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SENSITIVE**

**MIL-PRF-63010C**

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**SUPERSEDING  
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## **PERFORMANCE SPECIFICATION MANUALS, TECHNICAL: DOD STANDARD GENERATOR SETS**

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

### **1. SCOPE.**

1.1 Scope. This specification contains detailed requirements for preparing technical manuals for all Department of Defense (DOD) standard generator sets or follow-on power sources such as fuel cells, power distribution equipment, and thermoelectric devices.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: Executive Director, USAMC Logistics Support Activity, Acquisition Logistics Center, ATTN: AMXLS-AP, Redstone Arsenal, AL 35898-7466 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

**AMSC A7476**

**AREA TMSS**

**DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.**

1.2 Classification. The types of technical manuals that may be prepared in accordance with this specification are:

Operator and Unit Maintenance Manual  
Intermediate (Field, Direct and General Support) and Depot Maintenance Manual  
Unit, Intermediate (Field, Direct and General Support) and Depot Repair Parts and Special Tools List

Combinations of the above maintenance level manuals, with or without repair parts and special tools lists, as needed.

1.3 Limited application. Portions of this specification are not applicable to all services. Portions that are limited to or are peculiar to a specific service are identified by a prefix as follows: (A) for Army; (F) for Air Force; (N) for Navy; and (MC) for Marine Corps. Portions not prefixed are applicable to all services.

1.4 Tailoring requirements. All requirements in this specification are mandatory except those identified otherwise on the Content/Format Selection Summary, Appendix D (to be completed by the contracting activity).

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in section 3 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in section 3 of this specification, whether or not they are listed.

### 2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this specification to the extent specified herein. Unless otherwise specified, the issue of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

## STANDARDS

### DEPARTMENT OF DEFENSE

MIL-STD-38784 — Standard Practices For Manuals, Technical: General Style and Format Requirements

(Unless otherwise indicated, copies of the above standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation (see 6.2).

DOD Directive 5230.24 — Distribution Statement on Technical Documents

(Copies of DOD Directive 5230.24 can be obtained from the Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

ASME Y14.100M Engineering Drawing Practices

(Application for copies should be addresses to the American Society of Mechanical Engineers, 3 Park Avenue, M/S 10D, New York, NY 10016.)

2.4 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence. Nothing in this document, however, shall supersede applicable law and regulations unless a specific exemption is obtained.

### 3. REQUIREMENTS

3.1 General. Unless otherwise specified, DOD Standard Generator Set technical manuals prepared in accordance with this specification shall meet all applicable requirements herein.

3.1.1 Style and format. Unless otherwise specified, style and format shall be in accordance with MIL-STD-38784.

3.1.2 Page/paragraph numbering. Pages and paragraphs shall be numbered in accordance with MIL-STD-38784.

3.1.3 Illustrations. Unless otherwise specified, all illustrations shall be line drawings in accordance with MIL-STD-38784. Illustrations shall support procedures or other text and shall be of sufficient detail to depict all essential data needed by intended user.

3.1.3.1 Engineering drawings. When engineering drawings (prepared in accordance with ASME Y14.100M) are used, they shall be simplified or modified to portray only those details essential to serve the intent of the illustration.

3.1.3.2 Callouts. Unless otherwise specified, numerical callouts on illustrations shall be arranged clockwise in numerical sequence beginning at approximately 11 o'clock. Callouts shall be identified by item name on legends. They shall be called out in the associated text.

3.1.3.3 Exploded views. Illustrations used for disassembly, assembly, and parts breakdown shall be exploded views with flow lines.

3.1.3.4 Foldouts/foldups. Unless otherwise specified, foldouts shall not be used. When authorized or specified by the contracting activity foldouts shall be in accordance with MIL-STD-38784. Foldout/foldups shall not be used.

3.1.4 Measurements. Unless otherwise specified, all measurements expressed in text, in tables, or on illustrations shall be expressed in both U.S. standard units and metric units. The order of precedence shall be in accordance with equipment markings. Secondary markings shall follow in parenthesis.

3.1.5 Warnings, cautions, and notes. Warnings, cautions, and notes shall be prepared in accordance with MIL-STD-38784.

3.1.5.1 Nuclear hardness. When applicable, nuclear hardness (nuclear survivability requirements) warnings shall be applied in accordance with MIL- STD-38784.

3.1.6 Readability. The overall level of technology and comprehension shall be directed toward the intended user. The reading grade level shall be tested in accordance with MIL-STD-38784, as specified by the contracting activity.

3.2 Overall layout/arrangement. The overall arrangement of major divisions in the TM and their applicability to maintenance levels shall be as shown below:

<u>Operator/unit</u>	<u>Intermediate, (Field, Direct, and General-Support), and Depot</u>
Front Matter	Front Matter
Chapter 1 Introduction	Chapter 1 Introduction
Chapter 2 Operating Instructions	Chapter 2 General Maintenance Instructions
Chapter 3 Operator Maintenance Instructions	Chapter 3 Maintenance of (insert name of system/major assembly). Actual number of chapters will vary per application.
Chapter 4 Unit Maintenance Instructions	Chapter () Material Used in Conjunction with Major Item
Chapter 5 Material Used in Conjunction with Major Item	Chapter () Generator Set Test and Inspection after Repair or Overhaul
Appx A References	Appx A References
Appx B Maintenance Allocation Chart (MAC)	Appx B Expendable and Durable Items List
Appx C Repair Parts and Special Tools List (RPSTL)	Appx C Repair Parts and Special Tools List (RPSTL)
Appx D Expendable and Durable Items List	Appx D Fabrication/Assembly of Parts
Appx E Additional Authorization List (AAL)	Appx () Additional appx as required
Appx F Fabrication/Assembly of Parts	Index
Appx () Additional appx as required	
Index	

3.3 Operator and unit maintenance level manuals. Manuals prepared for these levels shall describe operation of the applicable generator sets and their major ancillary components. They shall provide detail instruction for performance of all maintenance functions authorized for that maintenance level. For the Army, these functions shall be in agreement with the Maintenance Allocation Charts (MACs).

3.3.1 Front matter.

3.3.1.1 Cover. Unless otherwise specified, the cover shall be prepared in accordance with figure 1. The appropriate distribution statement, destruction notice, and export control warning notice (if applicable) shall be placed on the cover in accordance with DOD Directive 5230.24 or as provided by the contracting activity.

3.3.1.2 Warning page. A warning page(s) located on back of the front cover or immediately following the cover page, shall include each general type of warning and warning symbol used within the technical manual. This page(s) shall not be a list of specific warnings that pertains to specific steps, but shall include general subject data such as: radiation, chemicals, voltages, gas pressure, and laser light. See figure 2.

3.3.1.3 Title block page. A title block page shall be a right-hand page and follow the warning page. It shall be formatted and contain the applicable publication number(s), date, full title, model numbers of the generator(s), procedures for each applicable Service to report errors and recommend improvements to the technical manual, and a distribution statement. See figure 3.

3.3.1.4 Table of contents. All manuals shall contain a table of contents. When illustration(s) are included in the manual, a list of illustrations shall follow the table of contents. When table(s) are included in the manual, a list of tables shall follow the list of illustrations. See figure 4.

3.3.1.5 How to use this manual (A). Unless otherwise specified, instructions on how to use this manual shall be included. They shall begin on the page following the table of contents/list of illustrations/list of tables. The title, "HOW TO USE THIS MANUAL", shall be centered at the top of the page. These instructions shall be written so that the user is led through most of the manual to explain the important features of the manual's organization and content. These instructions shall not repeat explanations that are given within the chapters. Illustrations, charts, and tables shall be used when text alone cannot convey the thought adequately.

3.3.2 Chapter 1 - introduction. This chapter shall provide the user with standard data required in all manuals (forms and record data) and shall familiarize the user with the equipment. This chapter shall physically describe the major equipment components and those major equipment components with which the user is likely to interface. This chapter shall contain the following sections:

- a. Section I - General Information.
- b. Section II - Equipment Description and Data.
- c. Section III - Principles of Operation.

3.3.2.1 Section I - general information. This section shall consist of the following paragraphs:

3.3.2.1.1 Scope. This paragraph shall contain a brief statement(s) that describes the overall coverage of the manual and the equipment. This statement(s) shall be in text style and shall identify the type of manual, model number(s) and equipment name(s), purpose of equipment and special limitations or range of equipment, and special information included in the manual.

3.3.2.1.2 Limited applicability. This paragraph shall contain the following statement: "Some portions of this publication are not applicable to all services. These portions are prefixed to indicate the service(s) to which they pertain: (A) for Army, (F) for Air Force, (N) for Navy, and (MC) for Marine Corps. Portions not prefixed are applicable to all services."

3.3.2.1.3 Maintenance forms and records. The following statements shall be included only for those Services to which the technical publication is applicable (e.g., if the Navy does not use the publication, do not include that statement for that Service:

a. "(A) Maintenance forms and records used by Army personnel are prescribed by DA Pam 738-750."

b. "(F) Maintenance forms and records used by Air Force personnel are prescribed in AFI 21-101 and the applicable TO 00-20 Series Technical Orders."

c. "(N) Navy users should refer to their service peculiar directives to determine applicable maintenance forms and records to be used."

d. "(MC) Maintenance forms and records used by Marine Corps personnel are prescribed by TM 4700-15/1."

3.3.2.1.4 Reporting of errors. The following statements shall be included: "Reports of errors, omissions, and recommendations for improvement of this publication by the individual user is encouraged. Reports, as applicable by the requiring Service, should be submitted as follows:

a. (A) Army - Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to Commander, U.S. Army Communications-Electronics Command, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, NJ 07703-5000

b. (F) Air Force - Air Force AFTO Form 22 directly to Commander, Sacramento Air Logistics Center, ATTN: TIBLA, McClellan AFB, CA 95652-5990

c. (N) Navy - By letter directly to Commander, Naval Construction Battalion Center, ATTN: Code 15741, Port Hueneme, CA 93043-5000

d. (MC) Marine Corps - By NAVMC form 10772 directly to Commanding General, Marine Corps Logistics Base (Code 850), Albany, GA 31704-5000."

3.3.2.1.5 (A) Hand receipt. Add the following statement: "Hand receipt for the End/Component of End Item (COEI), Basic Issue Items (BII) and Additional Authorization List (AAL) Items are published in a Hand Receipt Manual. The Hand Receipt Manual numerical designation is the same as the related Technical Manual with the letters HR added to the number. These manuals are published to aid in property accountability and are available through: Commander, U.S. Army Publications Distribution Center (St. Louis), ATTN: ASQZ-SDC, 1655 Woodson Road, St. Louis, MO 63114-6181."

3.3.2.1.6 (A) Destruction of materiel to prevent enemy use. Destruction of the generator set to prevent enemy use will be in accordance with the requirements of TM 750-244-3, Procedures for Destruction of Equipment to Prevent Enemy Use.

3.3.2.1.7 Shipment and storage.

(A) Shipment and storage for the U.S. Army will be in accordance with TB 740-97-2.

(F) Preparation for shipment and storage of the generator set for U.S. Air Force will be in accordance with TO 35-1-4

3.3.2.1.8 Equipment improvement recommendations (EIRs). This paragraph shall contain the following statement:

(A) "EIRs can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why the procedure is difficult. EIRs may be submitted on SF 368, Product Quality Deficiency Report. Mail directly to (insert address identified in DA PAM 738-750). A reply will be furnished to you."

(MC) "For Marine Corps users: Quality deficiency reports (QDR) shall be submitted on SF 368 in accordance with MCO 4855.10."

3.3.2.1.9 Levels of maintenance. This paragraph shall reference the applicable material/publication(s) that allocate the maintenance tasks to the specific maintenance levels.

a. "(A) Army users shall refer to the maintenance allocation chart (MAC) for tasks and levels of maintenance to be performed."

b. "(MC) Marine Corps users shall refer to the Source, Maintenance, and Recoverability (SMR) Codes for maintenance to be performed."

3.3.2.2 Section II - equipment description and data. For orientation purposes, this section shall contain illustrations that provide full external views of the equipment. See figure 5 and 6. This section shall contain information consisting of purpose, general capabilities, applications, special features, and limitations of the overall equipment emphasizing the data that is helpful in the operation and maintenance of the equipment. The equipment type shall be noted as well as its portability or mobility, operational and special environmental features, and remote control features. Components and their functions shall not be described unless essential to continuity. When the equipment covered constitutes a system that may vary in scope and application or that may have several applications within a system, a brief explanation of the multiple usage shall be made and a simple diagram showing the overall aspects of a typical application shall be included.

3.3.2.2.1 Tabulated/illustrated data. This paragraph shall include those tabulated data which are essential for the use of operator and unit maintenance. The location and informational content of all identification and instruction plates (including operating instruction) shall be indicated and illustrated, as wear may cause the plates or stencils on the equipment to become unreadable. See figures 7 and 8 for typical locations of identification and instruction plates and figures 9 and 10 for examples of identification/instruction plates. The manual shall illustrate only those plates and stencils which are applicable to the appropriate maintenance level. Detailed data on components shall be included. This information shall be followed by a tabulated listing of all data on the equipment, its accessories, components, and auxiliaries (kits) which are pertinent to operator and unit maintenance. Such data as the following shall be included: Weight (both dry and wet), height, width, and length of the generator sets and the ancillary equipment; make, model, or type, and capacity of the generator set and its components; torque and engineering data; systems capacities; and clearances. Data on each item of ancillary equipment and on each kit shall be shown separately, and shall be presented immediately following major end item and component data. The same applicable data required above for the generator set shall be tabulated and illustrated for the ancillary equipment and kits.

3.3.2.2.2 Location and description of major components. External and internal views of the equipment shall be used to show general features, essential operating items, and all major components and accessories. See figures 11 and 12. The major items in the views will be explained by the use of keyed text or narrative callouts. This material shall provide a physical description of the equipment for the operator/ technician. Only information pertaining to the operator/technician shall be included. For simple equipment, the location and description of major components information shall be combined in the principles of operation section.

3.3.2.2.3 Differences between models. Differences between models, serial numbers, or serial number groups and the means of distinguishing between them shall be briefly described. The number groups or registration numbers and model numbers shall be included or referenced when applicable. Significant differences between equipment models or units of the same model that affect maintenance actions shall be described, and the extent of interchangeability shall be indicated. These differences shall be related explicitly to equipment model, part number, or serial number ranges in such a manner that an operator/technician can identify the equipment configuration. (F) For Air Force, difference data sheets shall be used as specified in MIL-STD-38784.

3.3.2.3 Section III - principles of operation. This section shall contain a functional description of equipment operation that is pertinent to the operator and unit maintenance technician. This section shall tell the operator/technician how the control indicators, and components interface with the rest of the equipment. Text shall be keyed to the line drawings or flowcharts so that all information is easy to find and understand. Where practicable, the explanation shall contain step-by- step instructions so that a need for an understanding of highly technical principles of operation is not required. Flowcharts or line drawings of the following systems, as applicable to the equipment, will be included:

- a. engine starting system (see figure 13),
- b. fuel system (see figure 14),
- c. engine cooling system (see figure 15),
- d. engine lubrication system (see figure 16),

- e. air intake and exhaust system (see figure 17),
- f. voltage regulation system (see figure 18),
- g. output supply system (see figure 19),
- h. hydraulic system (see figure 20),
- i. governor control system (see figure 21),
- j. fault system (see figure 22).

3.3.3 Chapter 2 - operating instructions. This chapter shall contain all the operating information that the user needs to operate the equipment and ancillary equipment during normal and unusual conditions. It shall include checks and services required of the operator. The required sections are as follows:

- a. Section I - Operating procedures,
- b. Section II - Operation under unusual conditions,
- c. Section III - Operation under battle conditions,
- d. Section IV - Operation of ancillary equipment,
- e. Section V - Preventive maintenance checks and services (PMCS),
- f. Section VI - Movement to a new work site.

3.3.3.1 Section I - operating procedures. This section shall contain the operating procedures from the instruction data plate on the generator set. The operator's control panel shall be illustrated with word callouts keyed to specific controls, instruments, or components necessary for the operation of the equipment (see figure 23). The illustrated control panel will be supported by a narrative description, purpose, and normal condition/indication of all controls, instruments, or components. Instructions shall be provided to install separately packed components, installation of the generator set, and generator set conversion. Location of controls and instruments and normal instrument readings shall be shown in conjunction with and in their proper sequence for: placing the generator set in operation, operating the generator set in each of its modes of operation, removing it from operation and placing it in shutdown status. Narrative instructions shall be used to provide continuity in the presentation of the information and to lead the operator from illustration to illustration or from sequence to sequence.

3.3.3.2 Section II - operation under unusual conditions. This section shall contain instructions for operating the generator set under unusual conditions such as extreme heat, extreme cold, high humidity, dusty and sandy areas, salt water areas, high altitude, and snow conditions. Any protective and preventive measures required for operating the generator set under unusual conditions shall be included. This section shall contain only information which differs from that covering operation under normal conditions.

3.3.3.3 Section III - operation under battle conditions. This section shall reference the applicable battlefield damage assessment and repair manual.

3.3.3.4 Section IV - operation of ancillary equipment. This section shall contain instructions for operating ancillary equipment not covered in another publication.

3.3.3.5 Section V - preventive maintenance checks and services (PMCS). This section shall provide the operator with instructions for making checks and performing services that will keep the equipment in good operating condition. This section shall consist of a table(s) outlining these functions. Corrosion control inspection procedures shall be included. Illustrations shall be integrated with the table which shall be formatted as shown in figure 24. This section shall consist of paragraphs as follows:

3.3.3.5.1 Introduction. This paragraph shall consist of an introduction to the table. It shall contain a simple statement of the purpose of the PMCS table and remind the operator to observe all cautions, warnings, and notes.

3.3.3.5.2 Explanation of columns.

a. Item No. column - provides identification numbers for the performance of PMCS functions in proper sequence. (A) Army users report the item number on DA Form 5988, Equipment Inspection and Maintenance Worksheet.

b. Interval column - identifies when particular functions (checks/service) must be performed, that is; before, during, or after operation.

c. Item to check/service column - identifies specific items for inspection (servicing/checking).

d. Procedure column - lists the checks or services that must be performed and explains how to perform them.

e. Not Fully Mission Capable If - column - explains when and why the equipment cannot be used.

#### NOTE

The terms ready/available and mission capable refer to the same status: equipment is on hand and is able to perform its combat mission.

3.3.3.5.3 Reporting deficiencies. Equipment that does not perform as required shall be reported in accordance with applicable service directives or procedures: (A) appropriate DA Form per DA Pam 738-750; (F) as prescribed in AFI 21-101 and the applicable TO-00-20 series Technical Order; (N) refer to service peculiar directives to determine applicable maintenance forms and records; (MC) as prescribed by TM 4700-15/1.

3.3.3.5.4 Specifications. For equipment that is normally kept in continuous operation, the following note shall be included before the chart:

NOTE

For generator sets in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Perform a complete PMCS when equipment can be shutdown. Deficiencies discovered during operation shall be noted for future correction. Stop the operation immediately if a deficiency is noted which would damage the equipment. Report all deficiencies and corrective actions on proper forms.

3.3.3.6 Section VI - movement to a new worksite. When applicable, this section shall consist of the description of procedure to be followed in dismantling the generator set, preparing it for transportation to a new worksite, and reinstallation after movement.

3.3.4 Chapter 3 - operator maintenance instructions. This chapter shall accurately present all those instructions and additional information needed to keep the equipment in good running order. This chapter shall consist of the following sections:

3.3.4.1 Section I - lubrication instructions. This section shall reference the applicable lubrication order(s). When removal or disassembly of components and assemblies is required to lubricate, reference shall be made to the maintenance paragraph containing those procedures. Illustrations shall be provided when necessary for clarity. When applicable, a note should state that lubrication of ancillary and accessory items is included in Chapter 5. If no lubrication is required, the statement: "no lubrication required" shall follow the section title.

3.3.4.2 Section II - operator's maintenance instructions. This section shall provide procedures and guidance on performing operator maintenance procedures. Procedures shall be presented in a checklist (step-by-step) format with supporting illustrations, as required, to fully explain the maintenance task being performed. Maintenance procedures for all assemblies and components of the major end-item shall be included.

3.3.4.3 Section III -operator troubleshooting. This section shall be in a tabular format which identifies the observed malfunction; the appropriate test or inspection; and the necessary corrective action required to render the equipment serviceable. See figure 25. Unless otherwise specified, the malfunctions shall be listed in the index in alphabetical order. The instructions shall contain information at the technical competence of an inexperienced operator/technician. Illustrations shall be used to support the instructions and appear on the page facing the instructions or integrated with that part of the instructions which they support.

3.3.4.3.1 Introduction to troubleshooting instructions. There shall be an introduction to the instructions. The introductory information shall contain the following:

a. "This section contains troubleshooting information for locating and correcting operating troubles which may develop in the generator set. Each malfunction for an individual component unit, or system is followed by a list of tests or inspections which will help you to determine probable causes and corrective actions to take. You should perform the tests/inspections and corrective actions in the order listed."

b. "This table cannot list all malfunctions that may occur, nor all test or inspections and corrective actions. If a malfunction is not listed or cannot be corrected by listed corrective actions, notify your supervisor."

c. The following note shall precede the troubleshooting table:

"NOTE: Before you use this table, be sure you have performed your PMCS."

3.3.4.3.2 Preparation of troubleshooting procedures. Troubleshooting procedures shall be based on the following:

a. The instructions shall be based upon symptoms which may be observed by the operator during preventive maintenance checks and services as well as during normal operation of the equipment.

b. Only those checks and corrective actions which are authorized for the operator shall be included.

c. Tests and inspections shall be listed in logical sequence for each malfunction listed. The test and inspection will be complete so that the malfunction can be isolated and verified. Only those malfunctions shall be listed which require sequential steps of testing or inspections before the cause of the malfunction can be determined for corrective action or referral to a higher level of maintenance. Location and accessibility of assemblies, subassemblies, and components shall be considered along with test/inspection performance time and probable cause of malfunction. Use of the generator set fault isolation panel, built-in test points, and the multipurpose test equipment shall be given. Procedures/instructions shall include inspection and refer to corrective items such as protective preservation, painting, covering corrosion prone areas, cleaning, and corrosion removal.

d. Corrective action procedures shall be provided with minimum reference.

3.3.5 Chapter 4 - unit maintenance instructions. This chapter shall contain the following sections:

a. Section I - Service upon receipt of equipment.

b. Section II - Repair parts; special tools; test, measurement, and diagnostic equipment (TMDE); and special support equipment.

c. Section III - Special lubrication instructions.

d. Section IV - Preventive maintenance checks and services (PMCS).

e. Section V - Unit troubleshooting.

f. Section VI - Radio interference suppression.

g. Section VII - Special procedures.

h. Sections VIII through Section () - Maintenance of (insert name of component or assembly). Use as many sections as required to identify maintenance procedures of major components and assemblies.

i. Section (next available number) - Preparation for shipment and storage.

3.3.5.1 Section I - service upon receipt of equipment. This section shall consist of the following paragraphs:

a. Inspecting and servicing the equipment. This paragraph shall contain instructions for inspecting and servicing the generator set prior to installation and use. Instructions shall include but not be limited to the following: unpacking; depreservation requirements, proper amounts and kinds of fuels, lubricants, coolants, electrolyte; proper batteries, bulbs, fuses, etc.; proper lubrication; and any additional inspection or services which are necessary.

b. Installation. This paragraph shall describe and illustrate the operations to be performed in setting up the equipment. A diagram shall be provided which depicts, as a minimum, clearance required to achieve full door opening, adequate air flow for cooling and combustion, adequate servicing space, bearing points and weight distribution requirements for floor or base, mounting measurement, and exhaust outlet provisions. Methods for grounding the generator set shall be covered in the order of preference.

c. Fabrication/assembly of parts. If applicable, items requiring fabrication or assembly shall be identified. Reference shall be made to the applicable appendix for instructions.

3.3.5.2 Section II - repair parts; special tools; test, measurement, and diagnostic equipment (TMDE); and special support equipment. This section shall consist of the following paragraphs:

a. Tools and equipment. This paragraph shall make reference to the Repair Parts and Special Tools List (RPSTL). Special tools, TMDE, and support equipment shall be described; and if necessary for clarity shall be illustrated. A table shall be used to list the applicable items. The table shall show each item name, National Stock Number or CAGE code and part number, reference to figure(s) or paragraph(s) requiring use of the item, and a description of the item's use. When no special tools or special support equipment are required, it shall be so stated.

b. Maintenance repair parts. This paragraph shall contain a statement similar to the following:

Repair parts and equipment are listed and illustrated in the repair parts and special tools list manual (cite TM publication number).

3.3.5.3 Section III - special lubrication instructions. This section shall apply only when special lubrication instructions are required at unit level that are not included in a separate lubrication order or instruction. The first paragraph in this section shall be titled "General" and a brief statement of the purpose of the section shall be provided. Reference shall be made to any special lubrication of components covered elsewhere. Reference shall be made to the document that lists the latest edition of lubrication orders or instructions (e.g., Army: DA Pam 25-30; Marine Corps: SL-1-3; Air Force: applicable workcard set in T.O. 35C2-3-1-426 series). When removal or disassembly of components and assemblies is required, reference shall be made to the proper maintenance paragraph for these procedures. Additional paragraphs shall be used, as necessary, to describe or illustrate the procedures which are necessary for clarity.

3.3.5.4 Section IV - preventive maintenance checks and services (PMCS). This section shall contain PMCS information pertinent to unit maintenance level. The interval column shall indicate action required at unit level only. See figure 26.

3.3.5.5 Section V - unit troubleshooting. This section shall contain information as required by 3.3.4.3, but pertinent to unit maintenance level.

3.3.5.6 Section VI - radio interference suppression. This section shall consist of the following paragraphs:

a. General methods used to attain proper suppression. This paragraph shall contain statements similar to that shown below:

"Essentially, suppression is attained by providing a low resistance path to ground for stray currents. The methods used include shielding the ignition and high-frequency wires, grounding the frame with bonding straps, and using filtering systems."

b. Interference suppression components. This paragraph shall contain statements similar to those shown below:

(1) Primary Suppression Components. "The primary suppression components are those whose primary function is to suppress radio interference. These components are described and located in figure 0-0." Procedures for testing and replacing primary suppression components shall be described and illustrated.

(2) Secondary Suppression Components. "These components have radio interference suppression which are incidental or secondary to their function." Secondary components shall be referenced to the pertinent maintenance paragraphs containing removal and installation instructions.

3.3.5.7 Section VII - special instructions. This section shall include applicable instructions for nuclear, biological, and chemical decontamination procedures.

3.3.5.8 Section VIII - maintenance of (insert name of component or assembly). Step-by-step instructions shall be provided in a logical sequence for each inspection, on-equipment test, bench test, service, adjustment, alignment, calibration, installation, replacement, or repair function allocated to the unit level maintenance as they pertain to each major component or system. Each major component or system shall be covered under a separate section. For example, coverage of an engine driven generator set shall be divided into sections on frame and housing, DC electrical control system, AC electrical power generating and control system, fuel system, and others as outlined in the maintenance allocation chart. The purpose, construction, function, and operation of each major component or system in relation to the complete generator set shall be explained. A complete analysis applicable to electrical circuits or systems used in or with the generator set shall be provided. All procedures referenced in the preventive maintenance and troubleshooting sections shall be included. The text of these sections shall be supported with illustrations for clarity.

3.3.5.9 Section (next available number) - preparation for shipment and storage. This section shall provide all instructions for shipment or storage, including the following, as applicable:

- a. Preservation, packaging, packing, marking, and shipping.
- b. Use of corrosion-preventive compounds, moisture barriers, and desiccant materials.

- c. Application of identification, shipping, and precautionary markings to shipping containers.
- d. Type of storage:
  - (1) Short term storage (1 to 45 days).
  - (2) Intermediate term storage (45 to 180 days).
  - (3) Long term storage (over 180 days).

3.3.6 Chapter 5 - materiel used in conjunction with major item. This chapter shall describe all maintenance procedures for ancillary equipment (kits) which are not covered in another technical manual, used in conjunction with the generator set and which are the responsibility of unit maintenance personnel as allocated by the MAC. A separate section shall be devoted to each ancillary item. The initial paragraph of each section shall be titled "General" and shall describe the purpose and function of the ancillary equipment (kit) in relation to the end item. Subsequent paragraphs shall provide step-by-step instructions, as applicable for installation, lubrication, preventive maintenance services, and troubleshooting for operator and unit maintenance. Troubleshooting information shall be presented in the same manner as required for chapter 3, section III. (See 3.3.4.3)

3.3.7 Appendix A - references. This appendix shall include all publications referenced in the manual and reference publications furnished by the contracting activity.

3.3.8 Appendix B - maintenance allocation chart (MAC).

3.3.8.1 MAC, section I, introduction. Section I of this appendix shall be prepared in accordance with the content requirements in Appendix A of this specification and style and format requirements of MIL-STD-38784. Paragraph numbering shall be as specified in 3.1.2 of this specification.

3.3.8.2 MAC, section II. Format of Section II shall be in accordance with figure 27 of this performance specification. Explanation of columns shall be as specified in Appendix A of this specification.

3.3.8.3 MAC, section III, tools and test equipment requirements. Format of Section III shall be in accordance with figure 28 of this performance specification. Explanation of columns shall be as specified in Appendix A of this specification.

3.3.8.4 MAC, section IV, remarks. Format of Section IV shall be in accordance with figure 28 of this performance specification. Explanation of columns shall be as specified in Appendix A of this specification.

3.3.9 Appendix C - repair parts and special tools list (RPSTL).

3.3.9.1 RPSTL, section I, introduction. Section I of this appendix shall be prepared in accordance with Appendix B of this specification.

3.3.9.2 RPSTL, section II, repair parts list and section III, special tools and test equipment. Format of Sections II and III shall be in accordance with figure 29 of this performance specification. Explanation of columns shall be as specified in Appendix B of this specification. Section II shall include a column for U.S. Marine Corps to accommodate the quantity per equipment.

3.3.9.3 RPSTL, section IV, cross reference indexes. Format of Sections IV shall be in accordance with figure 30 of this performance specification. Explanation of columns shall be as specified in Appendix B of this specification.

3.3.10 Appendix D - expendable and durable items list.

3.3.10.1 Expendable and durable items list, section I, introduction. Section I of this appendix shall be prepared in accordance with 3.3.8.1 of this specification. Explanation of columns shall be as specified in Appendix C.

3.3.10.2 Expendable and durable items list, section II, expendable/durable supplies and materials list. Format of this appendix shall be in accordance with figure 31 of this performance specification.

3.3.11 Appendix E - additional authorization list.

3.3.11.1 Additional authorization list, section I, introduction. Section I of this appendix shall be prepared in accordance with 3.3.8.1 of this specification.

3.3.11.2 Additional authorization list, section II. Format of this appendix shall be in accordance with figure 32 of this performance specification.

3.3.12 Appendix F - fabrication/assembly of parts. Parts which must be fabricated rather than requisitioned shall be fully described. The description shall include a list of material required, detailed drawings, and any other information needed to fabricate the item. The material list shall include information so that the material can be located in the RPSTL. Specification or part numbers shall be used where applicable. NSNs shall be used only if no other positive identification is available. Parts that are not provided as an assembly, but must be assembled, shall be listed and supported by illustrations as necessary.

3.3.13 Additional appendixes. When specified by the contracting activity, additional appendixes shall be included in the manual.

3.3.14 Index. The index shall be prepared in accordance with MIL-STD-38784.

3.4 Intermediate (field) (direct and general support) and depot maintenance level manual. Manuals prepared for these levels shall provide procedures necessary to accomplish the maintenance functions allocated to these levels. Arrangement of material shall be as indicated in 3.2.

3.4.1 Front matter. See 3.3.1.

3.4.2 Chapter 1 - introduction. This chapter shall consist of:

a. Section I - general information. See 3.3.2.1.

b. Section II - equipment description and data. See 3.3.2.2.

3.4.2.1 Section I - general information. This section shall consist of:

- a. Scope - see 3.3.2.1.1.
- b. Limited applicability - see 3.3.2.1.2.
- c. Maintenance forms and records - see 3.3.2.1.3.
- d. Reporting errors - see 3.3.2.1.4.
- e. (A) Hand receipt - see 3.3.2.1.5.
- f. Destruction of materiel to prevent enemy use - see 3.3.2.1.6.
- g. Shipment and storage - see 3.3.2.1.7.
- h. Equipment improvement recommendations (EIR) - see 3.3.2.1.8.
- i. Levels of maintenance - see 3.3.2.1.9.

3.4.2.2 Section II - equipment description and data. This section shall include requirements of 3.3.2.2 through 3.3.2.2.3. In addition it shall include data pertinent to intermediate (direct and general support) maintenance and depot maintenance personnel. When pertinent data is lengthy and available in another publication, reference shall be made to the applicable publication.

3.4.3 Chapter 2 - general maintenance instructions. This chapter shall consist of the three sections described below.

3.4.3.1 Section I - repair parts, special tools and equipment. This section shall consist of the following paragraphs:

- a. Maintenance repair parts - See 3.3.5.2.
- b. Tools and equipment - This paragraph shall be similar to the requirements of 3.3.5.2 except it shall address intermediate (direct and general support) maintenance and depot maintenance personnel.
  - (1) Item descriptions of the common tools, test, and support equipment listed in the table shall be complete enough so that an equivalent item can be substituted.
  - (2) Special tools listed in the table shall be identified by using an asterisk or applicable note.
- c. Fabricated tools and equipment - when applicable, the items to be fabricated shall be illustrated with simplified line drawings and complete fabrication instructional text. A complete list of material including manufacturers part numbers, quantities, and tools required shall be provided. Reference shall be made to appendix D - fabrication/assembly of parts.

3.4.3.2 Section II - troubleshooting. This section shall contain information as required by 3.3.4.3, but pertinent to the applicable maintenance level.

3.4.3.3 Section III - removal and installation of major components. This section shall contain procedures for the removal and installation of all major components; such as engine, main generator(s), and control panel. All special adjustments or maintenance procedures required during installation shall be included. Paragraphs shall be arranged in the order in which the components should be removed. A separate paragraph shall be devoted to each major component.

3.4.4 Chapter 3 - maintenance of (insert name of system or major assembly). This chapter and subsequent chapters (the number of subsequent chapters shall be determined by the number of systems or major assemblies incorporated in the end item) shall include maintenance functions allocated by the MAC. These functions shall include: detailed instructions for non-destructive on-equipment testing, inspection, removal, cleaning, disassembly, repair, overhaul, preservation, assembly, bench testing, and installation of each component assembly, subassembly, or part. Lubrication, painting, and marking shall be included. A separate section shall be prepared for each component, assembly, or subassembly. Titles such as "Maintenance of Engine" and "Maintenance of Fuel System" shall be assigned. The first paragraph of each of these maintenance chapters shall provide a technical description of the purpose/operation and, function of the major components applicable to each system or major assembly. Illustrations shall support the text. Text shall be keyed to the associated illustrations so that all information presented is easy to find, read, and understand. The illustrations shall be on the same page or the pages adjacent to the text.

3.4.5 Chapter () - depot maintenance. When extensive maintenance functions are allocated to depot level or peculiar depot level environmental requirements exist (as determined by the MAC), a depot maintenance chapter shall be included. When applicable, the chapter shall be divided into sections by component name or subject and arranged in next higher assembly sequence where practicable. The total number of sections to be included in the chapter shall be based on the complexity and extent of the depot maintenance functions required.

3.4.6 Chapter () - generator set test and inspection after repair or overhaul. This chapter shall contain the following two sections.

3.4.6.1 Section I - inspection. This section shall describe the detailed procedures and criteria for generator set inspections for appearance, uniformity and any other areas required to assure that the generator set has been adequately overhauled/repared in accordance with the requirements of the manual in which it appears.

3.4.6.2 Section II - operating tests. The techniques and methods required to assure the satisfactory performance of the item shall be described in detail. This shall include a description of the functional performance operating tests required to assure that the generator set has been adequately overhauled/repared. When adjustments can be accomplished during a test without disassembling the equipment, adjustment instructions shall be integrated into the procedure in the proper sequence. If the equipment requires a run-in test, complete instructions shall be incorporated. Data pertaining to specific testing conditions, test set-up, and general operating procedures of special test equipment shall be included. Complete procedures, test values, and acceptance/rejection criteria shall be given for each test.

3.4.7 Chapter () - material used in conjunction with major item. This chapter shall describe all intermediate (general and direct support) and depot maintenance procedures for ancillary equipment (kits) which are used in conjunction with the generator set. For guidance in developing this chapter see 3.3.6. A separate section shall be prepared for each item of ancillary equipment (kit).

3.4.8 Appendix A - references. See 3.3.7.

3.4.9 Appendix B - expendable and durable items list. See 3.3.10.

3.4.10 Appendix C - repair parts and special tools list. See 3.3.9.

3.4.11 Appendix D - fabrication/assembly of parts. See 3.3.12.

3.4.12 Additional appendixes. See 3.3.13.

3.4.13 Index. An index shall be prepared in accordance with requirements of MIL-STD-38784.

#### 4. VERIFICATION

4.1 Verification. The verification requirements shall be specified in the contract or order (see 6.2).

#### 5. PACKAGING

5.1 Packaging. For acquisition purposes, packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

#### 6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory).

6.1 Intended use. Publications prepared in accordance with this specification provide those responsible for operation and maintenance of DOD generator sets with the information they need to perform their functions.

6.2 Acquisition requirements. Acquisition documents should specify the following items:

a. Title, number, and date of this specification.

b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1).

c. Title and number of the technical manual.

- d. Supersession notice, if applicable.
- e. Requirements, if any, for validation.
- f. Identify target audience, reading grade level (see 3.1.6).
- g. Front cover information (3.3.1.1).
- h. Verification requirements (see 4.1).
- i. Packaging requirements (see 5.1).

6.3 Technical manuals. The requirement for technical manuals should be considered when this specification is applied on a contract. If technical manuals are required, specifications and standards that have been cleared and listed in DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL) must be listed on a separate Contract Data Requirements List (DD Form 1423), which is included as an exhibit to the contract. The technical manuals must be acquired under separate contract line item in the contract.

#### 6.4 Definitions.

6.4.1 Assembly. Two or more parts or subassemblies joined together to perform a specific function and capable of disassembly.

6.4.2 Component. An assembly or any combination of spare/repair parts mounted together, normally capable of independent operation in a variety of situations.

6.4.3 DOD family generator sets. A generator set listed in the current editions of MIL-STD-633 and MIL-STD-1650.

6.4.4 Functional group code (FGC). A basic (usually two-position) group code assigned to identify major components, assemblies and subassemblies to a functional system. Subordinate subfunctional groups/subassemblies are coded to relate back to the basic (top position) FGC in a sequential next higher assembly relationships (i.e., top-down breakdown structure).

6.4.5 Overhaul. To restore an item to fully serviceable condition as prescribed by maintenance service standards.

6.4.6 Remove/install. To remove, then install the same item removed (compare with "Replace"). Prescribed by the maintenance allocation chart (MAC), but not covered by SMR code authorization. Performed during service actions, disassembly/assembly procedures, or other maintenance activities.

6.4.7 Repair. To restore an item to service through correction of a specific failure or condition.

6.4.8 Repair part. Any consumable/nonreparable component (Supply Class IX item) required for installation in the maintenance or repair of an end item/equipment, subassembly or component (coded Z or B in the 4th position of the SMR code).

6.4.9 Replace. To remove an unserviceable spare/repair part and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3rd position code of the SMR code.

6.4.10 Spare part. Any repairable and recoverable component required for the maintenance or repair of an end item/equipment (will have a Recoverability Code other than "Z" and will be assigned an FGC/ subfunctional group code in the MAC).

6.4.11 Special tools. Those support items that have single or peculiar application to a specific end item/system. Items include special tools, special test measurement and diagnostic equipment (TMDE), and special support equipment.

6.4.12 Top-down breakdown. The pyramidal generation breakdown of an end item, with the top item being the complete end item. The process of breakdown is established from the engineering drawing structure in a next higher assembly (NHA) progression until the lowest repairable in each family tree group is identified. All nonrepairables (spare parts) can be identified in like manner to establish their NHA relationships.

6.4.13 Validation. The process by which the contractor tests an equipment publications manuscript for accuracy, adequacy, and usability of the technical content, and by review, determines that the format and content meet the requirements of regulatory documents provided as part of the acquisition package.

6.4.14 Verification. The process by which the Government, under acquiring activity jurisdiction, determines a draft equipment publication or a manufacturer's publication to be accurate and adequate for operation and maintenance of the equipment.

6.5 Subject term (key word) listing.

Fuel cells  
Power distribution equipment  
Thermoelectric devices

ARMY TM 9-6115-464-12  
 AIR FORCE TO-35C2-3-445-1  
 NAVY NAVFAC P-8-24-12

**TECHNICAL MANUAL**  
**Operator And Unit Maintenance Manual**  
**GENERATOR SET, DIESEL ENGINE**  
**DRIVEN, TACTICAL**

**SKID MTD, 15KW, 3 PHASE, 4 WIRE, 120/208**  
**AND 240/416 VOLTS**

<u>DOD MODEL</u>	<u>CLASS</u>	<u>HERTZ</u>	<u>NSN</u>
MEP-004A	UTILITY	50/60	6115-00-118-1241
MEP-103A	PRECISE	50/60	6115-00-118-1245
MEP-113A	PRECISE	400	6115-00-118-1244

**INCLUDING OPTIONAL KITS**

<u>DOD MODEL</u>	<u>NOMENCLATURE</u>	<u>NSN</u>
MEP-005-AWF	WINTERIZATION KIT, FUEL BURNING	6115-00-463-9083
MEP-005-AWE	WINTERIZATION KIT, ELECTRIC	6115-00-463-9085
MEP-004-ALM	LOAD BANK KIT	6115-00-291-9201
MEP-005-AWM	WHEEL MOUNTING KIT	6115-00-463-9094
	APPLICATIONS KIT	6115-01-096-9015
MEP-015-ASK	ACOUSTIC SUPPRESSION KIT	6115-01-233-8274

This manual supersedes TM 5-6115-464-12, 31 January 1975, including all changes

**Distribution Statement A. Approved for public release, distribution is unlimited**

**HEADQUARTERS, DEPARTMENTS OF THE ARMY,**  
**AIR FORCE AND NAVY**  
**30 JULY 1993**

FIGURE 1. Example - cover page.



**WARNING**

Hot parts can burn you. Always wear leather gloves when working with parts that are or might be hot.



**WARNING**

Planetary carrier is heavy and can crush you. To avoid injury, make sure planetary carrier is level and centered in press. Hold two legs of sling against wood block while lifting planetary carrier.



**WARNING**

Chips may fly out and cause injury. Wear industrial goggles.



**WARNING**

Heavy parts can crush or pinch you. To avoid injury, do not stand under heavy parts while lifting them. Keep hands and fingers out from between parts while seating them.

FIGURE 2. Example - warning page

**ARMY TM 9-6115-464-12  
AIR FORCE TO-35C2-3-445-1  
NAVY NAVFAC P-8-624-12**

TECHNICAL MANUAL

NO 9-6115-464-12

HEADQUARTERS  
DEPARTMENTS OF THE ARMY, AIR FORCE  
AND NAVY  
WASHINGTON D.C., 30 July 1993

**TECHNICAL MANUAL**

**Operator and Unit Maintenance Manual**

**Generator Set, Diesel Engine Driven, Tactical  
Skid Mounted, 15 KW, 3 Phase, 4 Wire, 120/208  
and 240/416 Volts**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistakes, or if you know of a way to improve the procedures, please let us know.

(A) Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to:

Commander  
U.S. Army Aviation and Troop Command  
ATTN: AMSAT-I-MP  
4300 Goodfellow Blvd,  
St. Louis, MO 63120-1798

(F) Air Force AFTO Form 22 directly to:

Commander  
Sacramento Air Logistics Center  
ATTN: TIBLA  
McClellan AFB, CA 95652-5990

(N) By letter directly to:

Commander  
Naval Construction Battalion Center  
ATTN: Code 15741  
Port Hueneme, CA 93043-5000

A reply will be furnished to you.

**DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited**

FIGURE 3. Example - title block page

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FIGURE 4. Example - table of contents

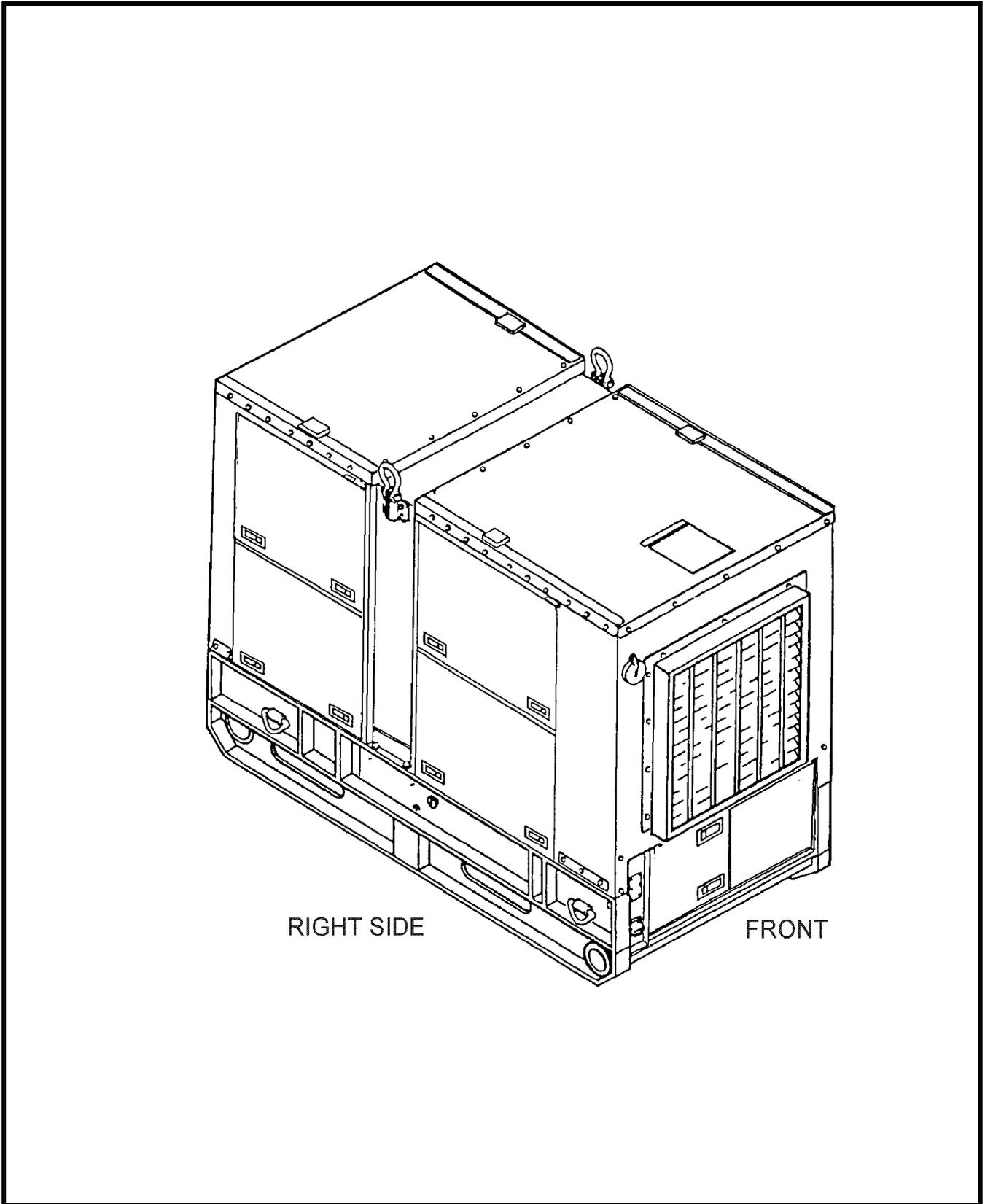


FIGURE 5. Example - engine generator set, right-front, three-quarter view

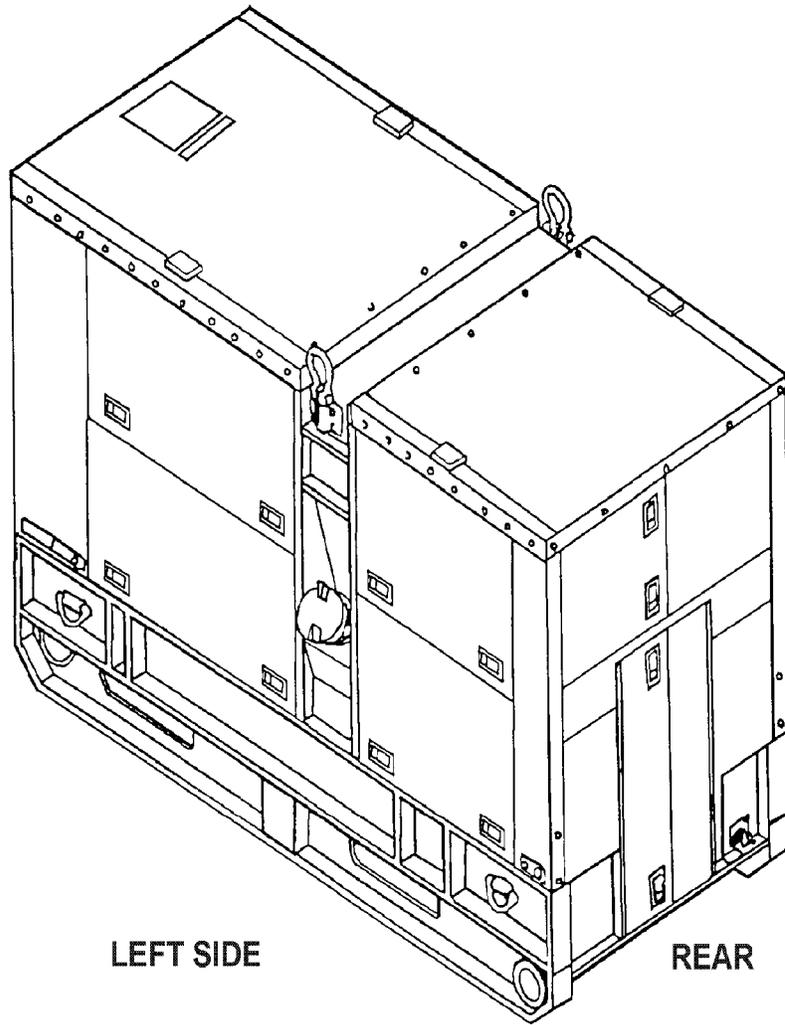


FIGURE 6. Example - engine generator set, left-rear, three-quarter view

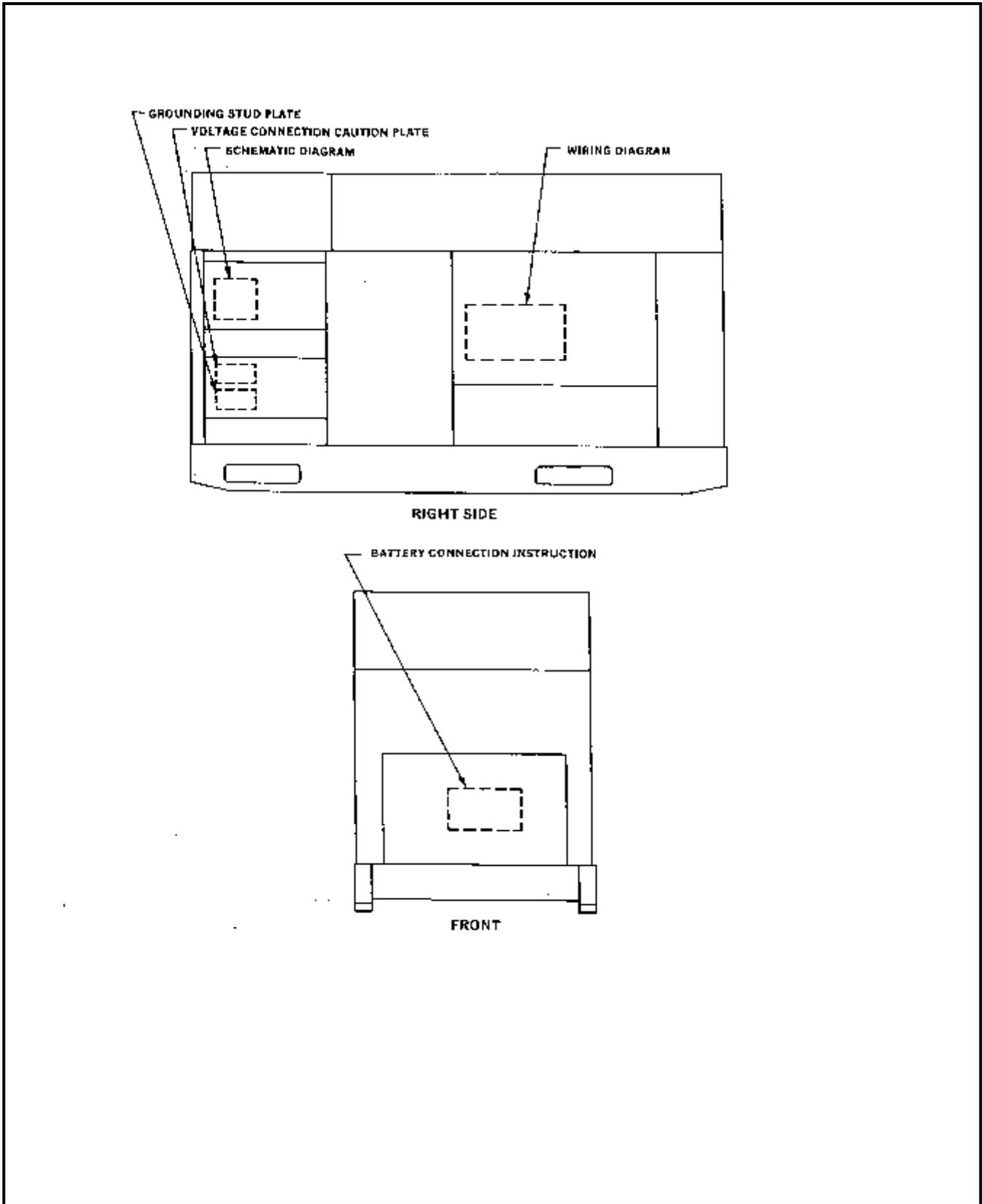


FIGURE 7. Example - operating instruction plates, front and right sides.

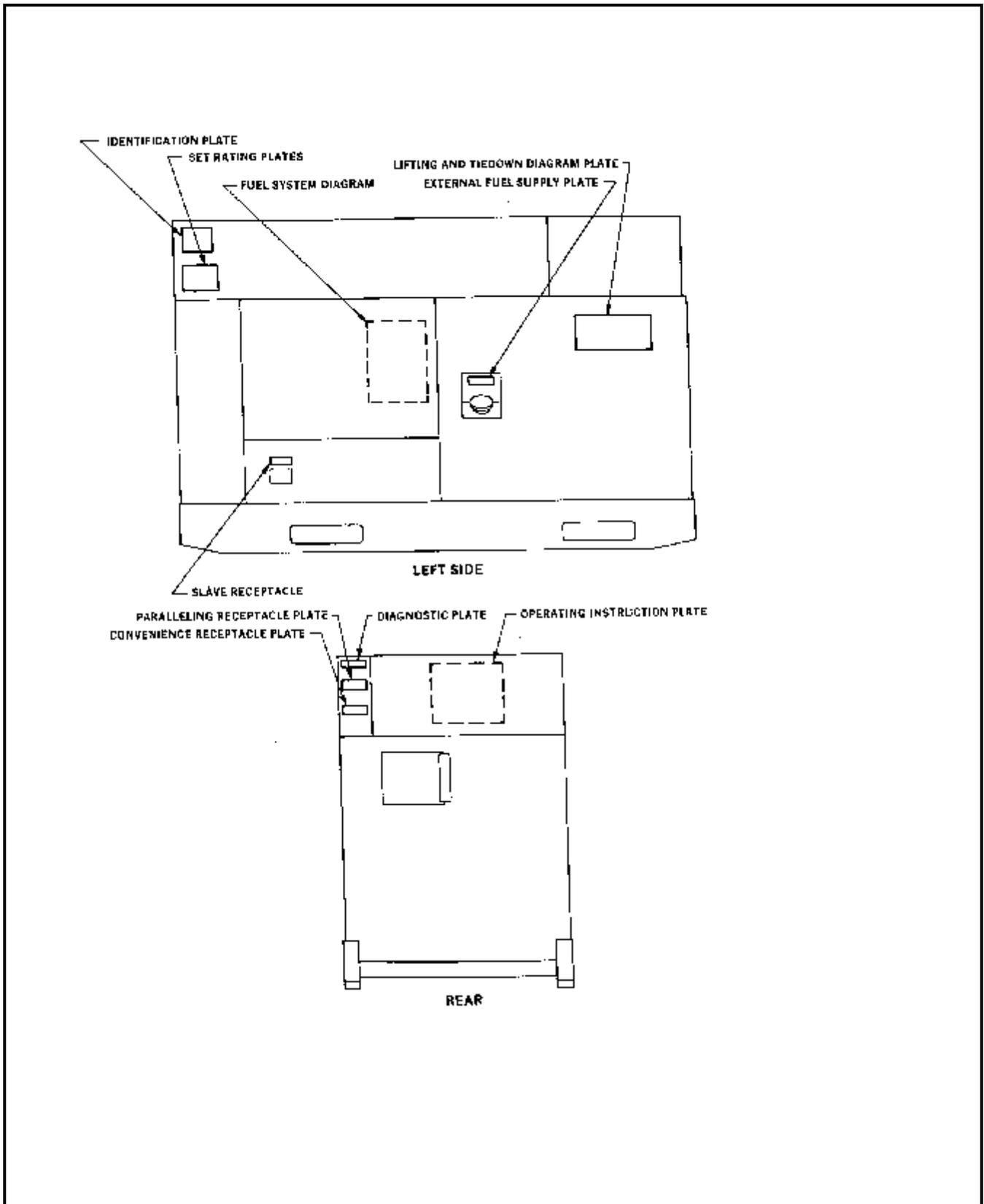


FIGURE 8. Example - operating instructions plates, rear and left sides.

**OPERATING**

**WARNING:**

- A. TO AVOID SHOCK HAZARD SET FRAME MUST BE GROUNDED. CONNECT WAG. NO. 4 WIRE OR LARGER FROM GROUND TERMINAL (DNC) TO EARTH GROUND.
- B. BATTERY NEGATIVE TERMINAL IS CONNECTED TO GROUND.
- C. IDLING OF THE ENGINE AT SPEEDS SLOWER THAN THOSE ATTAINABLE THROUGH THE CONTROLS MAY RESULT IN DAMAGE TO ELECTRICAL COMPONENTS.

**1. PRESTART CHECKS**

- A. CHECK RADIATOR COOLANT, ENGINE LUBE OIL FUEL, AND BATTERY ELECTROLYTE LEVEL.
- B. CHECK FUEL-WATER SEPARATOR. DRAIN WATER IF PRESENT.
- C. PLACE CONTROLS, SWITCHES TO OFF OR EQUIVALENT POSITION.

**2. NORMAL START (TEMPERATURE ABOVE -25°F)**

- A. CRANK THE ENGINE BY PLACING THE MASTER SWITCH IN THE START POSITION. DO NOT CRANK FOR CONTINUOUS PERIODS LONGER THAN 15 SECONDS.

- B. AT TEMPERATURES BELOW APPROXIMATELY 40°F IT MAY BE NECESSARY TO USE THE "PRE-HEAT" GLOW PLUGS. HOLD THE MASTER SWITCH IN THE PRE-HEAT POSITION FOR 30 SECONDS MAXIMUM PRIOR TO GLOW.
- C. HOLD MASTER SWITCH IN START POSITION UNTIL OIL PRESSURE BUILDS UP TO AT LEAST 25 PSI THEN RELEASE TO PRIME & RUN POSITION.
- D. ADJUST VOLTAGE AND FREQUENCY TO PROPER VALUES. IF NECESSARY, RESET FAULT INDICATOR LIGHTS.
- E. UNDER NORMAL CONDITIONS RUN ENGINE AT NO LOAD FOR 5 MINUTES FOR WARM UP. IF REQUIRED, LOAD CAN BE APPLIED IMMEDIATELY.
- F. CLOSE THE AC CIRCUIT INTERRUPTER BY PLACING THE AC CIRCUIT INTERRUPTER SWITCH IN THE CLOSED POSITION.

**3. STOPPING THE SET**

- A. REMOVE LOAD BY PLACING THE AC CIRCUIT INTERRUPTER SWITCH IN OPEN POSITION.
- B. ALLOW ENGINE TO OPERATE FOR APPROXIMATELY 5 MINUTES AT NO LOAD.
- C. STOP UNIT BY PLACING MASTER SWITCH IN OFF POSITION.

**INSTRUCTIONS**

**4. PARALLEL OPERATION (2 OR MORE LINE SETS)**

- A. MAKE CONNECTIONS BETWEEN SETS AND LOAD AS DESCRIBED IN THE OPERATING MANUAL.
- B. CONNECT PARALLELING CABLE.
- C. START UNITS NO. 1 AND NO. 2 PER STARTING INSTRUCTIONS.
- D. ADJUST VOLTAGE AND FREQUENCY TO DESIRED VALUE (MUST BE SAME ON BOTH UNITS).
- E. CLOSE AC CIRCUIT INTERRUPTER ON UNIT NO. 1 ONLY.
- F. PLACE UNIT-PARALLEL SWITCH ON BOTH SETS IN PARALLEL POSITION.
- G. OBSERVE SYNCHRONIZING LIGHTS ON UNIT NO. 2 WHICH SHOULD BE ALTERNATELY DIMMING DIMMER AND DIMMER IN UNISON. ADJUST FREQUENCY OF UNIT NO. 2 SLOWLY AS NECESSARY TO CAUSE LIGHTS TO SLOWLY GLOW DIMMER AND DARK IN UNISON.
- H. WHEN BOTH LAMPS ARE DARK, CLOSE THE AC CIRCUIT INTERRUPTER ON UNIT NO. 2 (THE UNITS ARE NOW OPERATING IN PARALLEL, AND SHOULD APPROXIMATELY SHARE KILOWATT LOAD AND CURRENT EQUALLY).

**5. REFER TO APPLICABLE TECHNICAL MANUAL FOR ADDITIONAL INFORMATION ON MAINTENANCE AND TROUBLESHOOTING PROCEDURES.**

**SERVICE INSTRUCTIONS**

FUEL AND OIL				COOLANT	
AMBIENT TEMPERATURE	DIESEL FUEL	LUBRICATING OIL	AMBIENT TEMPERATURE	RADIATOR COOLANT	
+20°F TO +120°F	W-F-800 OR W-F-2	WL-L-2104C OL 100-30	+40°F TO +120°F	WATER	WL-A-5100B
0°F TO +20°F	W-F-500 OR W-F-1	WL-L-2104C OL 100-10	-25°F TO +120°F	WATER	WL-A-4255J
-25°F TO 0°F	W-F-800 OR W-F-1	WL-L-451A3	-25°F TO +120°F	WATER	WL-A-1175E
-25°F TO 0°F	W-F-800 OR W-F-1	WL-L-451A3			

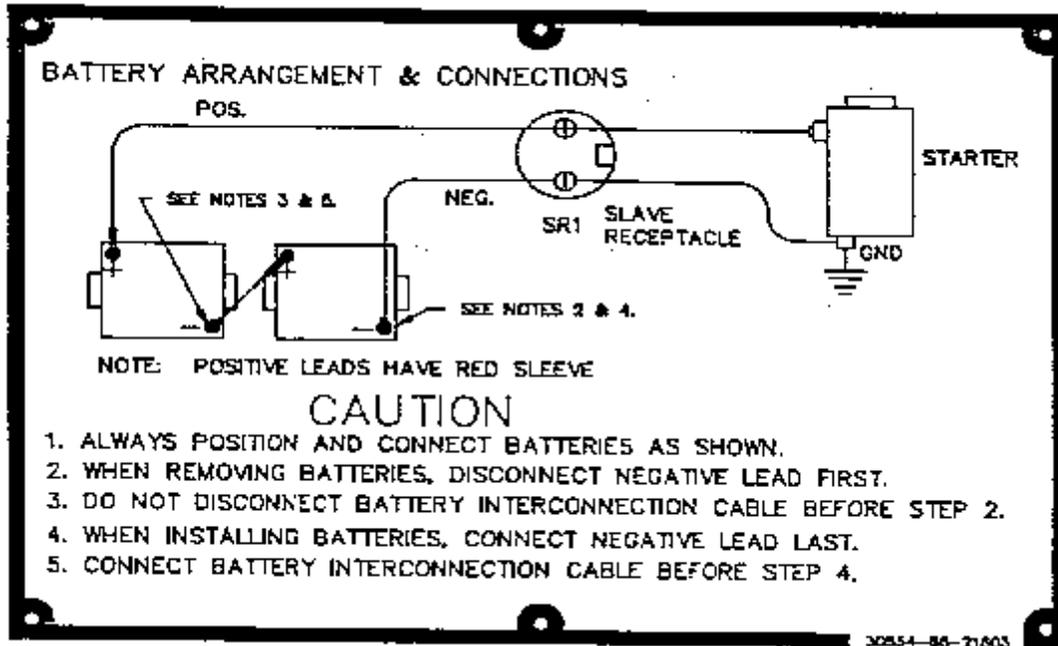
**SYSTEM CAPACITY**

FUEL TANK	LUBRICATING OIL			COOLING SYSTEM	
	CRANKCASE	LOW	FILTERS	RADIATOR AND SYSTEM	BLOCK
14 GALLONS	6 QTS	5 QTS	FILTERS CLEAN TO CRANKCASE	8 QTS	55 QTS

NOTE: FOR OPERATION USING JFA, JFS, OR JFB FULL REFER TO APPLICABLE OPERATING INSTRUCTION MANUAL.

30554-00-22270

FIGURE 9. Example - instruction plate.



**WARNING**

DO NOT OPERATE THE GENERATOR SET UNTIL IT HAS BEEN CONNECTED TO A SUITABLE GROUND. SEE OPERATOR'S MANUAL.

- 4 WIRE CONNECTION -

CONNECT THE LOAD LINES TO "L1", "L2" & "L3", TERMINALS. CONNECT THE NEUTRAL LINE TO "LC" TERMINAL.

- 5 WIRE CONNECTION -

CONNECT THE LOAD LINES TO "L1", "L2" & "L3" TERMINALS. CONNECT THE NEUTRAL LINE TO "LO" TERMINAL. CONNECT THE 5TH WIRE (GROUND) TO THE "GND" TERMINAL.

30554-88-20126

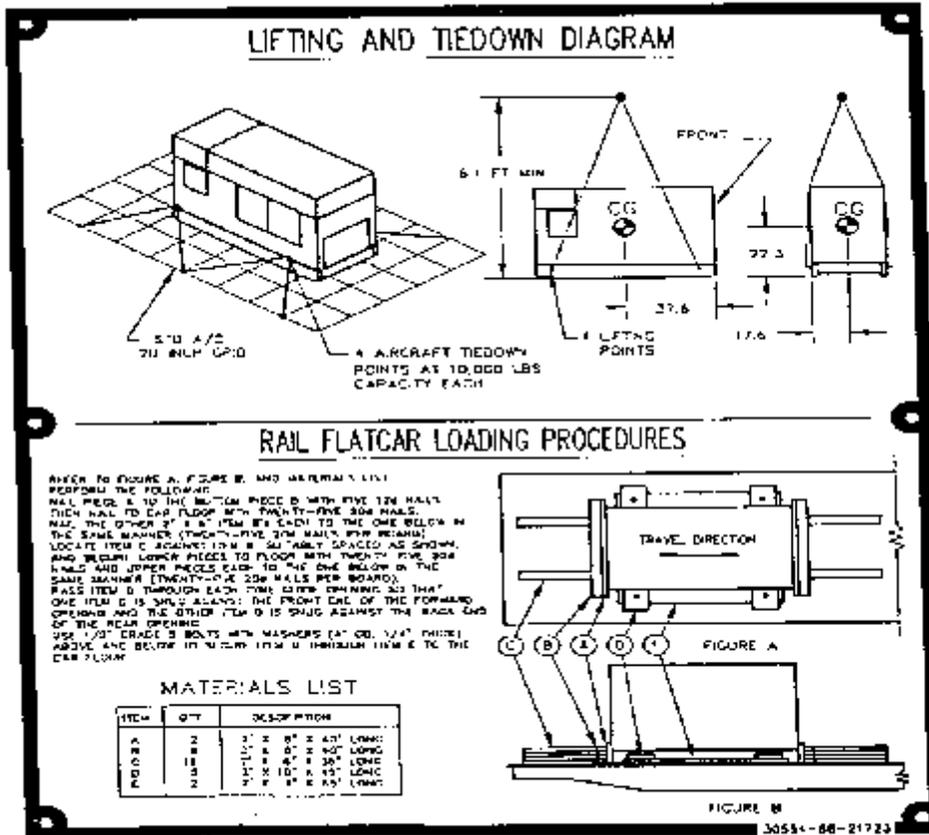
**CAUTION**

**TO AVOID DAMAGE TO THE LOAD**

FIRST CHECK VOLTAGE, FREQUENCY AND PHASE REQUIREMENTS OF THE USING EQUIPMENT.

30554-88-20110

FIGURE 10. Example - additional operating/instruction plates.



#### GENERATOR SET, DIESEL, FUELED TACTICAL BUICK MOD. 1 (50/60 HERTZ), SIZE 15 (15 KW)

KW CAPACITY		TY	FREQ	FUEL	OUTPUT VOLTAGE RANGE	VOLTAGE REGULAT RANGE	CURRENT CAPACITY AMPS
100 DCS FT S.F.	65 DCS FT 4000 FT ROOM FT						
19.0	15.0	12.2	60	DF1/DF2/DF3	175-208	182-211	25
19.0	15.0	12.8	60	DF1/DF2/DF3	240-240	190-210	30
19.5	15.5	13.7	60	DF1/DF2/DF3	255-258	185-212	33
19.5	15.5	14.7	60	DF1/DF2/DF3	240-240	185-212	37
19.5	15.5	15.7	60	DF1/DF2/DF3	240-240	185-212	41
19.5	15.5	16.7	60	DF1/DF2/DF3	240-240	185-212	45
19.5	15.5	17.7	60	DF1/DF2/DF3	240-240	185-212	49
19.5	15.5	18.7	60	DF1/DF2/DF3	240-240	185-212	53
19.5	15.5	19.7	60	DF1/DF2/DF3	240-240	185-212	57
19.5	15.5	20.7	60	DF1/DF2/DF3	240-240	185-212	61
19.5	15.5	21.7	60	DF1/DF2/DF3	240-240	185-212	65
19.5	15.5	22.7	60	DF1/DF2/DF3	240-240	185-212	69
19.5	15.5	23.7	60	DF1/DF2/DF3	240-240	185-212	73
19.5	15.5	24.7	60	DF1/DF2/DF3	240-240	185-212	77
19.5	15.5	25.7	60	DF1/DF2/DF3	240-240	185-212	81
19.5	15.5	26.7	60	DF1/DF2/DF3	240-240	185-212	85
19.5	15.5	27.7	60	DF1/DF2/DF3	240-240	185-212	89
19.5	15.5	28.7	60	DF1/DF2/DF3	240-240	185-212	93
19.5	15.5	29.7	60	DF1/DF2/DF3	240-240	185-212	97
19.5	15.5	30.7	60	DF1/DF2/DF3	240-240	185-212	101
19.5	15.5	31.7	60	DF1/DF2/DF3	240-240	185-212	105
19.5	15.5	32.7	60	DF1/DF2/DF3	240-240	185-212	109
19.5	15.5	33.7	60	DF1/DF2/DF3	240-240	185-212	113
19.5	15.5	34.7	60	DF1/DF2/DF3	240-240	185-212	117
19.5	15.5	35.7	60	DF1/DF2/DF3	240-240	185-212	121
19.5	15.5	36.7	60	DF1/DF2/DF3	240-240	185-212	125
19.5	15.5	37.7	60	DF1/DF2/DF3	240-240	185-212	129
19.5	15.5	38.7	60	DF1/DF2/DF3	240-240	185-212	133
19.5	15.5	39.7	60	DF1/DF2/DF3	240-240	185-212	137
19.5	15.5	40.7	60	DF1/DF2/DF3	240-240	185-212	141
19.5	15.5	41.7	60	DF1/DF2/DF3	240-240	185-212	145
19.5	15.5	42.7	60	DF1/DF2/DF3	240-240	185-212	149
19.5	15.5	43.7	60	DF1/DF2/DF3	240-240	185-212	153
19.5	15.5	44.7	60	DF1/DF2/DF3	240-240	185-212	157
19.5	15.5	45.7	60	DF1/DF2/DF3	240-240	185-212	161
19.5	15.5	46.7	60	DF1/DF2/DF3	240-240	185-212	165
19.5	15.5	47.7	60	DF1/DF2/DF3	240-240	185-212	169
19.5	15.5	48.7	60	DF1/DF2/DF3	240-240	185-212	173
19.5	15.5	49.7	60	DF1/DF2/DF3	240-240	185-212	177
19.5	15.5	50.7	60	DF1/DF2/DF3	240-240	185-212	181
19.5	15.5	51.7	60	DF1/DF2/DF3	240-240	185-212	185
19.5	15.5	52.7	60	DF1/DF2/DF3	240-240	185-212	189
19.5	15.5	53.7	60	DF1/DF2/DF3	240-240	185-212	193
19.5	15.5	54.7	60	DF1/DF2/DF3	240-240	185-212	197
19.5	15.5	55.7	60	DF1/DF2/DF3	240-240	185-212	201
19.5	15.5	56.7	60	DF1/DF2/DF3	240-240	185-212	205
19.5	15.5	57.7	60	DF1/DF2/DF3	240-240	185-212	209
19.5	15.5	58.7	60	DF1/DF2/DF3	240-240	185-212	213
19.5	15.5	59.7	60	DF1/DF2/DF3	240-240	185-212	217
19.5	15.5	60.7	60	DF1/DF2/DF3	240-240	185-212	221
19.5	15.5	61.7	60	DF1/DF2/DF3	240-240	185-212	225
19.5	15.5	62.7	60	DF1/DF2/DF3	240-240	185-212	229
19.5	15.5	63.7	60	DF1/DF2/DF3	240-240	185-212	233
19.5	15.5	64.7	60	DF1/DF2/DF3	240-240	185-212	237
19.5	15.5	65.7	60	DF1/DF2/DF3	240-240	185-212	241
19.5	15.5	66.7	60	DF1/DF2/DF3	240-240	185-212	245
19.5	15.5	67.7	60	DF1/DF2/DF3	240-240	185-212	249
19.5	15.5	68.7	60	DF1/DF2/DF3	240-240	185-212	253
19.5	15.5	69.7	60	DF1/DF2/DF3	240-240	185-212	257
19.5	15.5	70.7	60	DF1/DF2/DF3	240-240	185-212	261
19.5	15.5	71.7	60	DF1/DF2/DF3	240-240	185-212	265
19.5	15.5	72.7	60	DF1/DF2/DF3	240-240	185-212	269
19.5	15.5	73.7	60	DF1/DF2/DF3	240-240	185-212	273
19.5	15.5	74.7	60	DF1/DF2/DF3	240-240	185-212	277
19.5	15.5	75.7	60	DF1/DF2/DF3	240-240	185-212	281
19.5	15.5	76.7	60	DF1/DF2/DF3	240-240	185-212	285
19.5	15.5	77.7	60	DF1/DF2/DF3	240-240	185-212	289
19.5	15.5	78.7	60	DF1/DF2/DF3	240-240	185-212	293
19.5	15.5	79.7	60	DF1/DF2/DF3	240-240	185-212	297
19.5	15.5	80.7	60	DF1/DF2/DF3	240-240	185-212	301
19.5	15.5	81.7	60	DF1/DF2/DF3	240-240	185-212	305
19.5	15.5	82.7	60	DF1/DF2/DF3	240-240	185-212	309
19.5	15.5	83.7	60	DF1/DF2/DF3	240-240	185-212	313
19.5	15.5	84.7	60	DF1/DF2/DF3	240-240	185-212	317
19.5	15.5	85.7	60	DF1/DF2/DF3	240-240	185-212	321
19.5	15.5	86.7	60	DF1/DF2/DF3	240-240	185-212	325
19.5	15.5	87.7	60	DF1/DF2/DF3	240-240	185-212	329
19.5	15.5	88.7	60	DF1/DF2/DF3	240-240	185-212	333
19.5	15.5	89.7	60	DF1/DF2/DF3	240-240	185-212	337
19.5	15.5	90.7	60	DF1/DF2/DF3	240-240	185-212	341
19.5	15.5	91.7	60	DF1/DF2/DF3	240-240	185-212	345
19.5	15.5	92.7	60	DF1/DF2/DF3	240-240	185-212	349
19.5	15.5	93.7	60	DF1/DF2/DF3	240-240	185-212	353
19.5	15.5	94.7	60	DF1/DF2/DF3	240-240	185-212	357
19.5	15.5	95.7	60	DF1/DF2/DF3	240-240	185-212	361
19.5	15.5	96.7	60	DF1/DF2/DF3	240-240	185-212	365
19.5	15.5	97.7	60	DF1/DF2/DF3	240-240	185-212	369
19.5	15.5	98.7	60	DF1/DF2/DF3	240-240	185-212	373
19.5	15.5	99.7	60	DF1/DF2/DF3	240-240	185-212	377
19.5	15.5	100.7	60	DF1/DF2/DF3	240-240	185-212	381

30554-68-21871-01

FIGURE 10. Example - additional operating/instruction plates - Continued.

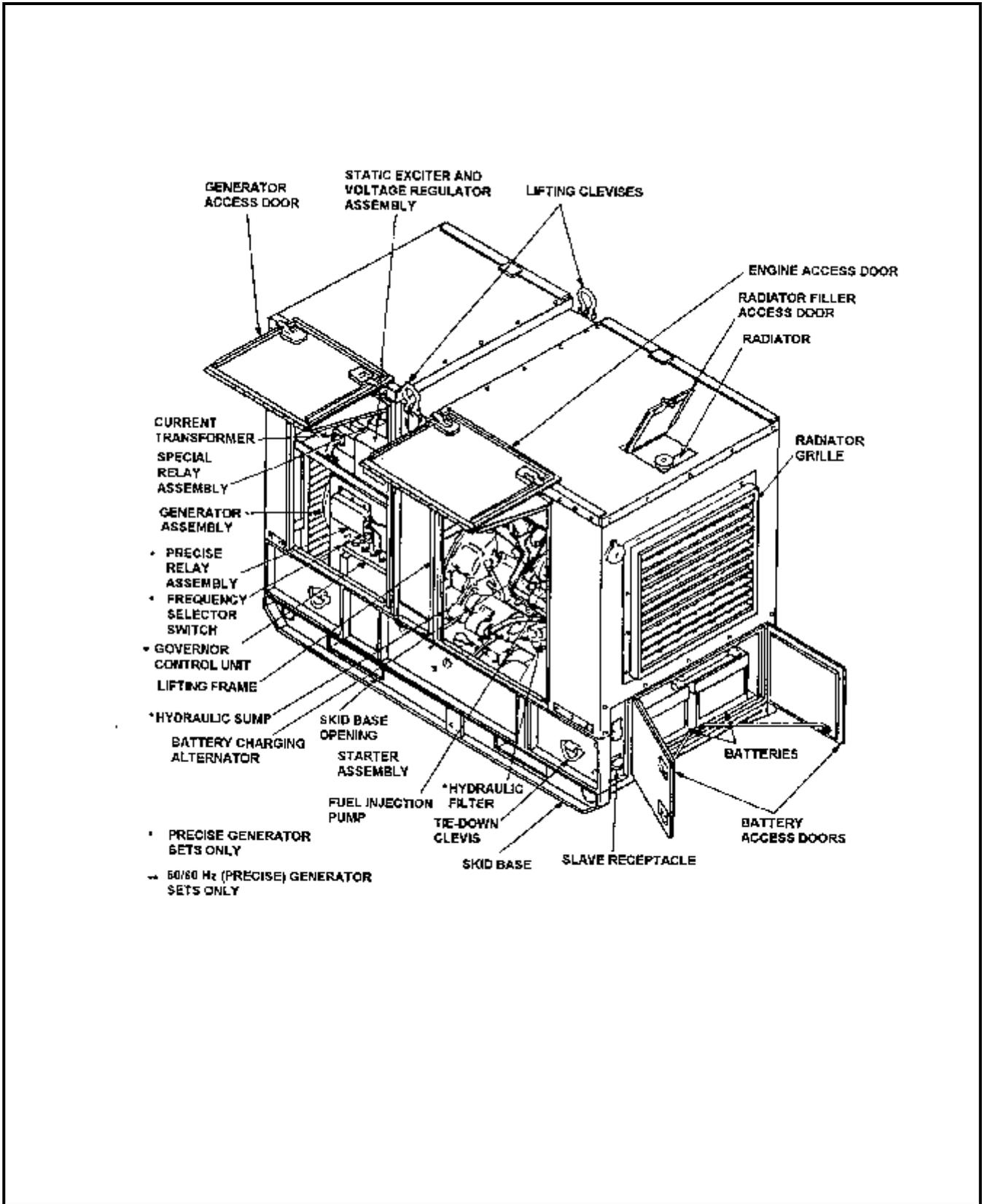
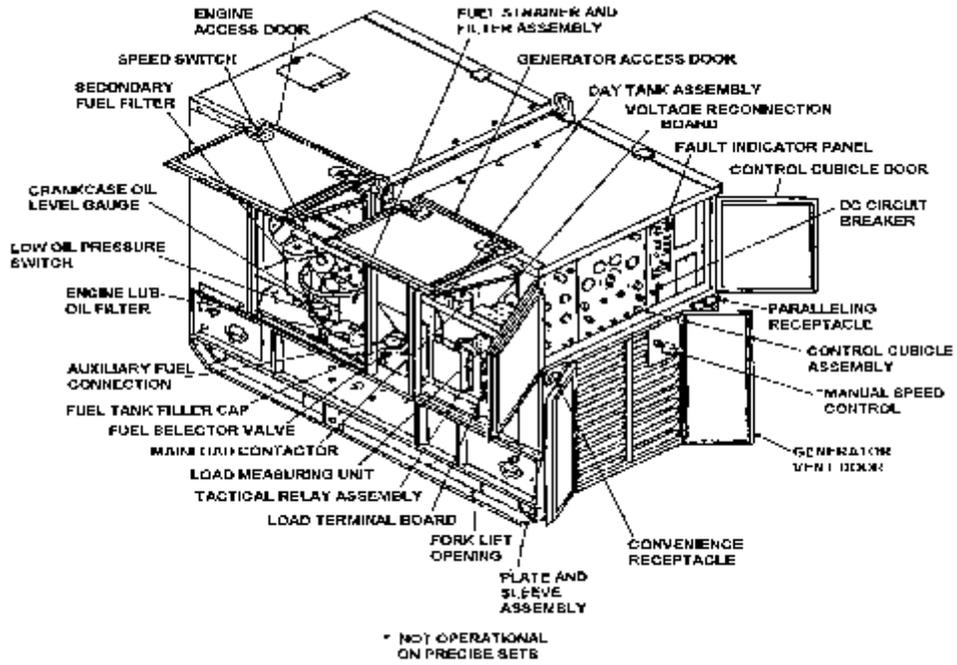


FIGURE 11. Example - engine generator set, right-front, three-quarter internal view.



SHIPPING DIMENSIONS AND WEIGHTS				
		50/60 Hz UTILITY	50/60 Hz PRECISE	400 Hz PRECISE
WEIGHT	CRATED	3090 lbs (1401.6 kg)	3090 lbs (1401.6 kg)	3140 lbs (1424.3 kg)
	UNCRATED	2450 lbs (1111.3 kg)	2450 lbs (1111.3 kg)	2500 lbs (1133.9 kg)
LENGTH	CRATED	84 in (213.4 cm)	84 in (213.4 cm)	84 in (213.4 cm)
	UNCRATED	70 in (177.8 cm)	70 in (177.8 cm)	70 in (177.8 cm)
HEIGHT	CRATED	68-3/16 in (173.2 cm)	68-3/16 in (173.2 cm)	68-3/16 in (173.2 cm)
	UNCRATED	55 in (139.7 cm)	55 in (139.7 cm)	55 in (139.7 cm)
WIDTH	CRATED	44.75 in (113.7 cm)	44.75 in (113.7 cm)	44.75 in (113.7 cm)
	UNCRATED	36 in (91.44 cm)	36 in (91.44 cm)	36 in (91.44 cm)

FIGURE 12. Example - engine generator set, left-rear, three-quarter internal view.

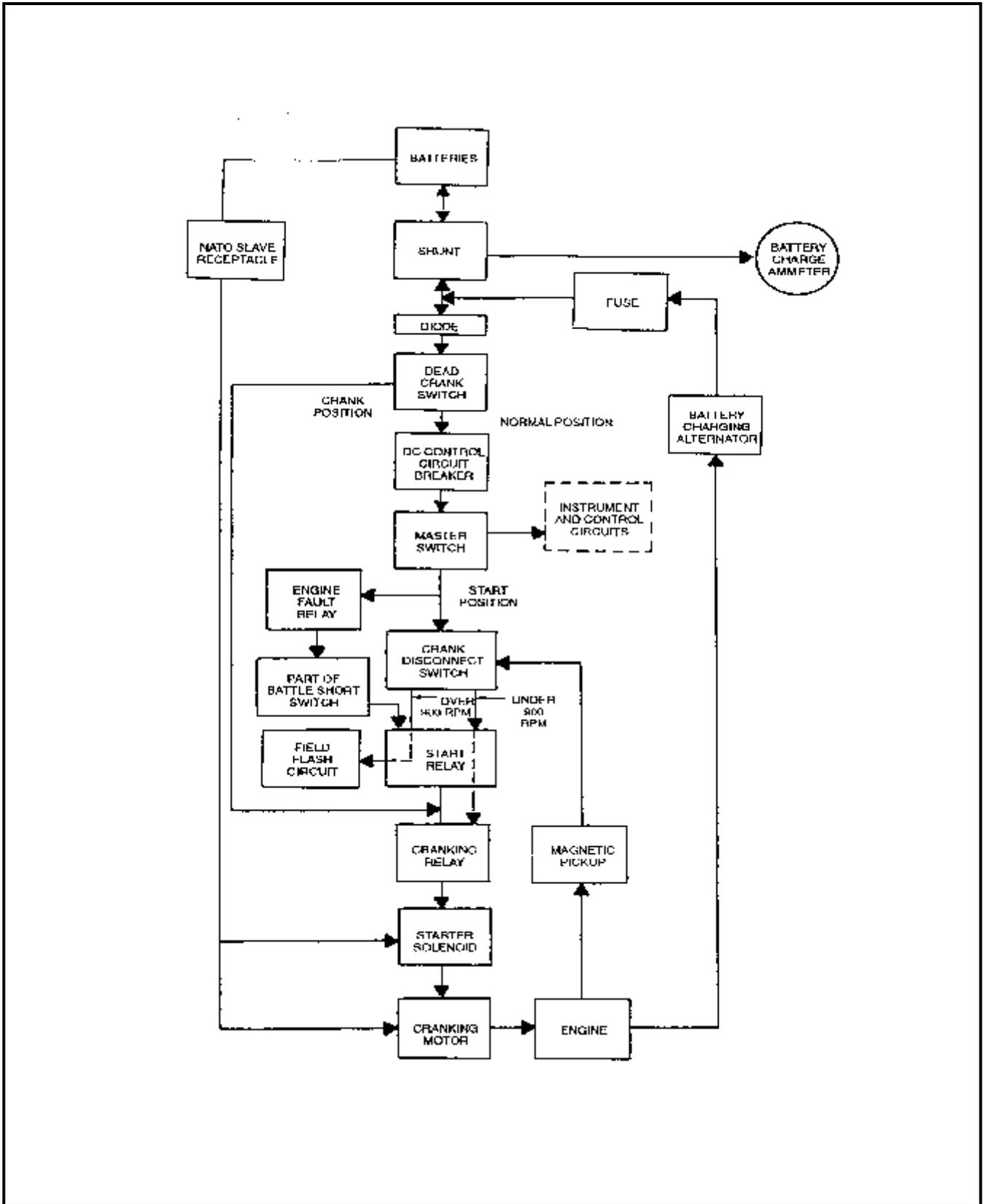


FIGURE 13. Example - engine starting system.

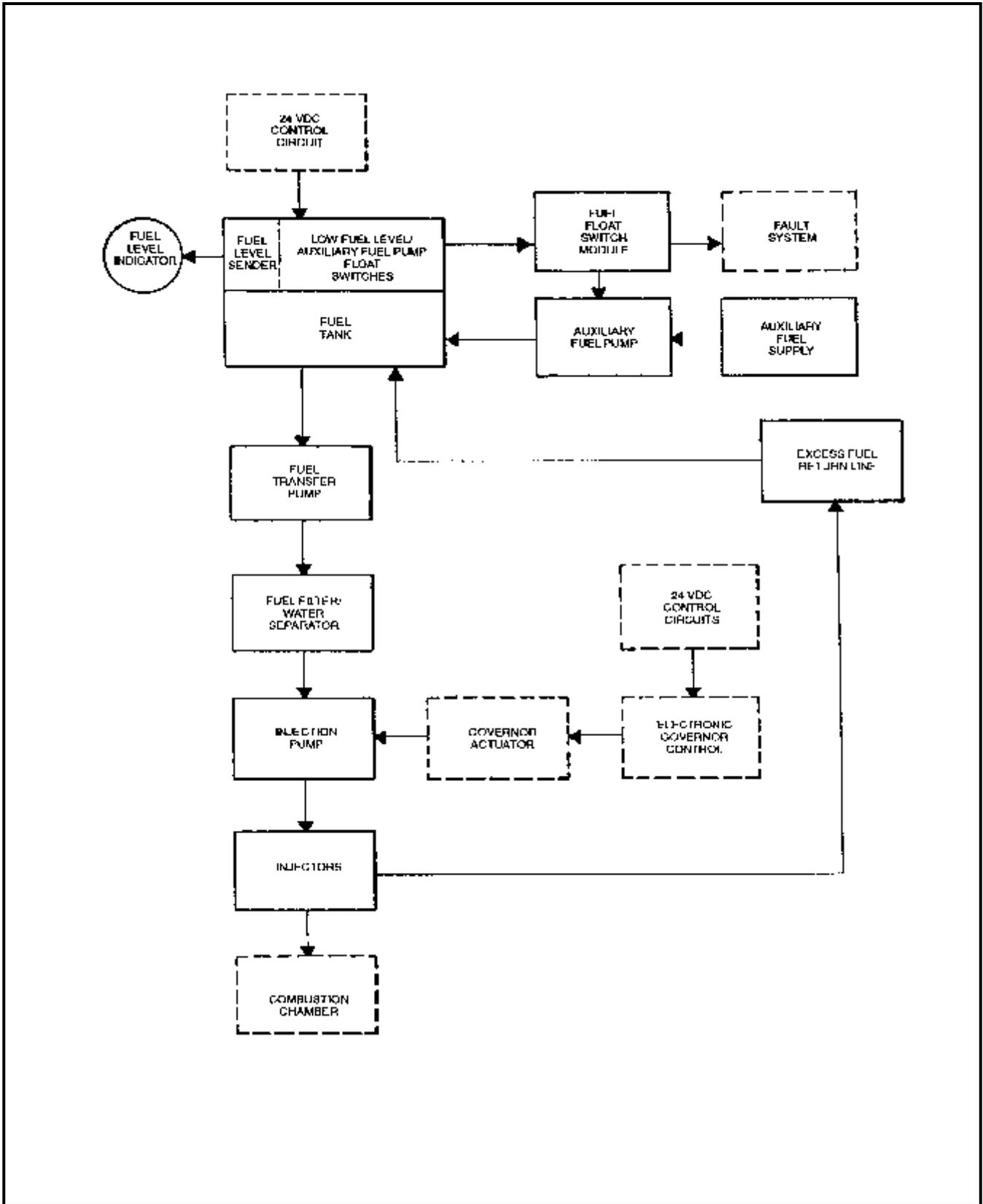


FIGURE 14. Example - generator set fuel system.

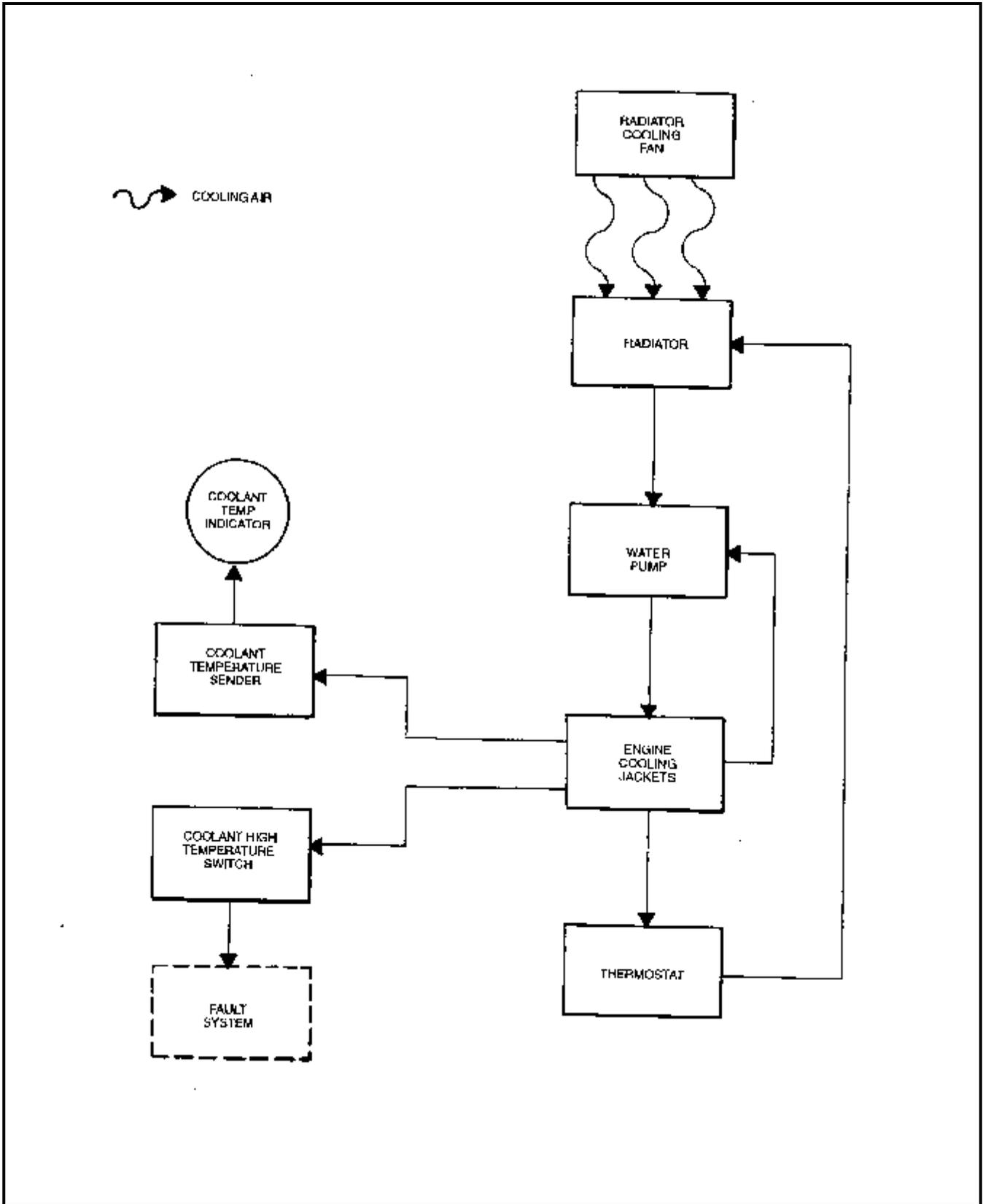


FIGURE 15. Example - engine cooling system.

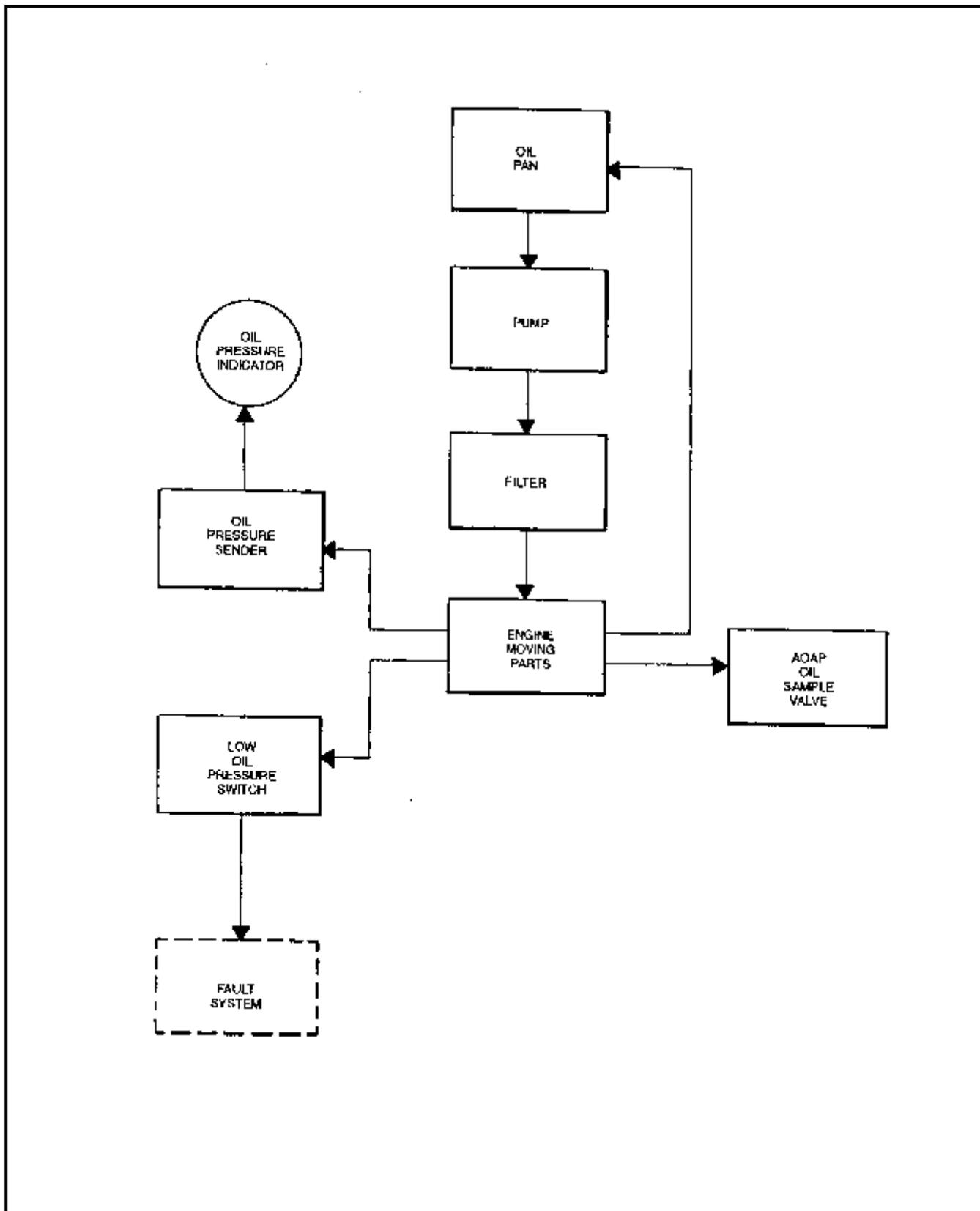


FIGURE 16. Example - engine lubrication system.

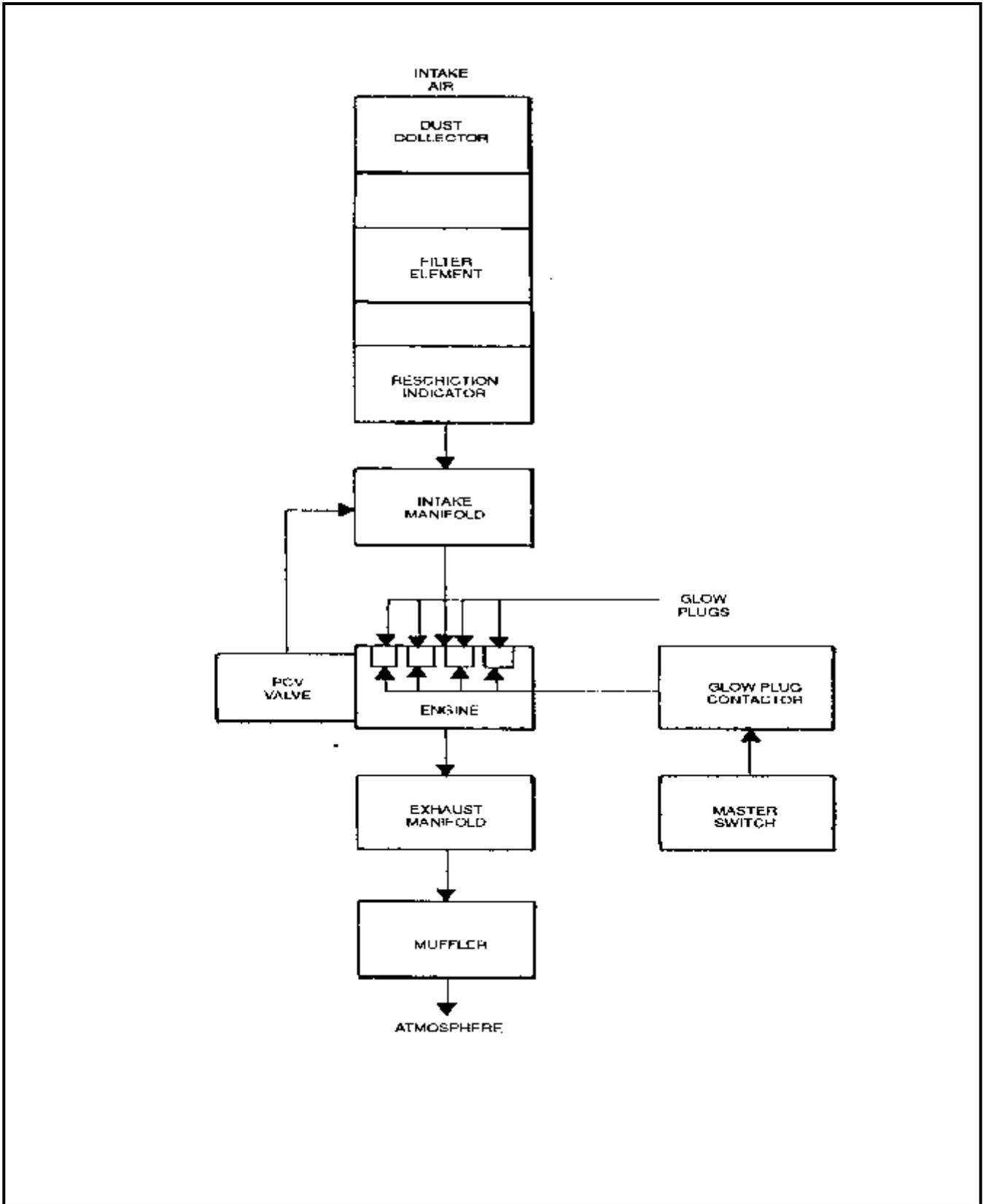


FIGURE 17. Example - engine air intake and exhaust system.

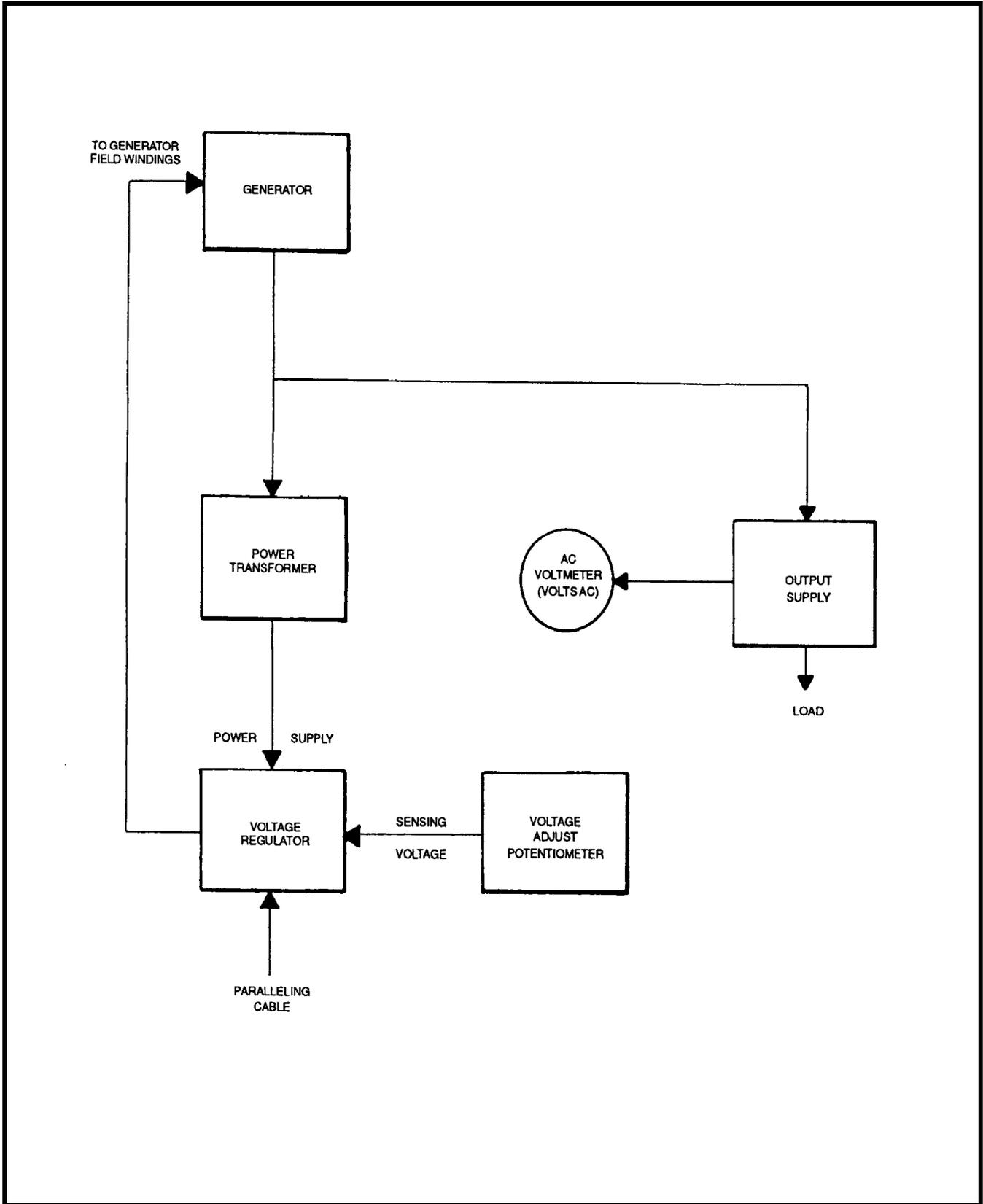


FIGURE 18. Example - voltage regulation system

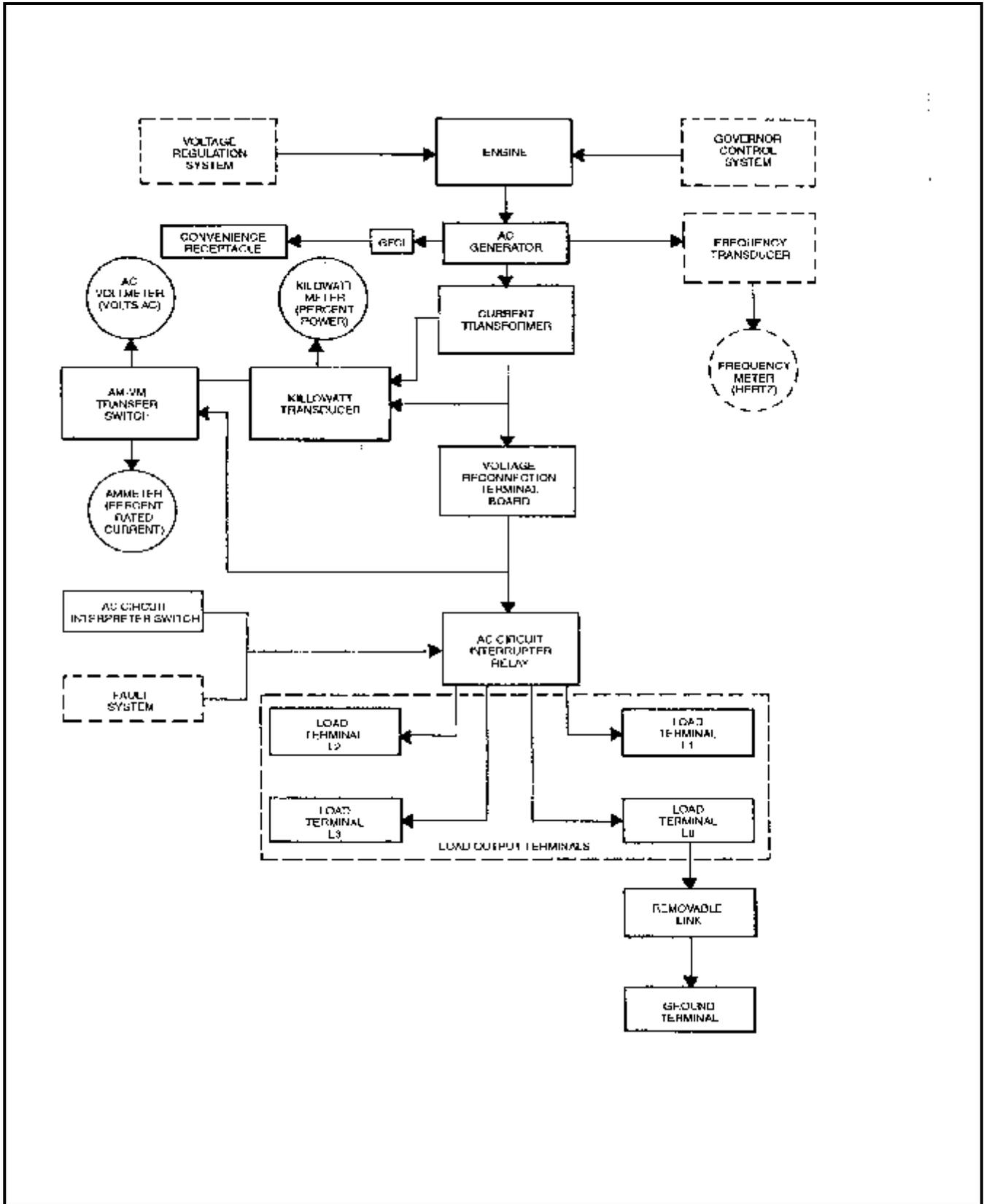


FIGURE 19. Example - output supply system.

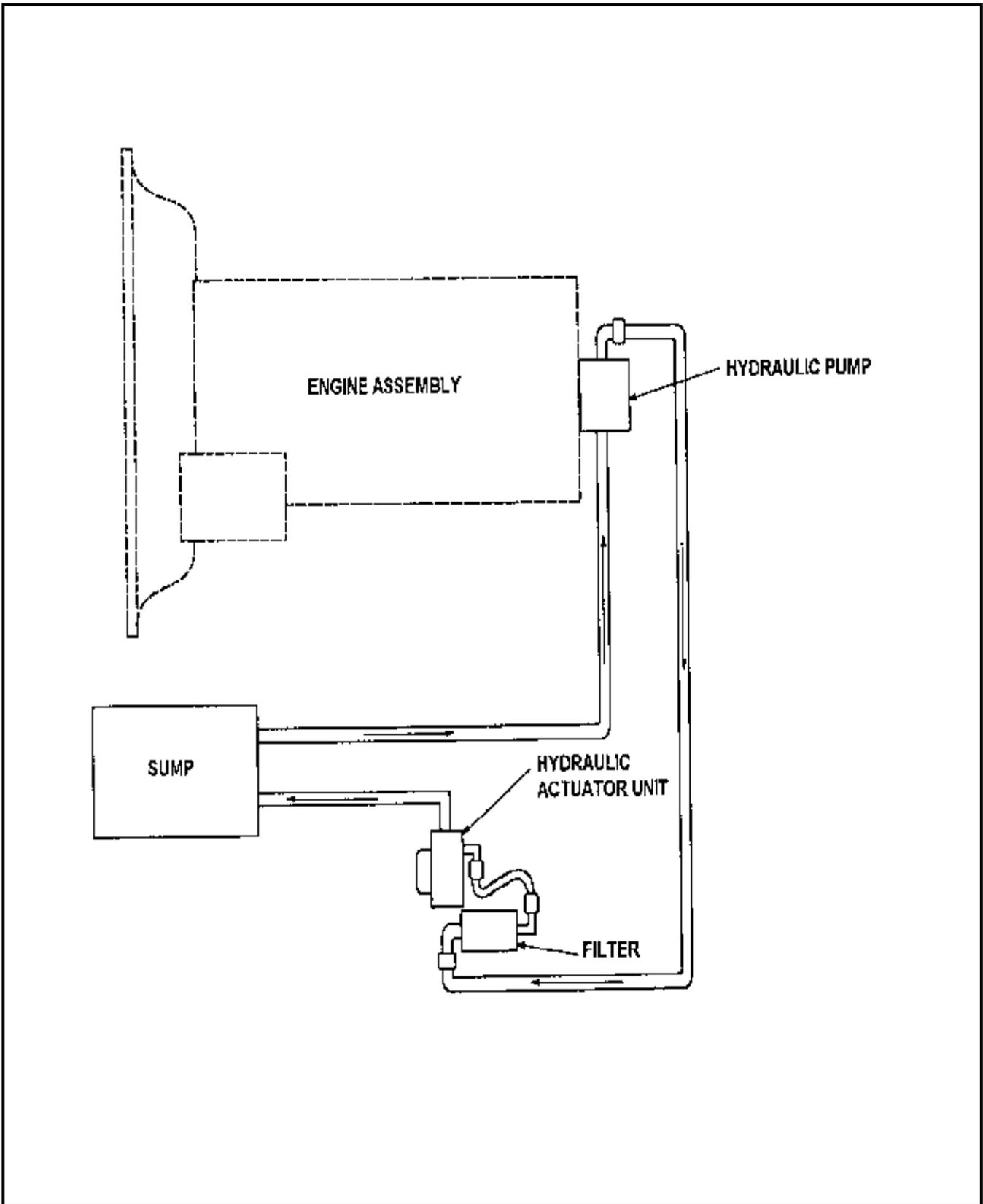


FIGURE 20. Example - hydraulic system.

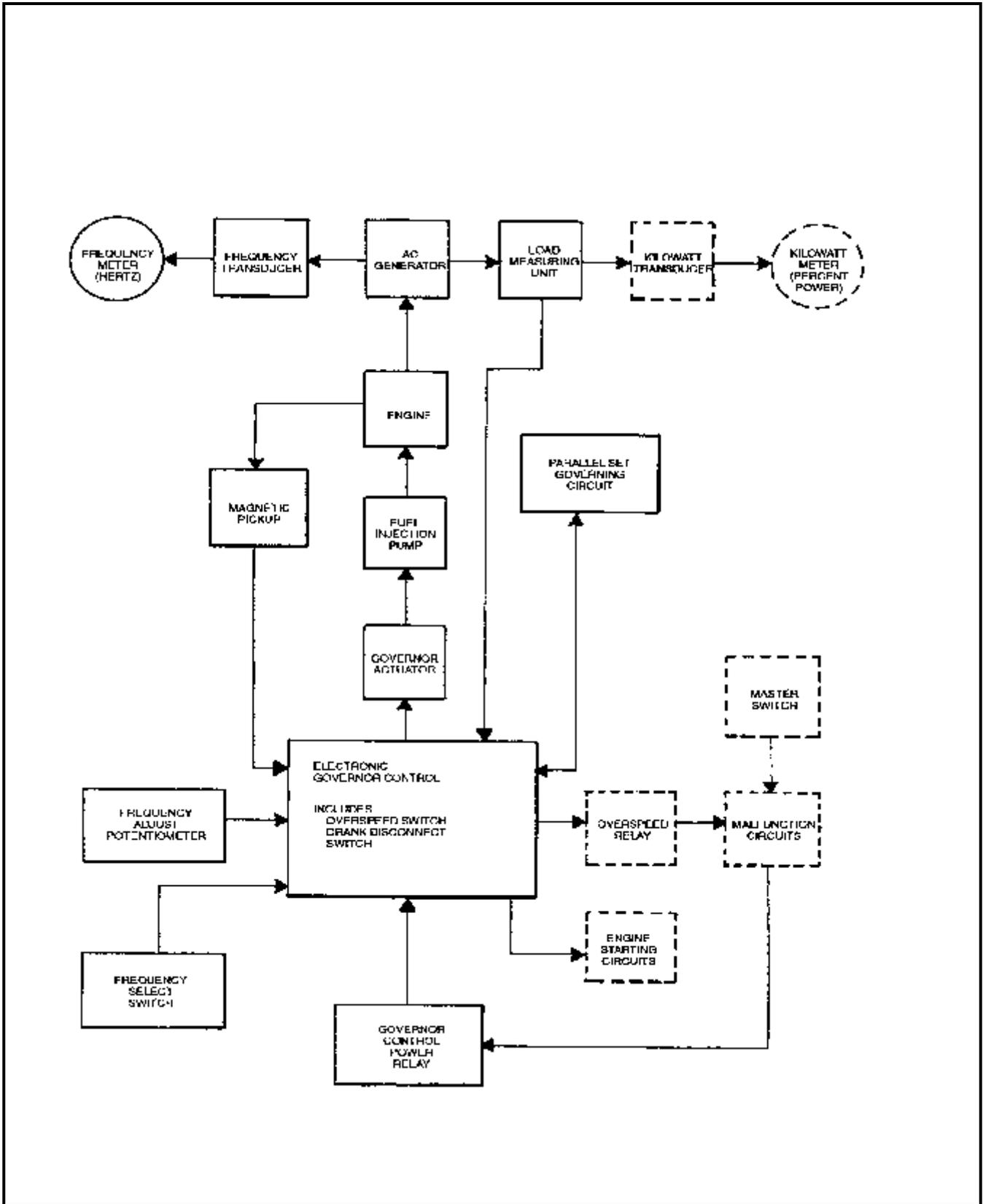


FIGURE 21. Example - governor control system.

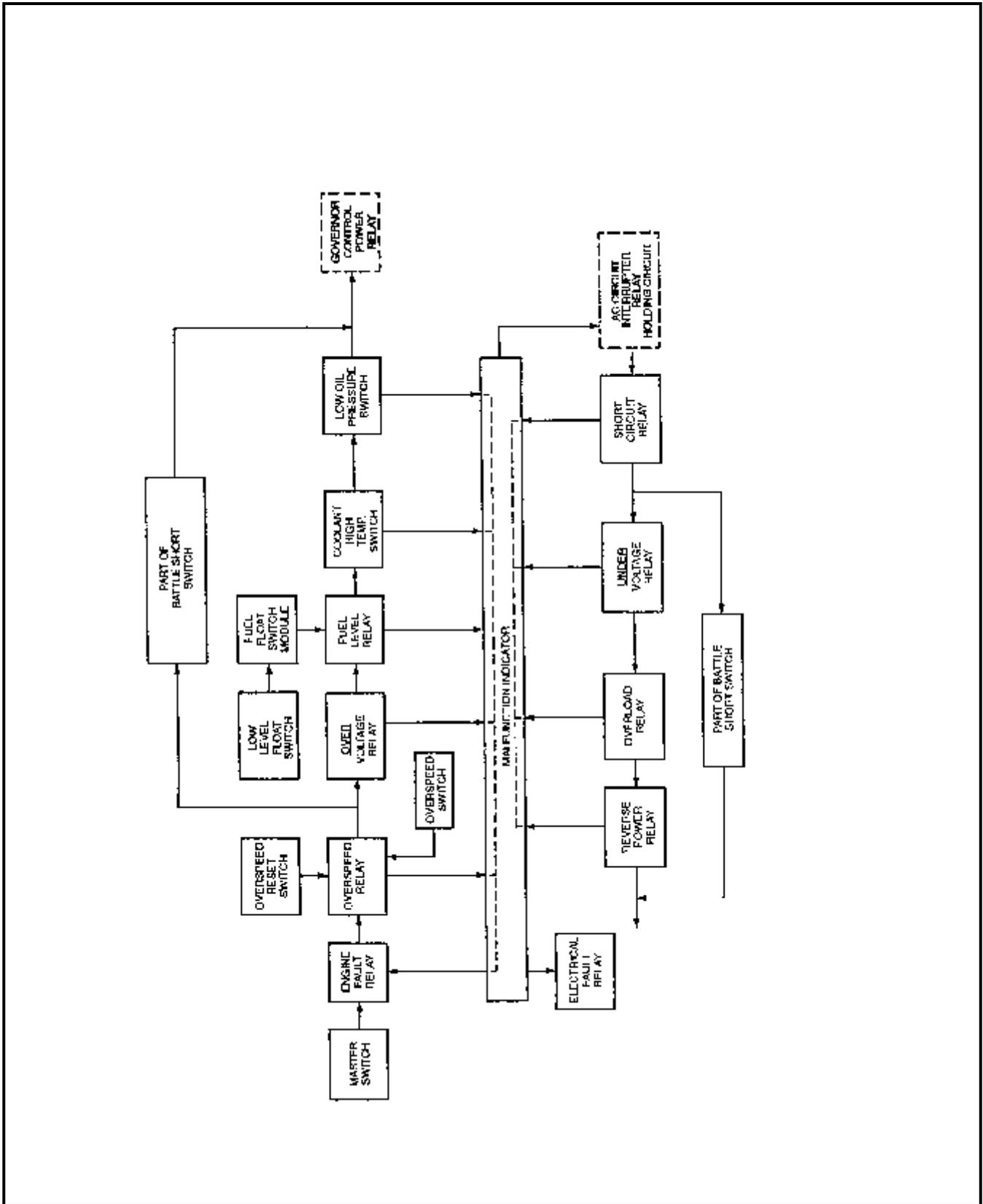


FIGURE 22. Example - fault system.

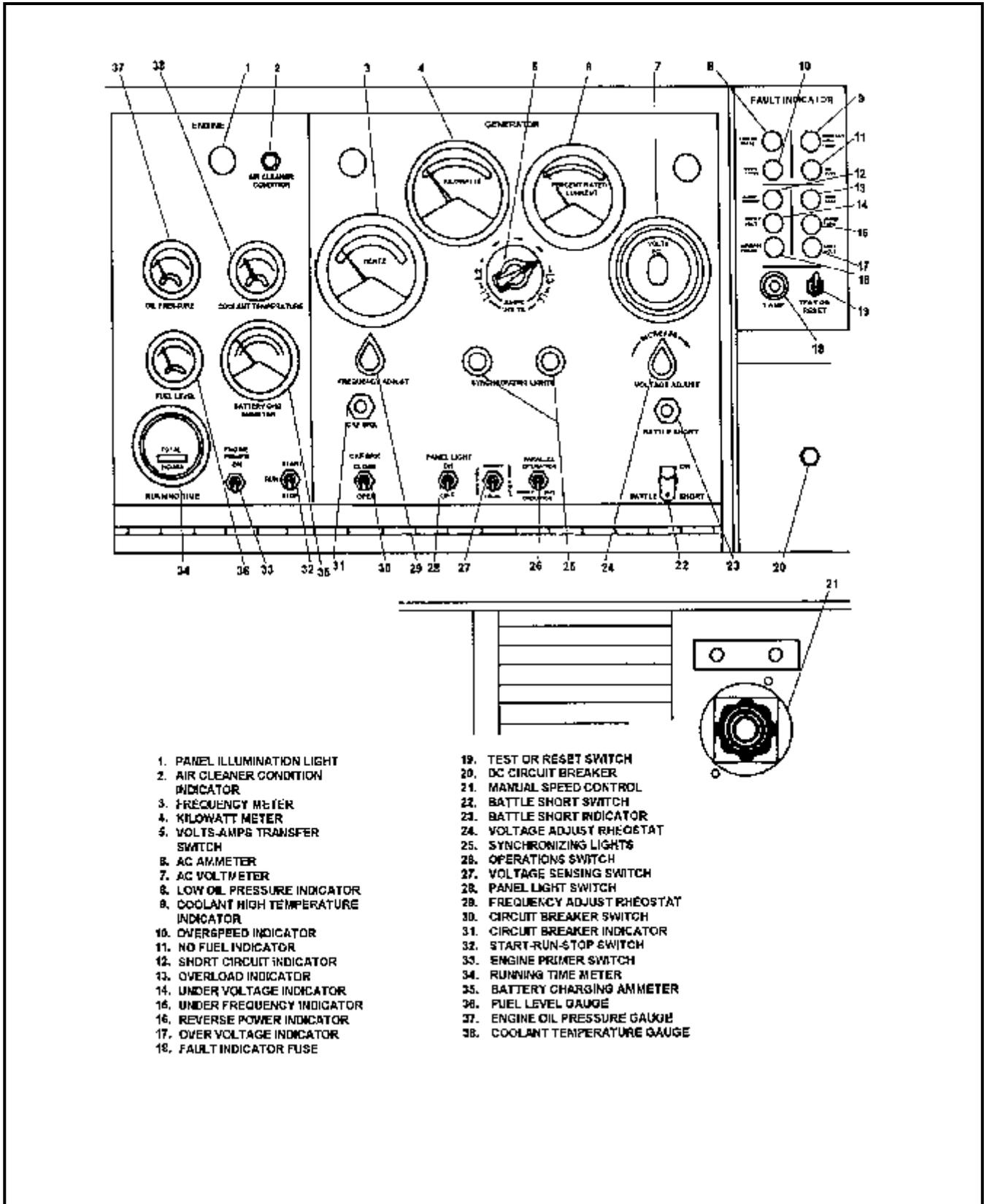


FIGURE 23. Example - generator set controls and instruments.

**Table 2-2. Operator Preventive Maintenance Checks and Services**

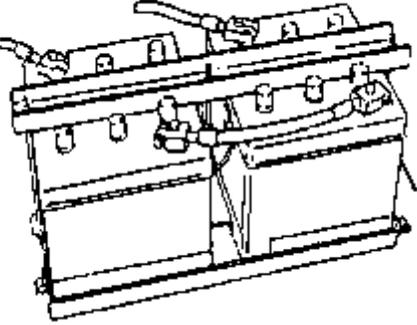
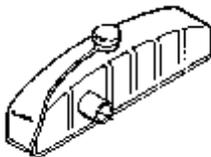
Item No.	Interval	Location	Procedure	Not Mission Capable If:
		Items to Check/ Service		
1	Before	Generator Set	Visually inspect the generator set for fuel, oil, hydraulic, and coolant leaks (para 3-28 through 3-30). Check for proper ground connections (para 2-4d).	Class III oil or any fuel leakage is detected during inspection or ground cable missing or not connected.
2	Before	Batteries	Visually inspect the batteries for cracked or broken cases, corrosion on terminal posts, damaged or frayed cables and loose connections. Check electrolyte level (para 3-4).	
				
3	Before	Cooling System	Check coolant level. Proper level is two inches below the overflow pipe. Add coolant as required.	
				

FIGURE 24. Operator preventive maintenance checks and services table.

**Table 3-1. Operator Troubleshooting****NOTE**

Before you use this table, make sure you have performed your PMCS.

<b>MALFUNCTION</b>
<b>TEST OR INSPECTION</b>
<b>CORRECTIVE ACTION</b>
<b>1. ENGINE FAILS TO CRANK</b>
Step 1. Improper starting procedure. Perform starting procedure as outlined in para 2-6.
Step 2. Corroded battery cable terminals and battery post. Clean battery post and battery cable terminals (para 3-4).
<b>2. ENGINE CRANKS BUT FAILS TO START.</b>
Step 1. Improper starting procedure. Perform starting procedure as outlined in para 2-6.
Step 2. Low or no fuel supply. Service fuel tank (para 3-45), or use auxiliary fuel supply (para 3-45).
Step 3. Water in fuel, contaminated or incorrect grade of fuel. Drain entire fuel system. Service with clean fuel of proper grade (para 3-45). Service fuel filter (para 3-22). Drain day tank assembly (para 3-21). Drain fuel tank and service with clean fuel of proper grade (para 3-45).
Step 4. Air in fuel lines. Bleed fuel system (para 3-21, 3-22, 3-45).
Step 5. Clogged fuel strainers or filters. Service fuel strainers and filter assembly (para 3-22).
Step 6. Dirty air filter element. Notify higher level of maintenance.
<b>3. ENGINE STARTS CORRECTLY, BUT STOPS WHEN <u>START/RUN/STOP SWITCH IS RELEASED.</u></b>
Step 1. Switch not held in START position long enough. Hold switch in START position until engine oil pressure reaches 20 psi (para 2-6).
Step 2. High coolant temperature. Refer to malfunction 11 of this table.

FIGURE 25. Operator troubleshooting table.

**Table 4.1. Unit Preventive Maintenance Checks and Services**

Item No.	Interval	Location	Procedure	Not Mission Capable If:
		Items to Check/ Service		
1	Hours	Fuel Pump Filters	Change every 100 hours (para 4-29), Figure 4-15).	
2	Hours	Fuel Filters	Replace filter elements every 100 hours (para 4-29, 4-31, and Figure 4-15 and Figure 4-16)  <b>NOTE</b> Items 9, 10, and 11 apply to electro-hydraulic governor equipped precise sets only.	
3	Hours	Hydraulic Sump	Drain and refill (para 4-47). (Refer to LO).	
4	Hours	Hydraulic Filter	Replace filter (para 4-47). (Refer to LO).	
10	Weekly	Fluid levels Hydraulic sump (electro-hydraulic governor equipped precise sets only)	Check fluid levels Check fluid level. Add fluid as required.	
11	Weekly	Main Fuel Tank	Drain water and sediment  <b>NOTE</b> In freezing weather, drain shortly after operation. Allow to drain until fuel runs clear.	
12	Weekly	Fuel Pump Strainers	Service (para 4-29), Figure 4-16).	
13	Monthly	Generator Set	Check entire unit for missing, loose, or damaged parts and hardware, and for unusual wear or deterioration.	
14	Monthly	Batteries	Check electrolyte level. Check condition with a hydrometer. Add water as required (para 3-4).	
15	Monthly	V-Belt	Inspect for worn, frayed, cracked, or oil-soaked belt. Check adjustment. If adjustment is required, adjust for a ½ inch deflection when belt is depressed at a point midway between alternator and water pump pulley (para 4-40).	

FIGURE 26. Unit preventive maintenance checks and services table.

**Section II. MAINTENANCE ALLOCATION CHART FOR 15KW, TACTICAL, PRECISE AND UTILITY, 50/60 AND 400 HZ - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT	(6) REMARKS
			UNIT		DS	GS	DEPOT		
			C	O	F	H	D		
19	Hydraulic Sump and Filter	Inspect Service Replace Repair	.1 .3						Q
20	Engine Assembly	Inspect Test Service Replace Repair Overhaul Rebuild	1.0 1.0	1.0					C
	Belts, Fan	Inspect Adjust Replace	.1	.2 .4		12.0		12.0	14 R
	Alternator/Battery Charging	Inspect Test Adjust Replace Repair Overhaul Rebuild	.1	.2 .3 .5	1.0	2.0		3.0	2, 15 C, R
	Diodes	Inspect Test Replace			.2 .1 .2			2,11	F
	Rotors	Inspect Test Replace Repair Overhaul			.1 .2 .3		.5 .6		
	Field Assembly	Inspect Test Replace Repair Overhaul			.1 .1 1.0		2.0 2.0	2	F
	Voltage Regulator, dc	Inspect Test Replace Repair			.2 .4 .3 1.2			2, 15	C
	Adaptor	Inspect Replace	.1	.2					
	Oil Level Gage and Filter	Inspect Replace	.1 .5						

FIGURE 27. Maintenance allocation chart (MAC), section II



MIL-PRF-63010C

(1) ITEM NO	(2) SMR CODE				(3) FSCM	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODE (UOC)	(6) QTY	(7) USMC QTY PER EQUIP
	a. ARMY	b. AIR FORCE	c. NAVY	d. USMC					
						GROUP 04 -OUTPUT BOX ASSEMBLY			
						FIG.11 OUTPUT BOX INSTALLATION			
1	PAOZZ	PAOZZ		PAOZZ	81205	2740-0003 . NUT, PLAIN, ASSEMBLED	7	374	
2	PAOZZ	PAOZZ		PAOZZ	19207	12325869 . BOLT, MACHINE	6	300	
3	PAOZZ	PAOZZ		PAOZZ	96906	MS35207-269 . SCREW, MACHINE	1	1	
4	XDOZZ	XB		XBOZZ	30554	88-20036 . SPACER, TRAY, OUTPUT	1	1	
5	PAOZZ	PAOZZ		PAOZZ	96906	MS27183-42 . WASHER, FLAT	1	1	
6	XDOOO	XB		XBOZZ	30554	88-20036 . OUTPUT BOX ASSEMBLY SEE FIGURE 13 FOR BREAK- DOWN	1	1	
7	PAOZ	PAOZZ		PAOZZ	45722	P15121-64 .. SCREW, ASSEMBLED, WAS	2	25	
8	PAOZZ	PAOZZ		PAOZZ	81205	2740-0003 .. NUT, PLAIN, ASSEMBLED	10	374	
9	PAOZZ	PAOZZ		PAOZZ	96906	88-20314-4 .. CLAMP, LOOP	2	7	
10	PAOZZ	PAOZZ		PAOZZ	45722	P15121-67 .. SCREW, ASSEMBLED, WAS	9	9	
11	XDOZZ	XB		XBOZZ	9R803	4300-12-XP-74 .. MARKER STRIP, TERMI	1	1	
12	XDOZZ	XB		XBOZZ	9R803	3300-14-XP-74 .. MARKER STRIP, TERMI	1	1	
13	PAOZZ	PAOZZ		PAOZZ	78189	511-081800-00 .. NUT, PLAIN, ASSEMBLED	2	8	
14	PAOZZ	PAOZZ		PAOZZ	45722	P15121-37 .. SCREW, ASSEMBLED, WAS	2	6	
15	PAOZZ	PAOZZ		PAOZZ	96906	MS27183-42 .. WASHER, FLAT	6	87	
						END OF FIGURE			

11-1

FIGURE 29. Repair parts and special tools list (RPSTL) section II, repair parts list



## Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) ITEM	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) (U/M)/ (U/I)
1	O	9130-00-256-8613	Fuel, JP-4, MIL-J-5624 (MILJ5624) 81349	GL
2	O	9140-00-286-5294	Fuel Oil, Diesel, Regular Grade, DF2, VV-F-800 (VVF800GRADED2RE) 81348	GL
3	O	9140-00-296-5286	Winter Grade, DF1, VV-F-800 81348	GL
4	O	9140-00-286-5283	Arctic Grade, DFA, VV-F-800 (VVF800GRADEDFAAR) 81348	GL
5	O	9150-00-265-9435	Oil Lubricating Grade OE/HDO 30 (MIL-L-2104) 81349	GL
6	O	9150-00-265-9428	Grade OE/HDO 10 (MIL-L-2104) 81348	GL
7	O	9150-00-242-7603	Grade OES (MIL-L-10295) 81348	GL
8	O	9150-00-265-9436	Grade OE/HDO 30 (MIL-L-2104) 81349	GL
9	O	9150-00-191-2772	Grade OE/HDO 10 (MIL-L-2104) 81349	GL
10	O	9150-00-242-7604	Grade OES (MIL-L-10295) 81349	GL
11	O	9150-00-190-0905	Grease, Automotive Artillery (MIL-G-10924) 81349	GL
12	O	6950-00-281-1985	Solvent cleaning, FED-P-D-680	GL
13	O	2910-00-646-9727	Starting Aid, Tank Ether (O-F-1044B Type III) 81348	CT
14	O	6810-00-249-9354	Electrolyte (A11760) 34623	GL
15	O	9150-00-223-4134	Oil Hydraulic, OHA-MIL-H-5606, (MIL-H-5606) 81349	GL
16	O	6850-00-243-1992	Coolant, Antifreeze, inhibited glycol 81349	GL

FIGURE 31. Expendable and durable items list, section II.

## Section II. ADDITIONAL AUTHORIZATION LIST

(1) NATIONAL STOCK NUMBER	(2) DESCRIPTION CAGEC AND PART NUMBER	(3) USABLE ON CODE	(4) U/M/ U/I	(5) QTY RECM
4910-00-204-3170	ACOUSTIC SUPPRESSION KIT (Army Only) MEP004AAS (02032)	A, B, C	EA	1
5935-00-322-8959	ADAPTOR CONNECTOR	A, B, C	EA	1
6115-01-096-9015	APPLICATIONS KIT 13220E8189 (97403)	C	EA	1
5995-00-123-0108	CABLE, POWER, ELECTRICAL 13208E4816 (97403)	A, B, C	EA	1
4120-00-555-8837	EXTINGUISHER, Fire Monobromotrifluori- methane, with bracket. Operating range minus 50° F (-46° C) to plus 120° F (49° C) 10596569-1 (18876)	A, B, C	EA	1
4910-00-204-3170	GAGE: Tire, Pressure 10 to 60 lbs range 800648 (34623)	A, B, C	EA	1
4930-00-253-2478	GREASE GUN: Hand lever operated, 1603 41G1330-72 (10001)	A, B, C	EA	1
4930-00-141-8311	HOSE ASSEMBLY GREASE 1083L11 (39428)	A, B, C	EA	1
6150-00-708-9088	LOAD BANK KIT MEP005ALM (305540)	A, B, C	EA	1
5120-01-013-1676	PULLER, GROUND ROD P74-144 (45225)	A, B, C	EA	1
4120-00-708-0031	REPLACEMENT CYLINDER KIT For 4210-00-555-8837 MILE52031 (99539)	A, B, C	EA	1
5975-00-878-3791	ROD, GROUND FS0216B122-1 (1527)	A, B, C	EA	1
6115-00-463-9094	WHEEL MOUNTING KIT .MEP005AAWM (30554)	A, B, C	EA	1
6115-00-463-9085	WINTERIZATION KIT, Electric MEP005AWE (30554)	A, B, C	EA	1
6115-00-463-9083	WINTERIZATION KIT, Fuel burning MEP005AWF (30554)	A, B, C	EA	1

FIGURE 32. Additional authorization list, section II.

**APPENDIX A**

**MAINTENANCE ALLOCATION CHART (MAC) INTRODUCTION**

A.1 SCOPE

A.1.1 Scope. This appendix provides the introductory material for a maintenance allocation chart (MAC). This appendix is a mandatory part of this specification.

A.2 APPLICABLE DOCUMENTS

(This section is not applicable to this appendix.)

A.3 INTRODUCTION

A.3.1 Introduction. The following introduction shall be used for a MAC appendix in a generator TM:

**"Section I. INTRODUCTION**

**The Army Maintenance System MAC**

This introduction provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Unit — includes two subcolumns, C (operator/crew) and O (unit) maintenance.

Direct Support — includes an F subcolumn.

General Support — includes an H subcolumn.

Depot — includes a D subcolumn.

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

**Maintenance Functions**

Maintenance functions are limited to and defined as follows:

1. **Inspect**. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

2. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.
3. **Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.
4. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.
5. **Align.** To adjust specified variable elements of an item to bring about optimum or desired performance.
6. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
8. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
9. **Repair.** The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

#### **NOTE**

The following definitions are applicable to the "repair" maintenance function:

Services — Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting — The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly — The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions — Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

10. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
11. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

### **Explanation of Columns in the MAC**

Column (1) — Group Number. Column (1) lists FGC numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) — Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) — Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above.)

Column (4) — Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

C — Operator or crew maintenance

O — Unit maintenance

F — Direct support maintenance

H — General support maintenance

D — Depot maintenance

Column (5) — Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) — Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

**Explanation of Columns in the Tools and Test Equipment Requirements**

Column (1) — Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) — Maintenance Category. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) — Nomenclature. Name or identification of the tool or test equipment.

Column (4) — National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) — Tool Number. The manufacturer's part number, model number, or type number.

**Explanation of Columns in the Remarks**

Column (1) — Reference Code. The code recorded in column (6) of the MAC.

Column (2) — Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC"

## APPENDIX B

### REQUIREMENTS FOR REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

#### B.1 SCOPE

B.1.1 Scope. This appendix provides the requirements for introductory material for a RPSTL. This appendix is a mandatory part of this specification.

#### B.2 APPLICABLE DOCUMENTS

(This section is not applicable to this appendix.)

#### B.3 INTRODUCTION

B.3.1 Introduction. The following introduction shall be used for the RPSTL appendix of a generator TM:

##### "INTRODUCTION

###### 1. Scope

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of (*enter maintenance level*) maintenance of the (*enter item name*). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

###### 2. General

In addition to the Section I, Introduction, this RPSTL is divided into the following sections.

a. Section II - Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the list. Repair parts kits are listed separately in their own functional group. Repair parts for reparable special tools are also listed separately. Items listed are shown on the associated illustrations.

b. Section III - Special Tools List. A list of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

**3. Cross-Reference Indexes Sections**. There are (*enter applicable number*) cross-reference indexes in this RPSTL: (*enter applicable index titles: the National Stock Number (NSN) Index, the Part Number (P/N) Index, the Figure and Item Number Index, and the Reference Designator Index*). (*Enter applicable explanations: The National Stock Number Index refers you to the figure and item number. The Part Number Index refers you to the figure and item number. The figure and item number index refers you to the part number and NSN. The Reference Designator Index refers you to the figure and item number.*)



MIL-PRF-63010C

MO-Made at unit/ AVUM level	Items with these codes are not to be requisitioned/requested individually.
MF-Made at DS/ AVIM level	They must be made from bulk material which is identified by the P/N
MH-Made at GS level	in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work
ML-Made at SRA	package of the RPSTL. If the item is authorized to you by the 3rd position
MD-Made at depot	code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
AO-Assembled by unit/AVUM level	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
AF-Assembled by DS/AVIM level	
AH-Assembled by GS level	
AL-Assembled by SRA	
AD-Assembled by depot	
XA	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.

**NOTE**

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

**Maintenance  
Code**

**Application/Explanation**

- C — Crew or operator maintenance done within unit/AVUM maintenance.
- O — Unit level/AVUM maintenance can remove, replace, and use the item.
- F — Direct support/AVIM maintenance can remove, replace, and use the item.
- H — General support maintenance can remove, replace, and use the item.
- L — Specialized repair activity can remove, replace, and use the item.
- D — Depot can remove, replace, and use the item.

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

**NOTE**

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

**Maintenance  
Code**

**Application/Explanation**

- O — Unit/AVUM is the lowest level that can do complete repair of the item.
- F — Direct support/AVIM is the lowest level that can do complete repair of the item.
- H — General support is the lowest level that can do complete repair of the item.
- L — Specialized repair activity (*enter specialized repair activity designator*) is the lowest level that can do complete repair of the item.
- D — Depot is the lowest level that can do complete repair of the item.
- Z — Nonreparable. No repair is authorized.
- B — No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

**Recoverability**

<u>Code</u>	<u>Application/Explanation</u>
Z —	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O —	Reparable item. When uneconomically repairable, condemn and dispose of the item at the unit level.
F —	Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support level.
H —	Reparable item. When uneconomically repairable, condemn and dispose of the item at the general support level.
D —	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L —	Reparable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA).
A —	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. **CAGEC (Column (3))**. The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

d. **PART NUMBER (Column (4))**. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

**NOTE**

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

e. **DESCRIPTION AND USABLE ON CODE (UOC) (Column (5))**. This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list.

f. **QTY (Column (6)).** The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

g. **USMC QTY per Equip (Column (7)).** This column accommodates the Marine Corps quantity per equipment requirement.

## 5. Explanation of Cross-reference Indexes Format and Columns

a. National Stock Number (NSN) Index.

1. **STOCK NUMBER Column.** This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

NSN  
 (e.g., 5385-01-574-1476)  
 NIIN

When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

2. **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list.

3. **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. **Part Number (P/N) Index.** P/Ns in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

1. **CAGEC -** The commercial and government entity code is a 5-digit code which is used to identify the manufacturer, distributor, or government agency/activity that supplies the item..

2. **PART NUMBER Column.** Indicates the P/N assigned to the item.

3. **STOCK NUMBER Column.** This column lists the NSN of the item.

4. **FIG. Column.** This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list.

5. **ITEM Column.** The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

c. **Figure and Item Number Index.** Figures are listed in numeric order in this index.

1. **FIG. Column.** This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list.

2. ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

3. STOCK NUMBER Column. This column lists the NSN of the item.

4. CAGEC - The commercial and government entity code is a 5-digit code which is used to identify the manufacturer, distributor, or government agency/activity that supplies the item.

5. PART NUMBER Column. Indicates the P/N assigned to the item.

*NOTE: Include d, as applicable.*

d Reference Designator Index. Reference designators in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combination which places the first letter or digit of each group in order "A" through "Z," followed by the numbers "0" through "9" and each following letter or digit in like order).

1. REFERENCE DESIGNATOR Column. Indicates the reference designator assigned to the item.

2. FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list or special tools list.

3. ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

## 6. Special Information

a. UOC. The UOC appears in the lower left corner of the Description Column heading. Usable on codes are shown as "UOC: ..." in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the RPSTL are:

<u>Code</u>	<u>Used On</u>
PAA	Model M114
PAB	Model M114A
PAC	Model M114B

*NOTE: Include the above UOC content, as applicable.*

b. "Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in (*enter applicable TM number*).

c. Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / P/N index and the bulk material list in the repair parts list."

*NOTE: The following paragraph shall appear only in the unit maintenance RPSTL special instructions.*

d. "Illustrations List. The illustrations in this RPSTL contain unit authorized items. Illustrations published in (*enter applicable TM number for the higher maintenance level RPSTL, e.g., for direct support, general support, etc.*) that contain unit authorized items also appear in this RPSTL. The tabular list in the repair parts list contains only those parts coded "O" in the third position of the SMR code, therefore, there may be a break in the item number sequence."

## **7. How to Locate Repair Parts**

### **a. When NSNs or P/Ns Are Not Known.**

1. First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

2. Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

3. Third. Identify the item on the figure and note the number(s).

4. Fourth. Look in the repair parts list for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

### **b. When NSN Is Known.**

1. First. If you have the NSN, look in the STOCK NUMBER column of the NSN index. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

2. Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

### **c. When P/N Is Known.**

1. First. If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N index. Identify the figure and item number.

2. Second. Look up the item on the figure in the applicable repair parts list."

*NOTE: Include 4 only if the RPSTL has a reference designator index.*

### **d. When Reference Designator Is Known.**

1. First. If you know the reference designator, look in the REFERENCE DESIGNATOR column of the reference designator index. Note the figure and item number.

2. Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

## 8. Abbreviations

### **Abbreviation**

### **Explanation**

*NOTE: Include uncommon abbreviations used in the RPSTL. List/define those not found in ASTM Y14.38.*



## APPENDIX C

### EXPENDABLE AND DURABLE ITEMS LIST

#### C.1 SCOPE

C.1.1 Scope. This appendix provides the introductory material for an Expendable and Durable Items List. This appendix forms a mandatory part of this appendix.

#### C.2 APPLICABLE DOCUMENTS

(This appendix is not applicable to this appendix.)

#### C.3 INTRODUCTION

C.3.1 Introduction. The following introduction shall be used for an Expendable and Durable Items List for a generator TM:

### "1. INTRODUCTION

#### Scope

This appendix lists expendable and durable items that you will need to operate and maintain the (*enter equipment/end item name*). This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

#### Explanation of Columns in the Expendable/Durable Items List

Column (1) **C** Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., Use brake fluid (item 5, Appendix D)).

Column (2) **C** Level. This column identifies the lowest level of maintenance that requires the listed item (*include as applicable: C = Operator/Crew, O = Unit/AVUM, F = Direct Support/AVIM, H = General Support, D = Depot*).

Column (3) **C** National Stock Number (NSN). This is the NSN assigned to the item which you can use to requisition it.

Column (4) **C** Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) **C** Unit of Measure (U/M)/Unit of Issue (U/I). This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR). If the unit of measure differs from the unit of issue as shown in the Army Master Data File (AMDF), requisition the lowest unit of issue that will satisfy your requirements.



**APPENDIX D**

**CONTENT/FORMAT SELECTION SUMMARY - DOD GENERATOR SETS**

D.1 GENERAL.

D.1.1 Scope. This appendix may be used to tailor out the optional requirements that are not to be contractually imposed in the acquisition of DOD Generator Set TMs for the set(s) identified on the reverse side of this page. This Appendix is a mandatory part of this specification. The information contained herein is intended for compliance when the Content/Format Selection Summary is completed by the Government.

D.1.2 Application. This appendix is intended to be copied/reproduced, completed, used for contract solicitation, and incorporated into the contract.

D.1.3 Tailoring. The contracting activity should evaluate the individual requirements of this specification to determine the extent to which they are most suitable for the acquisition and modify the requirements to ensure that each achieves the optimal balance between operational needs and cost. Exclusions of sections, paragraphs, or sentences shall be indicated on the Content/Format Selection Summary. When necessary, remarks should be expanded and included on a separate sheet of paper attached to the Summary List. In all cases, tailoring shall be compatible with this specification.

D.1.4 Limitations. When more than one maintenance level DOD Generator Set TM is required on a contract, a separate selection summary should be completed for each level TM required. This appendix is applicable to DOD Generator Set TMs only.

D.2 APPLICABLE DOCUMENTS.

This section is not applicable to this appendix.

**APPENDIX D**

**CONTENT/FORMAT SELECTION SUMMARY SHEET**

**EQUIPMENT NAME/NOMENCLATURE** \_\_\_\_\_

**CONTRACT NO.** \_\_\_\_\_

**NOTE: Applicable requirements are indicated by an “x” in column 4a or explained in column 4b.**

(1) Item No.	(2) Requirements	(3) Applicable Paragraph No.	(4)		
			(a)	(b)	(c)
			Options Selected		Explanation/Remarks
(yes)	(no)				
1	Appendices	3.2.3			
2	Appendix A	3.2.3.1			
3	Appendix B	3.2.3.2			
4	Appendix C	3.2.3.3			
5	Verification	4.1			
6	Packaging	5.1			

NOTE: The above selected requirements tailoring options identified by an “X” in the Options Selected column 4, subcolumn 4(a) or 4(b), or the explanation provided in the Remarks subcolumn 4(c) are a mandatory part of this contract.

COMPLETED BY: \_\_\_\_\_  
(authorized signature)

PUBLICATIONS ACTIVITY: \_\_\_\_\_ DATE: \_\_\_\_\_

**CONCLUDING MATERIAL**

Custodian:

Army - TM  
Navy - SH  
Air Force - 16  
Marine Corps - MC

Preparing Activity:

Army - TM

Reviewing activities:

Army - AC1, AR, AV, CR, MI, PT  
Air Force - 01, 06, 08, 13, 19, 22, 99  
Navy - AS, CG, CH, EC, OS, SA, TD, YD  
DLA - DH, GS:

(Project No. TMSS O332)



**STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL**

**INSTRUCTIONS**

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7, and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

<b>I RECOMMEND A CHANGE:</b>	1. DOCUMENT NUMBER <b>MIL-PRF-63010C</b>	2. DOCUMENT DATE (YYYYMMDD) <b>20020425</b>
------------------------------	---	--

3. DOCUMENT TITLE  
**Manuals. Technical: DOD Standard Generator Sets**

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER		
a. NAME <i>(Last, First, Middle Initial)</i>	b. ORGANIZATION	
c. ADDRESS <i>(Include ZIP Code)</i>	d. TELEPHONE <i>(Include Area Code)</i> (1) Commercial (2) DSN <i>(If applicable)</i>	7. DATE SUBMITTED <i>(YYYYMMDD)</i>

8. PREPARING ACTIVITY		
a. NAME <b>USAMC Logistics Support Activity</b>	b. TELEPHONE <i>(Include Area Code)</i> (1) Commercial <b>(256) 955-0852</b> (2) DSN <b>645-0852</b>	
c. ADDRESS <i>(Include ZIP Code)</i> <b>ATTN: AMXLS-AP, Bldg 5307</b> <b>Redstone Arsenal, AL 35898-7466</b>	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman Road, Suite 2533 Fort Belvoir, Virginia 22060-6221 Telephone (703) 767-6888      DSN 427-6888	

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Executive Director  
USAMC Logistics Support Activity  
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Redstone Arsenal, AL 35898-7466