Check list and side arms for bends and worn linkage. Check that pin keepers are in place.
53	X	X	X	Fairleads. Check sheaves, rollers, and mounting.
54	X	X	X	Tagline. Check in accordance with manufacturer's instructions.
55	X	X	X	Cables and Sheaves. Inspect condition of cables and attachments, replace in accordance with manufacturer's instructions. Check sheaves, pins, and bearings for wear and broken flanges.
56	X	X	X	Boom and Leads. Check crossmembers, slide rails, brackets, welds, bolts, and rivets for condition and alignment. Check boom harness for defective cables, pins, and sheaves.
57	X	X	X	Dipper Stick and Racking. Check for general condition and alignment. Note any cracks, breaks, and loose bolts or rivets.

Item	Service			Item Description
	A	**B**	**C**	
58	X	X	X	Crowd Assembly. Check for proper operation. Adjustment should be made according to the manufacturer's instructions.
59	X	X	X	Boom and Hoist Drum Assemblies. Check drum bearings, bushings, shafting, grease seals, and lagging.
60	X	X	X	Swing Mechanism. Inspect gears, circle, roller path, fins, roller shafts, and bearing seals for wear. Rollers should rotate freely. Swing locks and linkage must operate properly.
61		X	X	Center Pin, House Carrier, and Hold-Down Rollers. Inspect for wear. Adjust to manufacturer's specifications.
62		X	X	Travel Mechanism. Inspect and adjust clutches. Inspect travel lock, shafts, and linkage for excessive wear.
63	X	X	X	Gears and Pinions. Check open gears and pinions for proper lubrication.
64	X	X	X	Hammer Links. Check for bending and elongated mounting bolt holes.
65	X	X	X	Jaws, Liners, and Concaves. Check for wear and secure mounting.
66		X	X	Toggle Assembly. Check plates, seats, wedges, and ways for wear, cracks, and breaks. Check tension spring for adjustment.
67	X	X	X	Eccentric Shaft or Sleeve. Check for wear and leaks.
68	X	X	X	Conveyors and Drives. Check condition of belts and splices, alignment, scrapers and cleaners, tail pulley, chains and buckets, sprockets, and safety guards.

Item	Service			Item Description
	A	**B**	**C**	
69	X	X	X	Screen and Drives. Check for wear, mounting, alignment, and operation. Check that rivets, bolts, and braces are in place and secure.
70	X	X	X	Bins, Hoppers, and Chutes. Check braces and fastenings. Inspect operation of gates and controls.
71	X	X	X	Mixer Drum. Check cleanliness of drum and mixing flight, chutes, bearings, and trunion rollers for wear.
72	X	X	X	Parts and Components. Check miscellaneous parts and components, as required.

Appendix M. Fuels, Lubricants, Preservation, and Rustproofing Materials

Section 1. LUBRICANTS

1. **Engine Oils: API/SAE Service Classifications and Military Specifications**. The current trend of manufacturers of vehicle major components is to use both the multigrade and the single grade lubricant oils. It is suggested that in all cases you follow the manufacturers' guide lines on lubricating oils. Basically, multigrade oils have a greater temperature range and hold up much longer than most single grade oils, and also have better lubricating qualities.

Motor oils are classified by the American Petroleum Institute (API), The Society of Automotive Engineers (SAE), and the American Society for Testing and Materials (ASTM). Jointly they have developed the present commercial system to designate and identify motor oil classifications.

The lubricating oil in an engine is continually exposed to severe stresses. It may be because a vehicle is driven with a heavy load and varying working temperatures under most unfavorable conditions. It is essential that the oil has the correct qualities and contains different additives to counteract wear, corrosion, and fatigue. Since engine design and operating conditions vary for different vehicles, the lubricating oil has been adapted to the various engine types and ranges of use. The range of use for the oil is usually indicated on the oil drum or can, for example, "For Service CD," or "For Service SG." In a number of cases, the composition of the oil may be such that it has several different ranges of use, for example, "For SG/CD/CDII."

Engine oil classifications not included in this manual have been determined obsolete because test hardware or fluids used to define those performance categories are no longer available. The following is a list of current API letter designations.

a. CD - Diesel Engine Service. Oils designated for this service are typical of certain naturally aspirated, turbocharged or supercharged diesel engines where highly effective control of wear and deposits is vital or when using fuels of a wide quality range, including high sulfur fuels. Also, this service provides protection from bearing corrosion and from high temperature deposits.

b. CDII - Severe-Duty Two-Stroke-Cycle Diesel Engine Service. Oils designated for this service are typical of two-stroke-cycle engines that require highly effective control over wear and deposits. Also, this service meets all performance requirements of API service category "CD."

c. CE - 1983 Diesel Engine Service. Oils designated for this service are typical of certain naturally aspirated, turbocharged or supercharged heavy duty diesel engines manufactured since 1983 and operated under both low speed, high load and high speed, and high load conditions. This service may also be used where API engine service category "CD" is recommended for diesel engines.

d. CF4 - High-Speed Four-Stroke-Cycle Diesel Engine Service. Oils designated for this category were adopted in 1990 and describes oils for use in high speed four-stroke-cycle diesel engines. These oils exceed the requirements of the "CE" category by providing improved control of oil consumption and piston deposits. They are particularly suited for on highway, heavy truck applications. When combined with the appropriate "S" category, for example, "SG," they can also be used in gasoline and diesel powered vehicles such as automobiles, light trucks, and vans, when recommended by the vehicle or engine manufacturer.

e. SG - 1989 Gasoline Engine Warranty Maintenance Service. Oils designated for this service are typical of present gasoline engines in passenger cars, light trucks, and vans that operate under manufacturers' recommended maintenance procedures. Category "SG" quality oils include the performance properties of API service category "CC." Certain manufacturers of gasoline engines require oils that also meet the higher diesel engine category "CD." Oils developed for this service provide improved control of engine deposits, oil oxidation, and engine wear relative to oils developed for previous categories. These oils also provide protection against rust and corrosion. Oils that meet API service category "SG" may be used when API service categories "SF, SE, SF/CC, or SE/CC" are recommended.

Within each range of use, the oil is divided into different viscosity classes, for example, "SAE 10W," "SAE 20W/20," and "SAE 30." The "SAE" classification is exclusively based on the viscosity of the oil. Oils with the single designation, for example, "SAE 10," "SAE 20," are known as single viscous oils, or single grade. "SAE 10W/20" is an example of a designation for a double viscous oil, or double grade. This designation means that with the oil it is just as easy to start the engine as with an "SAE 10W" oil, and that it has the same lubricating capacity at high temperatures as an "SAE 20" oil. An oil which covers three SAE numbers, for example, "SAE 10W/30" is known as multigrade oil, and one that covers more than three, "SAE 15W/40" oils, are known as stay-in-grade oils.

The SAE number with the letter "W" is based on a viscosity at 0^0F (-18^0C) and the others on the viscosity at 212^0F (100^0C).

The *Engine Manufacturers Association* is an excellent reference to determine the commercially available oils that meet API/SAE specifications. Compiled by the Engine Manufacturers Association, it can be obtained for about $70.00 from EMA, 401 North Michigan Avenue, Chicago, Illinois, 60611.

Military Specification MIL-L-2104.

Intended Use. The grade SAE 10W oil is not to be used in high-output, two-cycle compression-ignition engines. The lubricating oils, except as mentioned above, covered by this specification are intended for the crankcase lubrication of reciprocating spark-ignition and compression-ignition engines used in all types of military combat/tactical ground equipment and for the crankcase lubrication of high-speed,

high-output, supercharged compression-ignition engines used in all ground equipment. The oils are also intended for the same application in power transmissions, hydraulic systems, and non-hypoid gear units of engineer/construction equipment, materials handling equipment and combat/tactical ground equipment. The lubricating oils covered by this specification meet service classification CDII of SAE J183 and are intended for all conditions of operational service, as defined by appropriate lubrication orders, when temperatures are above -13^{0}F (-25^{0}C).

Military Specification MIL-L-46167.

Intended Use. Lubricating oil covered by this specification is intended for the crankcase lubrication of reciprocating spark-ignition and compression-ignition engines used in all types of ground equipment. The specification product is intended for crankcase lubrication under all conditions of service, as defined by appropriate lubrication orders, when ambient temperatures are in the range of 41^{0}F (5^{0}C) to -67^{0}F (-55^{0}C). The lubrication oil covered by this specification is not to replace Grade 10W, MIL-L-2104 lubricant, in areas where ambient temperatures will not be below -13^{0}F (-25^{0}C). In addition, the lubricating oil covered by this specification is intended for use in arctic regions as an all weather (year-round) power transmission fluid for military tactical/combat ground equipment.

TACTICAL ENGINE OILS

Military Specification	Military Symbol	Quantity	NSN
MIL-L-2104	OE/HDO 15/40	1 QT	9150-01-178-4725
	(SAE 15W/40)	5 GL	9150-01-152-4118
		55 GL	9150-01-152-4119
	OE/HDO 10	1 QT	9150-01-177-3988
	(SAE 10W)	5 GL	9150-00-186-6668
		55 GL	9150-00-191-2772
	OE/HDO 30	1 QT	9150-01-178-4726
	(SAE 30)	5 GL	9150-00-188-9858
		55 GL	9150-00-189-6729
	OE/HDO 40	1 QT	9150-00-189-6730
	(SAE 40)	5 GL	9150-00-188-9860
		55 GL	9150-00-188-9862
MIL-L-46167 OEA	(SAE 0W-20)	1 QT	9150-00-402-4478
		5 GL	9150-00-402-2372
		55 GL	9150-00-491-7197

COMMERCIAL HD ENGINE OILS

Military Specification	Military Symbol	Quantity	NSN
A-A-52306	CHDO 15W-40 (SAE 15W-40)	12 QT	9150-01-351-9010
		5 GL	9150-01-352-2962
		55 GL	9150-01-351-9018
	CHDO 30 (SAE 30)	12 QT	9150-01-351-9016
		5 GL	9150-01-352-8090
		55 GL	9150-01-351-9015
	CHDO 40 (SAE 40)	55 GL	9150-01-352-8091

2. **Gear Lubricants**. Operating temperatures of axles and transmissions should be kept under 250^0F (122^0C). Operating at high temperatures breaks down the lubricant and increases the rate of oxidation and shortens lubricant life.

Caution should always be taken in cold weather operations. Time should be given for lubricating oils to warm up, because metal to metal contact is possible.

Proper oil level is a must, and should be checked at regular intervals. Look for signs of oil leaks because low oil levels could cause costly repairs. This is especially critical if the vehicle is operating in mountainous regions where angularity of the transmission and axles have to be taken into consideration.

In all cases, follow the recommendations of the component manufacturer. Experimenting with nonapproved additives and lubricants can prove to be expensive either through premature failures or voiding of warranty on the component involved.

a. API Classifications for Power Trains. A list of API classifications for power trains is shown below.

(1) **GL-1** designates the type of service characteristics of automotive spiral bevel and wormgear axles and some manually operated transmissions operating under mild conditions of low unit pressures and sliding velocities, that straight mineral oil can be used satisfactorily. Oxidation and rust inhibitors, defoamers, and pour depressants may be used to improve the characteristics of lubricants for this service. Frictional modifiers and extreme pressure agents shall not be used.

(2) **GL-2** designates the type of service characteristics of automotive type worm gear axles operating under such conditions of load, temperature, and sliding velocities, that lubricants satisfactory for API-GL-1 will not suffice.

(3) **GL-3** designates the type of service characteristics of manual transmission and spiral bevel axles operating under moderately severe conditions of speed and load. These service conditions require a lubricant that has load carrying capacities greater than those which satisfy API-GL-1 service, but below the requirements of lubricants that satisfy API-GL-4 service.

(4) **GL-4** designates the type of service characteristic of gears, particularly hypoid in vehicles operated under moderate speeds and load conditions.

(5) **GL-5** designates the type of service characteristic of gears, particularly hypoid in vehicles operated under high speed and/or low speed high torque conditions.

(6) **GL-6** designates the type of service characteristic of gears, particularly high offset hypoid in passenger cars and other automotive equipment operated under high speed and high performance conditions.

b. Efficiency and Life of Axles and Transmissions. If a lubricant is suitable for more than one of the API classifications for power train classes, it should be indicated. The classification does not include oils for automatic transmissions, torque converters, differential brakes, etc., which require special lubricants.

The efficiency and life of all axles and transmissions depend on proper lubrication to reduce friction, help cool, and keep dirt and wear particles away from moving parts. Improper lubricants are a major cause of component failure. It is essential to use recommended lubricant specifications and capacities.

As a general practice, the mixing of lubricants should be avoided. Mixing gear lubricants with even small amounts of other types of lubricants can result in antagonistic reactions between the additive chemicals in the mixture. Such reactions may result in a significant loss of gear protection. The mixing of MIL-L-2105 approved lubricants, as in a top-off situation, should not impair lubricant performance because these lubricants are required to demonstrate stability when mixed with previously qualified gear lubricants.

Military Specification MIL-L-2105.

Intended Use. The gear lubricants covered by this specification meet American Petroleum Institute (API) Service Classification GL-5, and are intended for automotive gear units, heavy-duty industrial type enclosed gear units, steering gear units, and fluid lubricated universal joints of automotive equipment. The lubricants covered by this specification are intended for use as defined by appropriate lubrication orders when ambient temperatures are above -65^0F (-54^0C).

GEAR LUBRICANTS

Military Specification	Military Symbol	Quantity	NSN
MIL-L-2105	GO75 (SAE 75W)	1 QT	9150-01-035-5390
		1 GL	9150-01-048-4593
		5 GL	9150-01-035-5391
	GO 80/90 (SAE 80W-90)	1 QT	9150-01-035-5392
		1 GL	9150-01-313-2191
		5 GL	9150-01-035-5393
		55 GL	9150-01-035-5394
	GO 80/140 (SAE 85W-140)	1 QT	9150-01-048-4591
		5 GL	9150-01-035-5395
		55 GL	9150-01-035-5396
	GO 80/90 (SAE 80W-90) Limited Slip	5 GL	9150-00-001-9395

HYDRAULIC FLUIDS

Military Specification	Military Symbol	Quantity	NSN
MIL-H-46170 Type 1 (Yellow) Flash Point 390^0F	FRH	1 QT	9150-00-111-6256
		1 GL	9150-00-111-6254
		5 GL	9150-00-111-6255
		55 GL	9150-01-158-0462
MIL-H-46170 Type 2 (Red) Flash Point 390^0F	FRH	1 QT	9150-01-131-3323
		1 GL	9150-01-131-3324
		5 GL	9150-01-131-3325
		55 GL	9150-01-119-8149
MIL-H-6083 Flash Point 147^0F	OHT	1 QT	9150-00-935-9807
		1 GL	9150-00-935-9808
		5 GL	9150-00-935-9809
		55 GL	9150-00-935-9810

3. **Grease Lubricants**. A lubricating grease is a solid to semifluid mixture of a fluid lubricant and thickening agent. Additives that give special properties may be incorporated. The fluid component may be a mineral oil or a synthetic fluid; the thickener may be a metallic soap or a nonsoap substance such as clay, a urea compound, or other material. The most commonly used soaps are calcium, lithium, sodium, aluminum or a combination of these with other materials. When mixing different types of greases, the possibility of incompatibility exists and should be avoided since it may result in excessive thinning and leakage. Cleanliness is the prime consideration in the use of greases. The removal of surface grease and dirt accumulation from dispensing equipment and application points such as zerks and grease gun fitting is essential. Excessive dispensing pressures and pumping rates should be avoided because they tend to cause seal deformation and rupture.

Automotive service greases are classified into two groups: (1) chassis lubricants and (2) wheel bearing lubricants. These are further separated into performance categories: chassis grease categories "LA" and "LB," and wheel bearing grease categories "GA," "GB," and "GC." Greases that meet the requirements of chassis grease and wheel bearing grease are considered multipurpose greases, and should carry the appropriate NLGI designations for both groups to avoid confusion with commercial, nonautomotive multipurpose greases.

a. National Lubrication Grease Institute (NLGI) Classifications. A list of the NLGI classifications is shown below.

(1) **LA** service is typical of chassis components and universal joints in passenger cars, trucks, and other vehicles under mild duty only. Mild duty is encountered in vehicles operated with frequent relubrication in non-critical applications.

(2) **LB** service is typical of chassis components and universal joints in passenger cars, trucks, and other vehicles under mild to severe duty. Severe duty is encountered in vehicles operated under conditions which may include prolonged relubrication intervals, or high loads, severe vibration, exposure to water or other contaminants.

(3) **GA** service is typical of wheel bearings in passenger cars, trucks, and other vehicles under mild duty. Mild duty is encountered in vehicles operated with frequent relubrication in non-critical applications.

(4) **GB** service is typical of wheel bearings in passenger cars, trucks, and other vehicles under mild to moderate duty. Moderate duty is encountered in most vehicles operated under normal urban, highway, and off-highway service.

(5) **GC** service is typical of wheel bearings in passenger cars, trucks, and other vehicles under mild to severe duty. Severe duty is encountered in certain vehicles operated under conditions that result in high bearing temperatures. This includes vehicles operated under frequent stop-and-go service (buses, taxis, urban

police cars, etc.) or under severe braking service (trailer towing, heavy loading, mountain driving, etc.).

b. Grease Consistency. The consistency of grease is an important factor in its ability to lubricate, seal and remain in place, and for the ease of dispensing. Most automotive greases are in the NLGI No. 1, 2, or 3 range, that is, from soft to medium consistency. Grease containers should display the consistency number as well as the category designation.

Military Specification MIL-G-10924.

Intended Use. The grease covered by this specification is intended for the lubrication and surface corrosion protection of all ground vehicles and equipment operated over the temperature range from -65^{0}F (-54^{0}C) to 356^{0}F (180^{0}C). This grease may also be used in other applications within this temperature range where National Lubricating Grease Institute (NLGI) No. 2 consistency grease with oxidation resistant and corrosion prevention properties is desirable.

TACTICAL GREASES

Military Specification	Military Symbol	Quantity	NSN
MIL-G-10924	GAA	14 OZ	9150-01-197-7693
		1.75 LB	9150-01-197-7690
		6.50 LB	9150-01-197-7689
		35.00 LB	9150-01-197-7692
		120.00 LB	9150-01-197-7691
MIL-G-81322	WTR	8 OZ	9150-00-181-7724
		1.00 LB	9150-00-944-8953
		5.00 LB	9150-00-145-0268
		35.00 LB	9150-00-935-5851

GENERAL GREASES

Military Specification	Military Symbol	Quantity	NSN
VV-G-632	None	8 OZ	9150-00-753-4649
		6.50 LB	9150-00-235-5532
		35.00 LB	9150-00-273-2374
VV-G-671	GG2	1.75 LB	9150-00-190-0918
		6.50 LB	9150-00-190-0919

4. **Automatic Transmission Fluid**. Fluid friction characteristics are important in automatic transmissions that use lubricated clutches to change gear ratios. No single fluid will satisfy the friction requirements of all transmission types. Modification of friction values is possible with additives and is responsible for the two main types of automatic transmission fluids now in use: (1) Friction modified Dexron II, and (2) Nonfriction modified Type F.

AUTOMATIC TRANSMISSION FLUID

Specification	Military Symbol	Quantity	NSN
Dexron II	None	1 QT	9150-00-698-2382
		5 GL	9150-00-657-4959
		55 GL	9150-01-114-9968
Type F	None	1 QT	9150-01-092-9755
		1 GL	9150-00-843-1636
		55 GL	9150-01-187-6608

5. **Hydraulic Brake Fluids**

MIL-B-46176. A silicone brake fluid classified as DOT5, which is resistant to water and prevents corrosion.

Military Specification	Military Symbol	Quantity	NSN
MIL-B-46176	BFS	1 GL	9150-01-102-9455
		5 GL	9150-01-123-3152
		55 GL	9150-01-072-8379

CAUTION: *MIL-B-46176 or DOT5 silicone-base brake fluid is not compatible with DOT3 or DOT4 glycol ether-base brake fluid. Prior to changing brake fluid types, adequate flushing of the brake system must be accomplished to remove all traces of previous types of brake fluids*.

6. **Miscellaneous Lubricants**

PTL	Lubricant for pneumatic tools and equipment that contain additives for extreme-pressure water emulsifying, adhesion, and rust protection and having good oxidation resistance.
SM(H)	Straight mineral or ashless inhibited oil for heat transfer, air-line lubricator and circulation systems.
SM(M)	Mineral seal oil.
SM(N)	Naphthenic oil, straight mineral. Low pour point; for example, maximum pour point -35°F (-37°C) for VG 15.
SM(R)	Refrigeration compressor oil.
SM(E)	Electrical insulating or transformer oil.
SPL	Special oil; footnoted on charts.
TCA	Engine oil for two-stroke cycle engines that use oil fuel mixtures.

NOTE: *The National Stock Numbers (NSN) incorporated in this appendix are subject to change. Consult FED LOG before preparing a requisition for lubrication, fuel, or preservative*.

a. Oil Rock Drill Pneumatic Tool**.** No Military Specification number. A natural petroleum base lubricant with antiwear, anticorrosion, antioxidation inhibitors for lubrication of air-powered equipment. Contains an emulsifying agent to entrap and keep in suspension any moisture in the air stream to prevent water wash out and breakdown of the lubricating film. ROCK DRILL OIL IS NOT INTERCHANGEABLE WITH OTHER LUBRICATING OILS.

API Service Classification: PTL

Military Symbol	Quantity	NSN
None	5 GL	9150-00-142-9556

b. Oil Refrigerant, Compressor**.** Military Specification number MIL-VV-L-825A, Type II. This oil is used for reciprocating-type compressor units of refrigerant equipment.

API Service Classification: SM(R)

Military Symbol	Quantity	NSN
None	1 QT	9150-00-598-2911
None	1 GL	9150-00-292-9657

c. D-A Wire Rope Saver**.** No Military Specification number. D-A Wire Rope Saver is designed for service in all types of wire rope applications. It provides extreme pressure, antiwear protection, and controls rust and corrosion.

Intended Use**.** Forms a durable protective coating which extends wire rope life. Contains a fast-evaporation solvent for ease of application. Temperature range of -100^{o}F (-74^{o}C) to 120^{o}F (49^{o}C).

Military Symbol	Quantity	NSN
None	5 GL	9150-01-179-0228

d. Tar and Asphalt Remover, HD127**.** No Military Specification number. HD127 is used as a degreaser and cleanser for the removal and dispersal of greases, oils, fats, asphalts, tars, dirts, and baked-on oils and greases in contact with concrete, metals, wood, and other surfaces. Ideal for cleaning asphalt equipment.

Military Symbol	Quantity	NSN
None	55 GL	6850-01-140-8749 (degreasing compound)
None	55 GL	6850-00-559-2836 (cleaning compound)

Section 2. APPROVED FUELS FOR USE BY THE NAVAL CONSTRUCTION FORCE

1. **MOGAS.** Military Specification MIL-G-3056 is suitable for use in spark-ignition gasoline engines and equipment.

Intended Use. Gasolines covered by this specification are intended for ground combat, tactical and administrative vehicles and combat service support equipment as indicated in vehicle and equipment manuals. Gasolines are supplied in two types and intended for OCONUS use.

Type I	Intended for general use at temperatures above $0^{o}F$ ($-18^{0}C$)
Type II	Intended for use in areas where the mean temperature is consistently below $32^{o}F$ ($0^{0}C$).

Mil. Symbol	Quantity	NSN
MG-1	Bulk	9130-00-160-1818
MG-2	Bulk	9130-00-160-1830

2. **GASOHOL**. Military Specification MIL-G-53006 is a gasoline that contains 10 percent ethanol, suitable for use in spark-ignition gasoline engines and equipment.

Intended Use. Gasolines covered by this specification are intended for ground combat, tactical and administrative vehicles, and combat service support equipment, as indicated in vehicle and equipment manuals. This specification may be used as one version of reformulated fuel mandated within CONUS.

Grade	Quantity	NSN
Limited Grade Unleaded	Bulk	9130-01-090-1092
Regular Grade Unleaded	Bulk	9130-01-090-1093
Premium Grade Unleaded	Bulk	9130-01-090-1094

3. **GASOLINE**. Specification ASTM D 4814 is suitable for use in spark-ignition gasoline engines and equipment.

Intended Use. Gasolines covered by this specification are intended for ground combat, tactical and administrative vehicles and combat service support equipment, as indicated in vehicle and equipment manuals. The use of fuels that contain oxygenates are designated as reformulated and mandated in CONUS.

Grade	Quantity	NSN
Limited Grade Unleaded	Bulk	9130-00-148-7102
Regular Grade Unleaded	Bulk	9130-00-148-7103
Premium Grade Unleaded	Bulk	9130-00-148-7104

4. **Diesel Fuel**. Federal Specification FED-VV-F-800C.

Intended Use**.** This specification covers diesel fuel oils suitable for use in automotive diesel or compression-ignition engines and gas turbine engines used in mobile electric power generators under all climatic conditions.

Military Symbol	Definition
DF-A	Arctic-grade diesel fuel is for high-speed, diesel engines, gas turbine engines used in mobile electric power generators, and in pot-type burner space heaters in areas where ambient temperatures lower than -25^{o}F (-32^{o}C) generally occur, and where it is impractical to maintain fuel storage capabilities. This grade of diesel fuel should not be used for slow-speed, stationary-engine applications or in geographical areas limited in terms of sulfur content.
DL-A	Low sulfur version of DF-A maximum sulfur content 0.05 WT percent.
DF-1	Winter-grade diesel fuel for use in high-speed diesel engines and gas turbine engines used in mobile electric power generators in areas in which ambient temperatures as low as -25^{o}F (-32^{o}C) may occur. This grade of diesel fuel may be used for medium-speed stationary engine applications where fuel heating facilities are not available and in geographical areas not limited in terms of sulfur content.
DL-1	Low sulfur version of DF-1 maximum sulfur content 0.05 WT percent.
DF-2	Regular-grade diesel fuel is for use in all high-speed/medium-speed engine applications and gas turbine engines used in mobile electric power generators in geographical areas not limited in terms of low-temperature operability or sulfur content.
DL-2	Low sulfur version of DF-2 maximum sulfur content 0.05 WT percent.

Military Symbol	Quantity	NSN
DFA (Use below -25°F)	Bulk	9140-00-286-5283
DLA	Bulk	9140-00-000-0186
DF-1 (Use below 32°F)	Bulk	9140-00-286-5286
DL-1	Bulk	9140-00-000-0185
DF-2 (Use above 20°F)	Bulk	9140-00-286-5294
DL-2	Bulk	9140-00-000-0184

5. **Alternate Fuels.** Although VV-F-800 diesel fuel may be indicated as the primary fuel, JP8 will be used as the primary fuel in those theaters where the single fuel on the battlefield is implemented in accordance with DoD Directive 4140.25, *DoD Bulk Petroleum Management Policy*. Cautions that accompany fuels must be followed to prevent adverse effects to the equipment. Maintenance schedules may require modification.

Intended Use. The fuel covered by this specification is intended for use in aircraft turbine, ramjet, and rocket engines. JP-5 is also approved for use in compression ignition internal combustion engines as a replacement for FED-VV-F-800C Diesel Fuel, all grades. Temperature range -57°F to 440°F. Minor adjustment to engine throttle settings may be required to obtain the same output as with DF2 fuel.

a. Turbine Fuel, Aviation, Grade JP-5. Military Specification MIL-T-5624 covers two grades of aviation turbine fuel: (1) JP-4 wide cut, gasoline type NOT USED IN NCF EQUIPMENT; and (2) JP-5 high flashpoint, KEROSENE TYPE.

Military Symbol	Quantity	NSN
JP-5	Bulk	9130-00-273-2379

b. Turbine Fuel, Aviation, Grade JP-8. Military Specification number MIL-T-83133. Grade JP-8 is a high flashpoint kerosene fuel designed for jet aircraft and may be used in NCF equipment as a substitute fuel. Minor adjustments to engine throttle settings may be required to obtain the same output as with DF-2 fuel.

Military Symbol	Quantity	NSN
JP8	Bulk	9130-01-031-5816

CAUTION: *Diesel fuel sulfur content should be monitored by the user. If sulfur content exceeds 0.5 percent, an increase in engine oil Total Base Number (TBN) or drain intervals may be required to prevent excessive engine wear. Consult engine manufacturer's manual or contact CESO Code 1574 for recommendations.*

6. **ANTIFREEZE.**

a. Military Specification number MIL-A-46153**.** This antifreeze is a corrosion-inhibited ethylene glycol-base antifreeze for use in all liquid-cooled internal combustion engines.

Intended Use**.** Ethylene glycol is intended for use in cooling systems for protection against freezing in ambient temperatures of -55^{o}F, when diluted to 60 percent by volume with water, and -30^{0}F when diluted to 50 percent by volume with water.

Military Symbol	Quantity	NSN
N/A	55 GL	6850-00-181-7940
	5 GL	6850-00-181-7933
	1 GL	6850-00-181-7929

b . Military Specification number MIL-A-11755. This antifreeze is a corrosion-inhibited ethylene glycol-base antifreeze for use in all liquid-cooled engines for extremely low temperatures.

Intended Use. Arctic-type antifreeze compound is intended for use in cooling systems for protection against freezing in regions where the ambient temperature remains for extended periods of time close to -40^{o}F, but may drop as low as -90^{o}F. This material may also be used as a heat transfer liquid for military applications where low temperatures are encountered. Must be used full strength, as packaged.

Military Symbol	Quantity	NSN
Arctic Grade	55 GL	6850-00-174-1806

NOTE: *Due to the continued severe shortage of ethylene glycol, it is imperative that antifreeze be conserved. Discretion should be used to determine cooling system protection requirements; at least the following procedures should be implemented:*

a. Use an antifreeze tester, such as TEST Kit, NSN 6630-01-011-5039.

b. Only unserviceable antifreeze should be discarded. All usable antifreeze should be reused.

c. Add an approved rust inhibitor, such as NSN 6850-00-753-4967 or equivalent, in the cooling system when antifreeze is not used.

d. If cost effective, use an antifreeze recycler such as NSN 6850-01-380-9047.

7. **Solvent, Dry Cleaning.** Federal Specification number FED-P-D-680. Consult Material Safety Data Sheet (MSDS) prior to using these solvents.

Intended Use. Type I is intended for use as a comparatively safe dry cleaning solvent, and degreaser for washing parts.

Military Symbol	Quantity	NSN
SD-1	Bulk	6850-00-264-9039
SD-1	55 GL	6850-00-285-8012
SD-1	5 GL	6850-00-264-9038

Intended Use. Type II is intended for use where a higher flash point (140^0F) dry cleaning solvent and degreaser for washing parts is required.

Military Symbol	Quantity	NSN
SD-2	Bulk	6850-00-637-6135
SD-2	55 GL	6850-00-285-8011
SD-2	5 GL	6850-00-274-5421

Intended Use. Type III is intended for use where a very high flash point (200^0F) and odorless dry cleaning solvent and degreaser for washing parts is required.

Military Symbol	Quantity	NSN
SD-3	55 GL	6850-01-331-3350
SD-3	5 GL	6850-01-331-3349

Section 3. PRESERVATION AND RUSTPROOFING MATERIALS

1. **Compound, Silicone, Soft Film.** MIL-C-2156. This compound is used as an inhibitor and lubricant for mating threaded or non-threaded surfaces of ferrous components. Also intended as a lubricant for rubber components such as O-rings and gaskets. For use under extreme conditions of service and storage, when freezing at -65°F or oxidation and deterioration at 160°F is not permissible, and where water insolubility and sealing properties are essential. May also be used by the NCF for preservation of brake cylinders with silicone brake fluid.

Military Symbol	Quantity	NSN
None	1 GL	6850-00-664-4959
None	8 OZ	6850-00-702-4297

2. **Primer Coating, Synthetic, Rust-Inhibiting, Lacquer-Resisting.** MIL-TT-P-664. This primer is used as a base coat on bare or chemically treated metal surfaces. Contains zinc chromate. This primer should be used with caution when preserving brakes, clutches, pulleys, and exposed gears. Because of product variability it may have a tendency to leave gum deposits that may not be easily removed.

Military Symbol	Quantity	NSN
None	1 GL	8010-00-292-1127
None	5 GL	8010-00-161-7275
None	1 PT	8010-00-899-8825

3. **Corrosion Preventive Compound, Cold Application, For Motor Vehicles.** MIL-C-16173. For rustproofing motor vehicles: Grade 1 for protection of underbody, boxed-in, and concealed areas; Grade 2 for protection of exterior surfaces and inside headliners; Grade 3 is a two-coat application for protection of radiator exteriors; and Grade 4 is for protection of electrical components.

a. MIL-C-16173. For protection of noncritical metals when exposed to outdoor weather conditions. Use where dry-to-touch film is desired. Should not be used on items that require removal of film. Removal can be accomplished by vapor degreasing or petroleum solvents.

Military Symbol	Quantity	NSN
Grade 1	1 QT	8030-00-062-6950
	1 GL	8030-00-231 -2345
	5 GL	8030-00-244-1299
	55 GL	8030-00-244-1300

b. MIL-C-16173. Extended under cover protection to interior or exterior surfaces of machinery instruments, bearings, or material with or without use of supplementary barrier materials. For outdoor use for limited periods where metal temperature does not produce film flow. Remove with vapor degreasing or petroleum solvents.

Military Symbol	Quantity	NSN
Grade 2	16 OZ	8030-00-118-0666
	1 QT	8030-01-149-1731
	1 GL	8030-00-244-1297
	5 GL	8030-00-244-1298
	55 GL	8030-00-244-1295

c. MIL-C-16173. Use where fresh or salt water must be displaced and the corrosion prevented or stopped. Use to protect interior surfaces of machinery, instruments, or material under cover for limited periods, and to protect critical bare steel or phosphated surfaces for extended periods, when satisfactorily packaged.

Military Symbol	Quantity	NSN
Grade 3	1 PT	8030-00-837-6557
	1 GL	8030-00-244-1296
	5 GL	8030-00-244-1293
	55 GL	8030-00-244-1294
Grade 4	1 PT	8030-00-903-0931
	1 GL	8030-00-062-5866
	5 GL	8030-00-526-1605
	55 GL	8030-00-526-1604

d. MIL-C-11796. For preservation of antifriction bearings and machined surfaces. Can be easily removed at room temperature with petroleum solvents or vapor degreasing.

Military Symbol	Quantity	NSN
Class 3	5 LB	8030-00-231-2353
	35 LB	8030-00-285-1570

e. MIL-L-3150. To lubricate and preserve internal surfaces of machine assemblies other than internal combustion engines, transmissions, differentials, and fuel tanks. Remove with vapor degreasing or petroleum solvents.

Military Symbol	Quantity	NSN
PL-M	4 OZ	9150-00-271-8427
	1 QT	9150-00-231-2361
	5 GL	9150-00-231-2356
	55 GL	9150-00-231-2357

f. MIL-VV-L-800. Use as a general-purpose lubricating oil and preservative. Remove with petroleum solvents or vapor degreasing. Not used for the preservation of fuel tanks or engines.

Military Symbol	Quantity	NSN
PL-S	4 OZ	9150-00-273-2389
	16 OZ	9150-00-458-0075
	1 QT	9150-00-231-6689
	1 GL	9150-00-231-9045
	5 GL	9150-00-231-9062
	55 GL	9150-00-281-2060

g. MIL-L-21260. These engine oils are designed for preservation, break in and use in all combat/tactical diesel and gasoline engine powered ground vehicle and equipment systems. These oils are operational oils that meet MIL-L-2104 requirements, in addition to corrosion and preservation requirements. These products can be used where MIL-L-2104 oils are specified until the first recommended oil change. These oils meet the API CD/CDII performance criteria. PE-10 grade is not for use in high-output two-cycle diesel engines.

Military Symbol	Package Data	NSN
PE15/40 Grade 15W-40	5 GL	9150-01-293-7696
PE15/40 Grade 15W-40	55 GL	9150-01-293-2772
PE10 Grade 10W	5 GL	9150-00-111-3199
PE10 Grade 10W	55 GL	9150-00-111-0208
PE30 Grade 30	5 GL	9150-00-111-0209
PE30 Grade 30	55 GL	9150-00-111-0210
PE40 Grade 40	5 GL	9150-01-293-2773
PE40 Grade 40	55 GL	9150-01-293-7697
PE50 Grade 50	5 GL	9150-00-111-0211
PE50 Grade 50	55 GL	9150-00-111-0214

h. MIL-G-10924. For the lubrication and surface corrosion protection of all equipment operated over the temperature range -65°F. This grease may also be used in other temperature ranges where an NLGI No. 2 consistency grease and corrosion preventive properties are desirable.

Military Symbol	Quantity	NSN
None	2-1/4 OZ	9150-00-065-0029
	14 OZ	9150-00-935-1017
	1 LB	9150-00-190-0904
	5 LB	9150-00-190-0905
	35 LB	9150-00-190-0907
	120 LB	9150-00-530-7369

i. MIL-P-3420. For packaging parts and bulk materials that require volatile corrosion inhibitors. Includes wrapping paper, moisture vapor barrier paper, corrugated paper, etc.

Military Symbol	Quantity	NSN
MIL-P-3420	200 FT X 36 IN	8135-00-664-4010

j. MIL-C-16173. General-purpose indoor and limited outdoor preservation or corrodible metals with or without an overwrap where tack free and transparent coating is required. Nonmiscible with lubricating oil. Remove with petroleum solvents or vapor degreaser.

Military Symbol	Quantity	NSN
Grade 4	1 PT	8030-00-903-0931
	1 GL	8030-00-062-5866
	5 GL	8030-00-526-1605
	55 GL	8030-00-526-1604

k. MIL-P-46002. Intended for use in enclosed components (transmissions, differentials) where the volatile internal components must be preserved in oil. It is not intended for use as an operational preservative oil and should not be used in applications where elastomeric components are present. It is not effective unless an adequate reservoir of oil can be maintained. This material can also be used effectively as a contact preservative.

Military Symbol	Quantity	NSN
Grade 1	1 QT	9150-00-889-3523
	5 GL	9150-00-985-7293
	55 GL	9150-00-407-0973

l. MIL-C-16173. For corrosion protection where fresh or salt water must be displaced from corrodible surfaces; to protect interior surfaces of material under cover for limited periods.

Military Symbol	Quantity	NSN
Grade 5	1 GL	8030-00-223-3193
	5 GL	8030-00-137-1671

APPENDIX N. LIVE STORAGE FOR CIVIL ENGINEERING SUPPORT EQUIPMENT

1. **Assignment Of CESE.** Many Naval Construction Force (NCF) units are assigned numerous pieces of Civil Engineering Support Equipment (CESE) that are required only for contingency, emergency, or occasional use and, consequently, have extended periods of non-use. This extra equipment invites improper use, absorbs maintenance man-hours, and often suffers deterioration from excessive exposure to the elements.

2. **Live Storage Program.** The NCF units are hereby provided guidance for a program of live storage of CESE. It is realized that general application of this instruction shall not provide specific coverage for all CESE, nor the varied operational and climatic conditions experienced geographically. When more frequent exercising is warranted, the Equipment Officer or Maintenance Supervisor is authorized to vary the exercise intervals.

a. Live Storage. Place equipment in live storage when there is no foreseeable need for the equipment for a period of two preventive maintenance (PM) cycles or 80 working days. All cranes, however, shall be maintained in an active status under control of the crane crew. The CESE eligible for live storage must be in A4 condition and be controlled as outlined:

(1) Equipment placed in live storage shall retain its original PM group and be placed in a 20-day cycle. For example: If a piece of equipment is in PM group 4 it shall also be placed in PM group 24; a piece of equipment in PM group 37 shall also be placed in PM group 17. A master live storage cycle schedule shall be prepared for the CESE assigned to live storage, using the same format prescribed in Chapter 4, Section 2, which provides instructions for establishing a PM schedule for active CESE.

Cost Control shall provide to the Live Storage Supervisor a daily list of CESE to be cycled by filling out the cycle log for live storage CESE (Figure N-1), annotating USN numbers and the type of cycle due. The Live Storage Cycle Log shall be reviewed and signed by the maintenance supervisor prior to work being performed by the live storage crew. At the end of each work day, the completed Live Storage Cycle Log shall be returned to Cost Control in order to update the Live Storage Service Sheet (Figure N-2).

(2) A copy of the Live Storage Service Sheet shall be maintained in the History Jacket for each piece of stored equipment that indicates the date the unit was placed in storage and a chronological order of inspections, operational test, and repairs performed. The Live Storage Service Sheet shall not be purged from the History Jacket.

(3) The Equipment Officer shall be responsible for all equipment placed in live storage. The Live Storage Program shall be under the control of the Maintenance Supervisor.

(4) The live storage branch shall be adequately staffed with construction mechanics and equipment operators to properly maintain and cycle the equipment to preserve a state of readiness and to meet all of the provisions of this instruction.

(5) Personnel assigned to maintain and exercise equipment must be adequately skilled and experienced. No operator shall be assigned to exercise any item of special-purpose equipment who is not thoroughly familiar with the vehicle, its accessories, and attachments, and properly licensed to operate them.

(6) All equipment placed in live storage shall be parked in a specially designed area and grouped by Equipment Code. Keys shall be under positive control in the Cost Control Office to prevent use of the equipment prior to proper depreservation.

(7) All Equipment Status Boards shall indicate which equipment is in live storage.

(8) Based upon the numbers of the active maintenance force (floor mechanics), the optimum ratio of active pieces of CESE to mechanics is 51. CESE in excess of a 51 ratio should be considered for placement in live storage. The ratio of 51 is the goal, and it is recognized that the composition, experience levels, and capabilities of the full maintenance force, as well as construction requirements, may make it unattainable or unnecessary.

LIVE STORAGE CYCLE LOG

WEEKLY START-UP AND INSPECTION PROCEDURE (ENCLOSURE 8)

20, 40, AND 60-DAY DRY OPERATIONAL TEST PROCEDURE (ENCLOSURE 9)

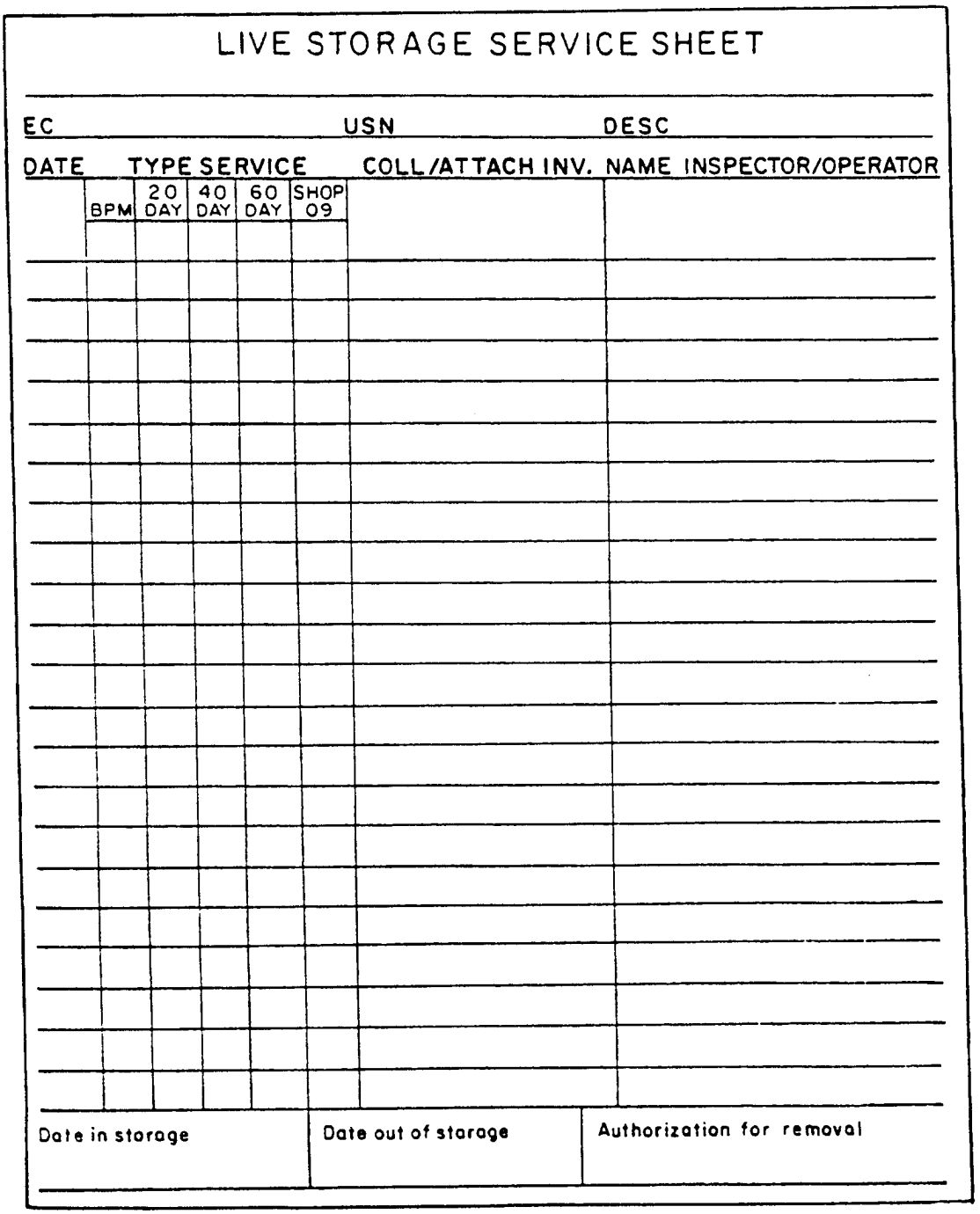
80-DAY OPERATIONAL TEST PROCEDURE (ENCLOSURE 10)

DATE _____

EC	USN	DESCRIPTION	WEEKLY	20	40	60	80 DAY	REMARKS	INSP. SIGNATURE

MAINTENANCE SUPERVISOR _____
SIGNATURE

FIGURE N-1 Live Storage Cycle Log


LIVE STORAGE SERVICE SHEET

EC USN DESC

DATE	TYPE SERVICE					COLL/ATTACH INV.	NAME INSPECTOR/OPERATOR
	BPM	20 DAY	40 DAY	60 DAY	SHOP 09		

b. Minimum Maintenance Requirements. Minimum maintenance requirements for equipment prior to placement in live storage are outlined as follows:

(1) A "B" preventive maintenance shall be performed if one has not been performed within the last 20 days, except oil change intervals will use the manufacturer's recommended interval for mileage/hour usage. If the equipment is under manufacturer's warranty, use manufacturer's recommended maintenance procedures.

(2) Perform all repairs necessary to place the equipment in A4 condition.

(3) CESE shall be thoroughly cleaned.

(4) Ensure that batteries are fully charged.

(5) Open air system draincocks.

(6) Spray all exterior surfaces with Grade 2 corrosion preventive rustproofing (NSN 8030-00-244-1295).

(7) Top off all fuel tanks.

(8) Fill cooling system with the proper mixture of antifreeze.

(9) All attachments shall be stored and maintained by the Collateral Equipment Custodian.

(10) All collateral equipage shall be inventoried on an 80-day cycle.

c. Weekly Startup and Inspection Procedures. Live storage inspection, maintenance, and operation procedures for equipment in live storage shall be to inspect and start up once a week, in accordance with the following procedures.

(1) Conduct a walk-around inspection to ensure the equipment does not have any obvious deficiencies such as loose wheel lugs, flat tires, leaks, and body or structural damage.

(2) Inspect equipment to ensure that the following items are properly serviced.

(a) Engine, drive train, and chassis are properly lubricated.

(b) Cooling system is at specified level, and contains the proper mixture of antifreeze.

(c) Batteries are fully charged and contain the specified amount of electrolyte.

(d) Hydraulic system is at capacity and contains the proper grade fluid.

(3) Start and run engine until it reaches operation temperature. Monitor gauges, inspect for leaks, and listen for abnormal noise. Ensure the following:

(a) Brake system is functioning properly.

(b) Fuel system has no leaks and is topped off.

(c) Check lights, reflectors, wipers, and horn.

d. 20-, 40-, and 60-Day Dry Operational Test Procedures

(1) Conduct an inspection and warm-up as prescribed by Weekly Start-up and Inspection Procedures listed in paragraph 2.c.

(2) Depreserve as necessary to permit all systems to be operated.

(3) Start the engine and check gauges, electrical system, operation of all controls, and inspect for leaks and abnormal noises.

(4) Drive all vehicles at least 10 miles. In the case of heavy equipment, run at least 30 minutes. This time may include the warmup period.

(a) Drive the equipment at various speeds and operate all controls under a limited load and observe the following items:

1 Engine operates without abnormal noises, vibration, overheating, or other evidence of malfunction.

2 Brakes function properly.

3 Power train components function smoothly without grinding or other unusual noises.

4 Steering mechanisms function smoothly with no evidence of binding or shimmy.

5 Hydraulic and pneumatic systems function smoothly with no evidence of unusual leakage at seals or have a tendency bind.

(b) After operation, conduct a walk-around inspection to determine if there are any leaks or other discrepancies.

(c) Use an adequately equipped truck-tractor or towing unit for semitrailers and towed equipment to permit testing of trailer lights and brakes.

(d) If an Equipment Repair Order (ERO) is required to repair any discrepancies, open to repair Type 09 and complete as outlined by current instructions.

(e) Upon completion of road test, represerve as required.

1 Mark tires before vehicle operation to indicate the segment in contact with the ground. When the vehicle is returned to storage after exercise, inspect to ensure that the unit rests on another segment of the tire.

2 Take all possible measures to prevent accumulation of water in vehicle bodies.

e. 80-Day Fully Operational Test Procedures. At 80-day intervals conduct the following inspection on all live storage equipment. Conduct all the procedures described for the 20-, 40-, and 60-Day Operational Test, and include the procedures described for the Weekly Start-up and Inspection, and perform the following:

(1) Initiate an ERO for Type 09 repair.

(2) During the operation test, load the equipment to capacity and operate for at least 10 miles. Then unload the vehicle and inspect for discrepancies. Reload the vehicle and drive for an additional 5 miles. Unload the equipment and turn over to the maintenance shop for lubrication and repairs.

(3) Operate CESE, such as dozers, loaders, scrapers, and graders, for at least 1/2 hour under full load. After 1/2 hour under full load, inspect the equipment for discrepancies. After the inspection, operate the equipment an additional 1/2 hour under full load. Then turn over the equipment to the maintenance shop for lubrication and repairs.

(4) Change oil in all equipment, if applicable. Oil change intervals shall be based on the equipment manufacturer's recommended maintenance interval for mileage/hour usage.

(5) Any Direct Turnover (DTO) parts ordering shall be done at this time and put on the vehicle during the next 80-day operational test.

(6) Inventory and service all collateral equipage and attachments.

(7) After the repairs and lubrication are complete, represerve as required.

(8) After returning to storage, the Live Storage Service Sheet shall be updated from data obtained from the ERO.

REFERENCES

The following Military and Government Reference Material is available at U.S. Naval Publications and Forms Center, (ATTN: NPODS) Philadelphia, PA 19120-5099. Telephone number: DSN 442-3321, Commercial (215) 697-3321. The latest revision/most current edition of all reference materials shall apply.

ANSI Standards, American National Standards Institute, NY, NY 10018

ANSI A92.2-1979 Vehicle-Mounted Elevating and Rotating Aerial Devices

ANSI A92.3-1980 Manually Propelled Elevating Work Platforms

ANSI A92.5-1980 Boom-Supported Elevating Work Platforms

ANSI A92.6-1979 Self-Propelled Elevating Work Platforms

ANSI A92.7-1981 Airline Ground Support Vehicle-Mounted Vertical Lift Devices

ASME/ANSI B30.22-1987 Articulating Boom Cranes (Commercial Truck-Mounted)

National Fire Protection Association

NFPA 1901-1991 Standard for Pumper Fire Apparatus

NFPA 1914-1988 Testing Fire Department Aerial Devices (Ladder Trucks/Platforms)

BUPERS Publications

BUPERSINST 1710.11, Special Services Manual

Department of Defense, Pentagon, Washington, DC 20301

Defense Acquisition Regulations
Defense Supply Agency Master Cross Reference List
DoD 4160.21M Defense Disposal Manual
DoD Dir 4500.2 Land Transportation Outside the Continental United States (P&L)
DoD Dir 4500.36-R Management, Acquisition, and Use of Motor Vehicles
DoD DIR 1010.10 Health Promotion

Department of Transportation, 400 Seventh St NW., Washington, DC 20590

Federal Highway Administration Motor Carrier Regulations
Code of Federal Regulations (CFR) Titles 40 and 49
Federal Motor Vehicle Safety Standard No. 208, 209, and 210 (49 CFR)
Commercial Motor Vehicle Safety Act of 1986 (Title XII, PL 99-570)

Executive Order

10579 Regulations relating to the establishment and Operation of Interagency Motor Vehicle Pools and Systems
12003 Relating to Energy Policy and Conservation

Federal Specifications

Federal Acquisition Regulation
Federal Personnel Manual
Federal Property Management Regulation
Federal Standard No.'s 292, 307 and 794 Estimated (EPA) Miles Per Gallon
Federal Standard No. 595A Colors
MIL-STD-1223 Treatment, Painting, Identification Marking and Data Plate Standards
Specification ZZ-T-441G "Tire Pneumatic: Retreaded and Repaired"

Job Time Standards Publications

Chilton Flat Rate Manual
Mitchell Manuals. “Mechanical Parts/Labor Estimating Guides”
Motor’s Flat Rate and Parts Manual

Joint Travel Regulation (JTR)

JTR Volume 2 Chapter 2

Military and Federal Guide Specifications

L-S-300C	MIL-D-21046	MIL-S-23923D
MIL-A-46153B	MIL-C-2015B	MIL-T-704J
MIL-C-083933A	MIL-C-62218A	MIL-V-1174B
MIL-G-18458B	MIL-L-2104F	TT-E-1593B
MIL-H-13910B	MIL-L-2105	TT-P-320D Type 11, Class B

MIL-L-46152C	MIL-M-43719C	TT-P-1757A
MIL-C-24016C	MIL-S-28526A	VV-B-580C
MIL-B-21056	MIL-S-82068C	VV-F-800D

NAVCOMPT Publications

NAVCOMPT Manual
Volume 3, Chapter 7 - Transportation Cost Report (TCR)
NAVSO P-3006 - Financial Management of Resources (Shore Activities)

COMNAVFACENGCOM Design Manuals and P-Publications

DM-28.4	General Maintenance Facilities
MO-322	Inspection of Shore Facilities (Vol 1)
MO-403	Navy Drivers Handbook
P-68	Contracting Manual
P-80	Facility Planning Criteria for Navy and Marine Shore Installations
P-272	Definitive Design for Naval Shore Facilities
P-301	Navy Railway Operating Handbook
P-307	Management of Weight Handling Equipment
P-315	Naval Construction Forces Manual
P-318	Organization and Functions for Public Works Departments
P-442	Economic Analysis Handbook

BUMED Publications

BUMEDINST 6700.9 - Ambulance Support

NAVSEA Publications

NAVSEA 0989-030-7000 Lifting Standard
NAVSEAINST 11200.1 Weight Handling Equipment Maintenance Management
NAVSEA/NAVFACINST 11230.1 Inspection, Certification and Audit of Crane and Railroad Trackage
NAVSEA OP-5 Ammunition and Explosives Ashore
NAVSEA OP-2165 Navy Transportation Safety Handbook
NAVSEA OP-2239 Driver's Handbook, Ammunition, Explosives, and Dangerous Articles
NAVSEA S9086-UU-STM-000 Wire and Fiber Rope and Rigging (Chapter 613)

NAVSUP Publications

NAVSUP Manual

Occupational Safety and Health Act

Section 1910.145/410 Occupational Safety and Health Act

OPNAV Publications

OPNAVINST 4640.3 Land Transportation Within Areas Outside the Continental United States
OPNAVINST 4860.7 Commercial Activities Program (Circular A-76)
OPNAVINST 5100.12 Navy Motor Vehicle Safety Program
OPNAVINST 5102.1 Mishap Investigation and Reporting
OPNAVINST 11240.8 Centralized Management of Automotive Vehicles, Construction and Materials Handling Equipment
OPNAVINST 11240.16 Motor Vehicle Management; Acquisition and Use of
OPNAVINST 5090.1 Environmental and Natural Resources Program Manual
OPNAVINST 5090.2 Management of Ozone Depleting Substances
OPNAV P-09B2-105 Catalog of Shore Activities

Rubber Manufacturers Association Publications 1400 K Street NW. Wash.,DC

American Society of Testing Materials (ASTM) D 4956

SECNAV Directives

SECNAVINST 5400.14 Assignment and Distribution of Authorization and Responsibility For the Administration of Shore Activities of the DoN, and Coordination of Naval Personnel Located Ashore
SECNAVINST 11240.17 Use of Motor Transportation and Scheduled DoD Bus Service in the National Capitol Region (NCR)
SECNAVINST 11240.1 Establishment of the National Capital Region/Department of the Navy Motor Pool (NCRDONMP)

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