

***ARMY TM 9-6115-639-13&P AIR FORCE TO 35C2-3-386-51W/IPB MARINE CORPS TM 10155A-OI/1A**

TECHNICAL MANUAL

**OPERATOR AND FIELD MAINTENANCE MANUAL (INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST)**

FOR

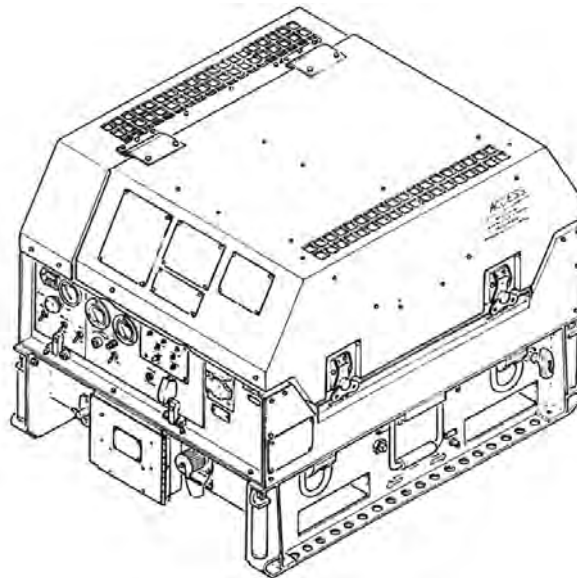
3 kW TACTICAL QUIET GENERATOR SET

MEP-831A (60 Hz)

(NSN: 6115-01-285-3012) (EIC: VG6)

MEP-832A (400 Hz)

(NSN: 6115-01-287-2431) (EIC: VN7)



***SUPERSEDURE NOTICE** - This manual supersedes TM 9-6115-639-13&P, TO 35C2-3-386-51W/IPB, AND TM 10155A-01/1, dated 15 August 2005. Date of issue for the revised manual is: 30 April 2010.

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

**HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE
AIR FORCE AND HEADQUARTERS, U.S. MARINE CORPS**

30 APRIL 2010

PCN: 182 101550 00

WARNING SUMMARY

FIRST AID

For First Aid information, refer to FM 4-25.11.



5

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK:

1

DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL.

2

IF POSSIBLE, TURN OFF THE ELECTRICAL POWER.

3

IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL.

4

SEND FOR HELP AS SOON AS POSSIBLE.

5

AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION.

WARNING SUMMARY - Continued

WARNING AND CAUTION STATEMENTS

This section provides a summary of all critical safety information in this manual. It includes a list of all WARNINGS in work package procedures. Warnings on the same subject are grouped by topic. Only those WARNINGS that pertain to a specific maintenance procedure will be listed under each WARNING heading in a work package.

Prior to starting any work package procedure, all WARNINGS included in the initial setup and text for that work package must be reviewed, understood and followed. Review to the MATERIALS/PARTS in the INITIAL SETUP of the work package for any hazardous materials used during maintenance of the equipment. Then, refer to the detailed WARNINGS for hazardous materials.

Operation and maintenance of the generator set contains many possibilities for injury or death to personnel. Be sure to be familiar with general first aid procedures as referenced in

FM 4-25.11, First Aid.

GENERAL HAZARDOUS MATERIALS WARNINGS

Hazardous materials are not to be used by the operator in the operation and maintenance of the generator set.

Engine exhaust fumes contain deadly poisonous gases.

Severe exposure can cause death of permanent brain damage.

Exhaust gases are most dangerous in places with poor airflow. The best defense against exhaust gas poisoning is very good air flow.

To protect yourself and others, always obey the following rules.

- Do not run engine indoors unless you have very good airflow.

- Do not idle engine for a long time unless there is a very good airflow.

- Be alert at all times. Check for smell of exhaust fumes.

- Reminder: The best defense against exhaust gas poisoning is very good air flow.

Exhaust gas poisoning causes dizziness, headache, loss of muscle control, sleepiness, coma, and death. If anyone shows signs of exhaust gas poisoning, get all personnel clear of the generator set. Make sure they have lots of fresh air. Keep them warm, calm, and inactive. Get medical help. If anyone stops breathing, give artificial respiration.

WARNING

Do not replace components or make adjustments with the voltage supply turned on. Dangerous potentials may exist under certain conditions when the power control is off. Avoid casualties by always removing power and by discharging and grounding a circuit before touching it. Failure to observe this warning could result in severe personal injury or death.

WARNING

High voltage is produced when generator set is being operated. Use care when working around an open control panel when generator set is on. Improper operation of generator set or failure to follow this warning could result in severe personal injury or death by electrocution.

WARNING

Do not stand or store heavy objects on generator set.

WARNING

High voltage is produced when generator set is in operation. Never attempt to start the generator set unless it is properly grounded. Do not ground yourself in standing water. Never attempt to connect or disconnect load cables while the generator set is running. Failure to comply may cause injury or death to personnel.

WARNING SUMMARY - Continued

WARNING

DC voltages are present at generator set electrical components even with the generator set shut down. Avoid shorting any positive terminal with ground or negative. If no DC voltage is required, always disconnect DC power source to the generator set before working on it. Failure to observe this warning could result in severe personal injury or death by electrocution.

WARNING

Never attempt to connect or disconnect load cables while generator set is running. Failure to observe this warning could result in severe personal injury or death by electrocution.

WARNING

Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.

WARNING

Never work alone when reaching into generator set to service or adjust it. Be sure to work with someone who could provide aid in case of an emergency. Failure to observe this warning could result in severe personal injury or death.

WARNING

Shut down generator set at first sign of failure. Continued operation could result in injury to personnel and will cause damage to equipment. If generator set is shut down by activation of a safety device, do not operate again until cause of shut down has been determined and eliminated. Failure to observe this warning could result in severe personal injury or death.

WARNING

If damaged or defective components are discovered, repair must be performed before operations can begin. Perform required repairs and adjustments before proceeding. Do not operate the generator set with damaged components. Personal injury can occur if damaged parts are left unfixed. Failure to observe this warning could result in severe personal injury or death.

WARNING

Exhaust discharge contains deadly gases, including carbon monoxide. Do not operate generator set in enclosed area unless exhaust discharge is properly vented outside. Position generator set as far away from personnel, shelters, and occupied vehicles as possible. Failure to observe this warning could result in severe personal injury or death due to carbon monoxide poisoning.

WARNING

Diesel fuel is flammable and toxic to eyes, skin, and respiratory tract. Skin and eye protection are required when working in contact with diesel fuel. Avoid repeated or prolonged contact. Provide adequate ventilation. Operators are to wash exposed skin and change chemical-soaked clothing promptly if exposed to fuel. Failure to comply with this warning can cause injury or death to personnel.

WARNING

Cooling system operates at high temperature and pressure. Contact with high pressure steam and/or liquids can result in burns and scalding. Shut down generator set, and allow system to cool before performing checks, services and maintenance, or wear gloves and additional protective clothing and goggles as required. Failure to comply with this warning can cause serious personal injury.

WARNING SUMMARY - Continued

WARNING

Fuel used in this generator set is combustible and toxic to skin, eyes, and respiratory tract. Avoid repeated or prolonged contact. Handle only in a well-ventilated area. Keep away from sparks, open flames, or other sources of ignition. Do not splash fuel on hot components. Do not fuel generator set while it is operating. Do not overfill the tank. Ensure generator set is properly grounded before fueling. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in personal injury and equipment damage due to potential fuel ignition and possible explosion. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in severe personal injury or death.

WARNING

Liquids under pressure are generated as a result of operating this generator set. High-pressure leaks could cause severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Compressed air is dangerous and could cause serious bodily harm, if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or to prevent unbroken skin of the operator or other personnel. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 pounds per square inch gauge (psig). Use it only with effective chip-guarding and personnel protective equipment (industrial safety glasses and full face shield). DO NOT use compressed air to dry parts when solvent cleaners have been used. Failure to observe this warning could result in severe personal injury.

WARNING

Do not use TRICHLOROTRIFLUOROETHANE, TRICHLOROETHANE, and similar chemical solvents for ordinary cleaning of equipment. These substances threaten public health and the environment by destroying ozone in the Earth's upper atmosphere. Use suitable non-hazardous cleaning materials (see WP 0143) such as a clean cloth, water, and mild detergent or an approved substitute solvent, such as isopropyl alcohol. Failure to observe this warning could result in personal injury.

WARNING

Handle solvents as combustible liquids. Do not use near heat, sparks, or flame. Use solvents in well-ventilated areas only. Avoid prolonged breathing of vapor. Avoid bodily contact. Use chemical (solvent-resistant) gloves and chemical splash goggles when using solvent materials. Solvents may be reactive with acids and oxidizers; do not mix or cross-apply with other cleaners or chemicals. An organic vapor respirator with dust and mist filter is recommended when solvent is applied as a spray. Keep containers closed between applications. Provide mechanical ventilation if used in confined spaces. Store cleaning materials in a well-ventilated area away from food or drink. To avoid the possibility of spontaneous combustion, place solvent-saturated waste rags in a sealed metal container after use. Coordinate the use of this material with your supporting Industrial Hygiene and Safety Offices. Ensure you read and understand the Material Safety Data Sheet (MSDS) for the solvent before use. Failure to observe this warning could result in severe personal injury or death.

WARNING

Solvent used to clean parts is potentially dangerous to personnel and property. Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes. Wear goggles and rubber gloves to protect eyes and skin. Wash exposed skin thoroughly. Do not smoke or use near open flame or excessive heat. Failure to comply with this warning cause severe personal injury and/or damage to equipment.

WARNING SUMMARY - Continued

WARNING

Adhesives used in maintaining this generator set (see WP 0143) are flammable and toxic. Vapors may ignite explosively. Avoid breathing in vapors. Provide adequate ventilation to prevent vapor concentrations in excess of permissible exposure levels. Keep away from heat, sparks, and open flame. Do not smoke. Extinguish all flames and turn off non-explosion-proof electrical equipment during use until vapors are dissipated. Close containers tightly. Failure to observe this warning could result in severe personal injury or death.

WARNING

To prevent injury to personnel and damage to equipment, use caution when lifting or moving generator set. Six people are required for manual lifting. Use lifting rings for lifting device and forklift openings for forklift only. Do not lift generator set over personnel. Failure to observe this warning could result in severe personal injury or death.

WARNING

Avoid contacting metal items with bare skin in extreme cold weather. Failure to observe this warning could result in severe personal injury or death.

WARNING

Metal jewelry can conduct electricity and become entangled in generator set components. Remove all jewelry and do not wear loose clothing when working on equipment. Failure to comply may cause injury or death to personnel.

WARNING

Chemical Agent Resistive Coating (CARC) paint dust is a health hazard. Wear protective eyewear, a mask, and gloves when sanding CARC-painted surfaces. Failure to observe this warning could result in severe personal injury or death.

WARNING

If battery is not installed, battery cable ends must be isolated from each other, and positive end must be isolated from ground. Failure to isolate battery cable ends could result in severe electrical discharge. When not connected to battery, connect battery cable ends to plastic storage stud. Failure to observe this warning could result in severe personal injury or death.

WARNING

Operating the generator set exposes personnel to a high noise level. Hearing protection must be worn when operating or working near the generator set when the generator set is running. Failure to comply with this warning can cause hearing damage to personnel.

WARNING

To prevent injury to personnel and damage to equipment, use caution when lifting or moving generator set. Six people are required for manual lifting. Use lifting rings for lifting device and forklift openings for forklift only. Do not lift generator set over personnel. Failure to observe this warning could result in severe personal injury or death.

WARNING

To prevent injury to personnel and damage to equipment, use caution when lifting or moving generator set. Use lifting rings for lifting device and forklift openings for forklift only. Do not lift generator set over personnel. Failure to observe this warning could result in personal injury or equipment damage.

WARNING SUMMARY - Continued

WARNING

Class III oil leaks should be reported IMMEDIATELY to your supervisor. Fuel leaks of any kind require immediate system shutdown. Failure to observe this warning could result in severe personal injury or death.

WARNING

Make sure personnel are familiar with generator set before operating. Follow proper procedures. Failure to observe this warning could result in damage to equipment and could also result in severe personal injury or death.

WARNING

Battery acid can cause burns to unprotected skin. Wear safety goggles and chemical gloves and avoid acid splash while working on the batteries. Failure to comply with this warning can cause severe personal injury.

WARNING

Batteries give off flammable gas. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Batteries give off a flammable gas. Do not smoke or use open flame when performing maintenance. Failure to comply with this warning can cause severe personal injury or death and equipment damage.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

WARNING

When disconnecting battery cables, always remove negative cable first and positive cable last. Connect cable ends to enclosure ground lugs to prevent contact. Failure to observe this warning could result in severe personal injury or death.

WARNING

When connecting battery cables, always connect positive cable first and negative cable last. Failure to observe this warning could result in severe personal injury or death.

WARNING

The generator set is heavy. Provide lifting hoist capable of lifting 100 lbs. Do not lift generator set over personnel. Enlist the help of an aide to prevent damage to equipment. Failure to observe this warning could result in severe personal injury or death.

WARNING

The rotor assembly is held in the stator by magnets. The rotor will snap into place in stator when installed. Use care to prevent injury to fingers. Failure to observe this warning could result in severe personal injury or death.

WARNING SUMMARY - Continued

CAUTION

Take special precautions to ensure that the amount of oil drawn into the engine while completing step 5 below will not result in a hydrostatic lock. Do not crank the engine more than 10 seconds. Prior to processing additional engines, process the first engine as specified below and allow to stand for 12 hours. Manually rotate the engine, or rotate the engine with the starter if manual turning is not possible, to ensure that the amount of oil drawn into combustion chambers allows free rotation of the engine.

LIST OF EFFECTIVE PAGES / WORK PACKAGES

NOTE: This manual supersedes TM 9-6115-639-13&P, TO 35C2-3-386-51W/IPB, AND TM 10155A-01/1, dated 15 August 2005. Date of issue for the revised manual is: 30 April 2010. Zero in the "Change No." column indicates an original page or work package.

Date of issue for revision is:

ORIGINAL 30 APRIL 2010

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**HEADQUARTERS, DEPARTMENTS OF THE ARMY AND THE
AIR FORCE AND HEADQUARTERS, U.S. MARINE CORPS
WASHINGTON, D.C., 30 APRIL 2010**

TECHNICAL MANUAL

**OPERATOR AND FIELD MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)
FOR
3 kW TACTICAL QUIET GENERATOR SET
MEP-831A (60 Hz)
(NSN: 6115-01-285-3012) (EIC: VG6)
MEP-832A (400 Hz)
(NSN: 6115-01-287-2431) (EIC: VN7)**

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. Reports, as applicable by the requiring Service, should be submitted as follows:

- (a) (A) Army - Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), located in the back of this manual, directly to: Commander, U.S. Army CECOM (LCMC) and Fort Monmouth, ATTN: AMSEL-LC-LEO-E-CM, Fort Monmouth, NJ 07703-5006. You may also send in your recommended changes via electronic mail or by fax. Our fax number is 732-532-3421, DSN 992-3421. Our e-mail address is MONM-AMSELLEOPUBSCHG@conus.army.mil. Our online web address for entering and submitting DA Form 2028 is <http://edm.monmouth.army.mil/pubs/2028.html>.
- (b) (MC) Marine Corps - Submit notice of discrepancies or suggest changes on a NAVMC 10772 The NAVMC may be submitted via the Internet using website <https://www.ala.usmc.mil>, click on Publications, Technical Publications, follow the instructions, and then click on the NAVMC 10772. It may also be submitted by electronic mail to smb.log.tech.pubs.fct@usmc.mil, or by mailing a paper copy NAVMC 10772 in an envelope addressed to Commander, Marine Corps Systems Command, ATTN: Assistant Commander Acquisition and Logistics (AC LCL/TP), 814 Radford Blvd, Suite 20343, Albany, Georgia 31704-0343. In addition, forward an information copy to the Project Officer at the following address: Commander, Marine Corps Systems Command (GTES-EPS), 2200 Lester Street, Quantico, VA. 22134-6050.
- (d) (F) Air Force - By Air Force AFTO Form 22 (Technical Manual (TM) change Recommendation and Reply) in accordance with paragraph 6-5, Section VI, TO 00 5 1 directly to prime ALC/MST.
A reply will be furnished to you.

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How to Use This Manual

This manual contains operator and field maintenance instructions for the 3 kW Skid Mounted, Tactical Quiet Generator Set, MEP-831A (60 Hz) and MEP-832A (400 Hz).

NOTE

Throughout the family of manuals, directional orientation in relation to the equipment is described from the point of view of the operator facing the operator's controls looking out over the equipment. From this perspective, the end of the equipment containing the operator's controls will be referred to as the rear.

This manual provides operating procedures, troubleshooting, maintenance, and supporting information required to operate and maintain the 3 kW Skid Mounted, Tactical Quiet Generator Set. Listed below are some of the features included in this TM to help locate and use the provided information.

WORK PACKAGES

This TM has been organized using the WP format. Each chapter contains a series of WPs rather than sections and paragraphs. Each WP is designed to stand alone as a complete information module; if the user keeps the section(s) of this TM in a loose-leaf binder, the user will be able to remove just the WP needed to complete a specific task. Here are some WP features of which the user should be aware.

Each WP is numbered using a four-digit number beginning with WP 0001. WPs are numbered sequentially throughout the TM (ex. WP 0016. WP 0020. etc.). The Table of Contents lists each chapter and WP title as well as all figures and tables contained within each. Figures and tables are numbered sequentially for each WP.

The WP number is located at the top right of each page. It is also located at the bottom of the page with the WP page number included (0001-1 would be page 1 of the General Information WP (WP 0001, General Information)).

Each WP starts on a right-hand page. This is done so the user can remove a single WP from the paper TM if needed for a task. Blank pages are assigned a number, but it appears on the preceding or following page. For example, if page 0001-10 of a WP is blank, page 0001-9 will have the number 0001-9/10 blank; or if page 0001-1 of a WP is blank, page 0001-2 will have the number 0001-1 blank/2.

Each WP containing step-by-step maintenance or troubleshooting procedures will end with the words END OF TASK, and each WP ends with the statement END OF WORK PACKAGE. Think of each WP as a small, standalone TM.

References to equipment Data and Description Plates are printed as they appear on the equipment whenever possible.

Warnings, Cautions and Notes Definitions

Warnings, cautions, notes, chapter titles, and paragraph headings are printed in bold type. Icons related to warnings are shown directly above the warning text.

The following definitions apply to WARNINGS, CAUTIONS and NOTES found throughout this publication. Warning, cautions and notes provide supplemental information. Personnel must understand and apply these Warnings, Cautions and Notes during many phases of operation and maintenance to ensure personnel safety and health and the protection of property. Portions of this information may be repeated in certain chapters of this publication for emphasis.

WARNING

A warning identifies a clear danger to the person doing that procedure.

CAUTION

A caution identifies risk of damage to the equipment.

NOTE

A note highlights essential procedures, conditions, or statements or conveys important instructional data to the user.

CHAPTER OVERVIEW

Chapter 1 - General Information, Equipment Description and Theory of Operation

Chapter 1 provides an introduction to the 3 kW Skid Mounted, Tactical Quiet Generator Set. It is divided into three work packages, as follows:

General Information. This work package provides general information about this manual and the related forms and records. Instructions are provided for making equipment improvement recommendations. Coverage includes a reference to the TM that contains instructions on destruction of materiel to prevent enemy use. Also, a list of abbreviations and acronyms is provided. Also, a nomenclature cross-reference list is provided as well as a list of abbreviations and acronyms.

Equipment Description and Data. This work package describes capabilities, characteristics, and features. It provides basic equipment data and shows the locations of major components. Descriptions of the major components are also provided.

Theory of Operation. This work package provides functional descriptions of the equipment.

Chapter 2 - Operator Instructions

Chapter 2 provides instructions for operating the 3 kW Skid Mounted, Tactical Quiet Generator Set. The chapter is divided into three work packages, as follows:

Description and Use of Operator Controls and Indicators. This work package provides references to the applicable generator set technical manuals and trailer technical manuals. Those references contain information on operator's controls and indicators for the equipment.

Operation Under Usual Conditions. This work package contains instructions for preparing the equipment for use and operation under normal conditions. Coverage includes connection instructions and preparation instructions for movement to a new worksite.

Operation Under Unusual Conditions. This work package provides unusual operating procedures or references to the applicable accompanying technical manuals.

Chapter 3 - Operator Troubleshooting Procedures

Chapter 3 covers troubleshooting procedures of the 3 kW Skid Mounted, Tactical Quiet Generator Set to be performed by the operator. The chapter is divided as follows:

Operator Troubleshooting Index. This work package provides a troubleshooting introduction and malfunction/symptom index to direct you to the appropriate troubleshooting procedure at the operator level.

Operator Troubleshooting Procedures. This work package provides troubleshooting procedures and corrective actions that are to be performed by the operator. It also provides references to the applicable technical manuals.

Chapter 4 - Operator Maintenance Instructions

Chapter 4 covers maintenance procedures for the 3 kW Skid Mounted, Tactical Quiet Generator Set to be performed by the operator. Its purpose is to provide you with the information that you need to keep the equipment in good operating condition. The chapter is divided as follows:

Operator Preventive Maintenance Checks and Services (PMCS) Introduction. This work package provides a detailed explanation of each table entry in the PMCS table along with applicable warnings, cautions and notes prior to starting on the PMCS procedures.

Operator Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions. This work package contains detailed instructions that the operator must perform before, during, and after preventive maintenance checks and services. Coverage includes all operator PMCS for the equipment. Lubrication instructions provide references to the applicable lubrication instructions.

Operator Maintenance Procedures. These work packages refer the operator to the preventive maintenance checks and services required by WP 0010.

Chapter 5 - Field Troubleshooting Procedures

Chapter 5 covers troubleshooting procedures of the 3 kW Skid Mounted, Tactical Quiet Generator Set to be performed by the operator. The chapter is divided as follows:

Field Troubleshooting Index. This work package provides a troubleshooting introduction and malfunction/symptom index to direct you to the appropriate troubleshooting procedure at the field maintenance level.

Field Troubleshooting Procedures. This work package covers troubleshooting procedures and corrective actions that are to be performed at the field maintenance level.

Chapter 6 - Field Maintenance

Chapter 6 provides instructions covering the 3 kW Skid Mounted, Tactical Quiet Generator Set maintenance that must be performed at field level. The chapter is divided as follows:

Service Upon Receipt. This work package contains instructions for inspecting and servicing the equipment when it is received. It includes instructions for unpacking the equipment when it is received. The instructions also include unpacking and stowing the basic issue items that accompany the 3 kW Skid Mounted, Tactical Quiet Generator Set. Also included are instructions on positioning the equipment for operation and connecting an external fuel source.

Field Preventive Maintenance Checks and Services (PMCS) Introduction. This work package provides a detailed explanation of each table entry in the PMCS table along with applicable warnings, cautions and notes prior to starting on the PMCS procedures.

Field Preventive Maintenance Checks and Services (PMCS), Including Lubrication Instructions. This work package contains instructions covering the PMCS that must be performed at the field maintenance level. A table provides information on maintenance intervals and actions required. Field lubrication instructions provide the applicable references that contain lubrication instructions for your equipment.

Field Maintenance Procedures. These work packages list the applicable references that cover field maintenance of the equipment.

Preparation for Storage or Shipment. This work package provides information on preparing the equipment for storage for periods of time less than 9 months, from 9 up to 36 months, and for shipment as well.

Illustrated List of Manufactured Items. These work packages provide precise, detailed instructions, patterns and illustrations that field maintenance level technicians will be required to follow in order to make wires of measured lengths, and wire harnesses with plugs and connectors properly spaced, fastened and fully-functioning. As items authorized to be manufactured or fabricated and in compliance with the Two-Level Maintenance (2LM) concept.

Torque Limits. This work package lists standard torque values for bolts and screws used in maintaining the equipment.

Chapter 7 - Parts Information

This chapter contains Repair Parts and Special Tools Lists (RPSTL) needed to perform operator and field maintenance of the equipment. The chapter is divided as follows:

Repair Parts List. These work packages contain illustrations and lists. The illustrations aid in identifying the parts. The lists include information that tells which maintenance levels are authorized to use the part, the part number that identifies the part, the name of the part, and the quantity used.

Special Tools List. This work package informs the user that no special tools are needed.

National Stock Number (NSN) Index. This work package lists all of the parts contained in Repair Parts Lists. The NSN index is in National Item Identification Number (NIIN) sequence.

Part Number Index. These work packages lists all of the parts contained in Repair Parts Lists. The part number index is in alphanumeric part number sequence.

Chapter 8 - Supporting Information

The chapter is divided as follows:

References. This work package lists all publications referenced in the various chapters of the technical manual. The listing includes the title and document number of each publication.

Maintenance Allocation Chart (MAC) Introduction. This work package explains what is covered in the maintenance allocation chart.

Maintenance Allocation Chart (MAC). This work package has three sections, as follows:

Maintenance Allocation Chart (MAC). Table 1 contains a tabular listing that assigns maintenance functions to specific maintenance levels. It lists the work time needed to perform each maintenance function at the assigned level. It also contains a column that has entries keyed to the tools and equipment listed in Table 2.

Another column has entries keyed to the remarks in Table 3.

Tool and Test Equipment Requirements. Table 2 contains complete identification information for the items referenced in the tools and equipment column of Table 1.

Remarks. Table 3 provides additional information for each entry in the remarks column of Table 2.

Components of End Item (COEI) and Basic Issue Items (BII) Lists. This work package lists the items usually packaged separately but needed for installation and operation of the equipment. The work package has three sections, as follows:

Introduction. This section explains the entries in Tables 1 and 2.

Components of End Item. The equipment is normally shipped fully assembled, so this section is not applicable.

Basic Issue Items. This section contains a list of the accessories needed for installation and operation of the equipment.

Additional Authorization List (AAL). This work package lists additional items you are authorized for support of the equipment. This work package contains two sections, as follows:

Introduction. This section explains the entries in Tables 1.

Additional Authorized Items List. This table lists the Additional Authorized Items.

Expendable and Durable Items List. This work package lists expendable/durable supplies and materials needed to operate and maintain your equipment. The work package contains two sections, as follows:

Introduction. This section explains the entries in Tables 1.

Expendable and Durable Items List. The list indicates the maintenance level that needs each item and identifies the items by National Stock Number (NSN), description, and unit of measure.

Mandatory Replacement Parts List. This work package lists all parts used on the equipment that must be discarded when removed during maintenance and installed new.

Rear Matter

Alphabetical Index. An alphabetical index at the back of this technical manual provides a listing of subjects covered, cross-referenced to the applicable work packages.

HOW TO FIX AN EQUIPMENT MALFUNCTION

Determining the Cause

Finding the cause of a malfunction, troubleshooting, is the first step in fixing your equipment and returning it to operation. Follow these simple steps to determine the root of the problem:

1. Turn to the Table of Contents in this manual.
2. Locate "Troubleshooting" under the chapter that covers your level of maintenance. Turn to the page indicated.
3. For operator troubleshooting, follow the instructions in the references listed in Chapter 3.
4. For troubleshooting at the field level, find the malfunction listing in Chapter 5. Follow the instructions provided as indicated by the symptom index.

Preparing for a Task

Be sure that you understand the entire maintenance procedure before beginning any maintenance task. Make sure that all parts, materials, and tools are handy. Read all steps before beginning.

Prepare to do the task as follows:

1. Carefully read the entire task before starting. It tells you what you will need and what you have to know to start the task. **DO NOT START THE TASK UNTIL:**
 - a. You know what is needed
 - b. You have everything you need
 - c. You understand what to do
2. If parts are listed, they can be drawn from technical supply. Before you start the task, check to make sure you can get the needed parts. National stock numbers (NSNs) and part numbers for 3 kW Skid Mounted, Tactical Quiet Generator Set parts are listed in the Repair Parts and Special Tools List (RPSTL).
3. If expendable/durable supplies or materials are needed, get them before starting the task. Refer to WP 0143 for the correct nomenclature and NSN.

How to Do the Task

Before starting, read the entire task. Be sure that you understand the entire procedure before you begin the task. As you read, remember the following:

1. **PAY ATTENTION TO WARNINGS, CAUTIONS, AND NOTES.**
2. Use the List of Abbreviations/Acronyms if you do not understand the special abbreviations or unusual terms used in this manual.
3. The following are standard maintenance practices. Instructions about these practices are usually not included in task steps. When standard maintenance practices do not apply, the task steps will tell you.
 - a. Tag electrical wiring before disconnecting it.
 - b. Discard used preformed packing, retainers, gaskets, cotter pins, lockwashers, and similar items. Install new parts to replace the discarded items.
 - c. Coat packing before installation, in accordance with the task instructions.
 - d. Disassembly procedures describe the disassembly needed for total authorized repair. You may not need to disassemble an item as far as described in the task. Follow the disassembly steps only as far as needed to repair/replace worn or damaged parts.
 - e. Clean the assembly, subassembly, or part before inspecting it..
 - f. Before installing components having mating surfaces, inspect the mating surfaces to make sure they are in serviceable condition.
 - g. Hold the bolt (or screw) head with a wrench (or screwdriver) while tightening or loosening a nut on the bolt (or screw).
 - h. Torque to the special torque cited when the task instructions include the words "torque to." Use standard torques at all other times.
 - i. When a cotter pin is required, align the cotter pin holes within the allowable torque range.
 - j. Inspect for foreign objects after performing maintenance.

CHAPTER 1

**OPERATOR AND FIELD GENERAL INFORMATION,
EQUIPMENT DESCRIPTION AND THEORY OF
OPERATION**

FOR

**3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)**

CHAPTER 1

GENERAL INFORMATION, EQUIPMENT DESCRIPTION AND THEORY OF OPERATION

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
General Information.....	0001
Equipment Description and Data.....	0002
Theory of Operation.....	0003

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****GENERAL INFORMATION****SCOPE**

- a. This manual provides instructions on operating, troubleshooting, and maintaining the 3 kW Tactical Quiet Generator Set, MEP-831A (60 Hz), (NSN: 6115-01-285-3012), and MEP-832A (400 Hz), (NSN: 6115-01-287-2431). Information is provided on principles of operation, controls and indicators, Preventive Maintenance Checks and Services (PMCS), lubrication, operation, troubleshooting, and maintenance. See Figure 1 for a full-view illustration of the generator set, showing features pertinent to set operation and maintenance.
- b. See TM 9-2815-257-24 for detailed information regarding operation and maintenance of the Diesel Engine Assembly, Model Number L70AE-DEGFR, (NSN: 2815-01-465-5993), manufactured by Yanmar Diesel Engine Company, Ltd.

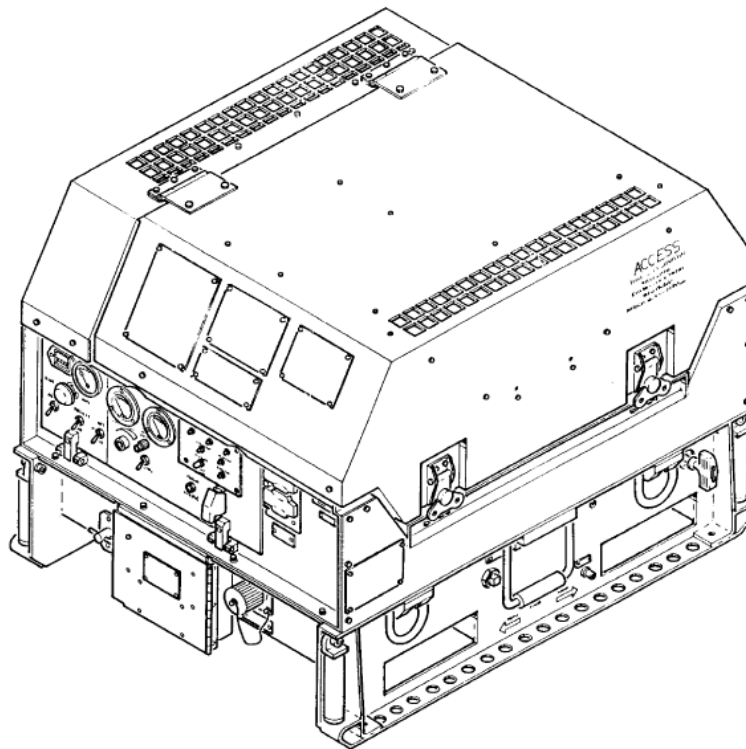


Figure 1. 3 kW Tactical Quiet Generator Set.

MAINTENANCE FORMS, RECORDS, AND REPORTS

(A) Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual; DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability.

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

(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.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATION (EIR)

If your 3 kW Tactical Quiet Generator Set MEP-831A (60 Hz) or MEP-832A (400 Hz) needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to <https://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The Internet form lets you choose to submit an Equipment Improvement Recommendation (EIR), a Product Quality Deficiency Report (PQDR) or a Warranty Claim Action (WCA). You may also submit your information using an SF 368 (Product Quality Deficiency Report). You can send your SF 368 via e-mail, regular mail, or facsimile using the addresses/facsimile numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. We will send you a reply.

For Marine Corps users: Quality deficiency reports (QDR) shall be submitted on SF 368 in accordance with MCO 4855.10. A reply will be furnished to you.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking.

Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking.

SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual. Air Force personnel will use TO 35-1-3.

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

For destruction of Army materiel to prevent enemy use, see TM 750-244-3.

PREPARATION FOR STORAGE OR SHIPMENT

Requirements for packaging, preservation, and administrative storage are in WP 0083. See also WP 0146 for special packaging instructions and TB 740-97-2, Preservation of USAMECOM Mechanical Equipment for Shipment and Storage.

Administrative Storage

Administrative storage of equipment issued to and used by Army activities will have Preventive Maintenance Checks and Services (PMCS) performed before storing. When removing the equipment from administrative storage, perform PMCS to ensure operational readiness.

WARRANTY INFORMATION

This section provides information on manufacturer's warranties for generator set components. The warranty period begins on the date of end item shipment to the government, as defined by the warranty date, unless otherwise noted in Table 1.

Components for the 3 kW TQG are warranted in accordance with the component manufacturer's latent defect commercial warranty. The warranty starts on the date found in block 23, DA Form 2408-9, in the log book. Report all defects in material and workmanship to your supervisor, who will take appropriate action. See Table 1 for information on manufacturer's component warranties and conditions

Warranty service may be obtained with two methods: (1) by contacting the actual warranted component manufacturer listed in Table 1, column 1 (each manufacturer will provide instructions on filing a claim) or (2) by filling out a Warranty Claim in accordance with DA PAM 750-8. The Warranty Claim form is SF 368, Product Quality Deficiency Report.

Troubleshooting should be performed to the level of warranted component, but no further. Troubleshooting to the failed part inside warranted components may invalidate the warranty.

If you have difficulty with or questions about the warranty process, contact your local CECOM LAR or the CECOM Generator Branch, DSN 992-1313, (732) 532-1313.

Table 1. Manufacturers Warranties.

(1) MANUFACTURER	(2) COMPONENT UNDER WARRANTY	(3) WARRANTY PERIOD
Fermont 141 North Avenue Bridgeport, CT 06606 Attention: Joe Agresta joe.agresta@fermont.com Phone: 203-366-5211, x525 Fax: 203-367-3642 CAGE: 93742	Alternator Assembly, 3 kW Permanent Magnet (PN: 98-19634, VPN: 692497)	1 Year or 1800 Hours
Technology Research Corporation (TRC) 5250 140th Avenue North Clearwater, FL 33760 Attention: Marge Matson or Ray Wood Phone: 727-535-0572, ext. 327 Fax: 727-535-4828 CAGE: 60177	Frequency Converter (A8), 60 Hz (PN: 98-19604-01, VPN: 29350)	18 months
	Frequency Converter (A8), 400 Hz (PN: 98-19604-02, VPN: 29340)	18 months
	Regulator, Battery Charger (PN: 98-19626, VPN: 29380)	1 Year
	Module, Fault Indicator (PN: 98-19527, VPN: 29390)	1 Year
	Interrupter, Ground Fault (PN: 19541, VPN: 29410)	1 Year
Bell Power Systems (for Yanmar) 36 Plains Road Essex, CT 06426 Attention: Carl Sanca, 1-800-225-8669 Fax: 860-767-7290 CAGE: S4163	Engine, Diesel (PN: 98-19513, VPN: L70AE-DEGFR)	1 Year

Table 1. Manufacturers Warranties. - Continued

(1) MANUFACTURER	(2) COMPONENT UNDER WARRANTY	(3) WARRANTY PERIOD
Comair Rotron Inc. 2675 Custom House Ct San Diego, CA 92154 Phone: 619-661-6688 Fax: 619-661-6057 www.comairrotron.com CAGE: 5Y921	Fan, 115 VAC, 60 Hz (PN: 98-19512-01,VPN: 031842) Fan, 24 VDC (PN: 98-19512-02,VPN: 031843)	1 Year
Governors America Corporation 720 Silver Street Agawam, MA 01001 Phone: 413-786-5600 Fax: 413-786-5666 CAGE: 0BXW5	Actuator, Governor, 24 VDC (PN: 98-19580, VPN: ACD150) Controller, Governor, 24 VDC (P/N 98-19539, VPN: SLC100)	1 Year
Fleetguard, Inc. 1801 Hwy 51 West Stoughton, WI 53589 P.O. Box 428 Attention: Ron Prochnow, Fleetguard Warranty Specialist (Nelson Brands) ron.w.prochnow@fgdnel.com Phone: 608-873-4265 Fax: 608-873-2409 CAGE: 0TW02	Muffler Assembly, Exhaust (PN: 98-19607, VPN: 27053N)	1 Year
Madison Company 27 Business Park Drive Branford, CT 06405 Attention: Cathy Akers Phone: 203-488-4477, x103 Fax: 203-481-5036 www.madisonco.com CAGE: 21603	Switch, Fuel Level (PN: 98-19519, VPN: M3770)	1 Year from date of shipment from Madison
Purolator Products Inc. Motor Components LLC P.O. Box 1502 Elmira Heights, NY 14903 Phone: 607-737-8011 Fax: 607-737-8335 (customer svc) CAGE: 72850	Pump, Fuel Auxiliary (PN: 88-21738, VPN: 40194)	1 Year from date of shipment from Puro- lator
Ametek Prestolite Switch Division 2220 Corporate Drive Troy, Ohio 45373 <u>To return a part:</u> 1701 Industrial Boulevard Hidalgo, TX 78557-1072 Attn: Edgar Fernandez, 956-843-4066 <u>For warranty questions:</u> Skip Moore, 419-382-2728 CAGE: 7E656	Contactor, 2-Pole, 100 Amp (PN: 98-19523, VPN: JAD-5005)	1 Year

Table 1. Manufacturers Warranties. - Continued

(1) MANUFACTURER	(2) COMPONENT UNDER WARRANTY	(3) WARRANTY PERIOD
Contact Industries Inc. 25 Lex-Industrial Drive, P.O. Box 3086 Lexington, OH 44904 Attention: Warren Guest, Quality Mgr. Phone: 419-884-9788 Fax: 419-884-9767 CAGE: 01XD4	Contactor, 2-Pole, 100 Amp (PN: 98-19755, VPN: CT100D24C1S)	1 Year

Shortened nomenclature is used in this manual to make procedures easier for you to read. The list below is a cross-reference between the shortened nomenclature and the official nomenclature.

NOMENCLATURE CROSS-REFERENCE LIST

<u>Common Name</u>	<u>Official Nomenclature</u>
Generator Set	3 kW Tactical Quiet Generator Set, MEP-831A (60 Hz) & MEP-832A (400 Hz)
MEP-831A	Generator Set, 3 kW, 60 Hz
MEP-832A	Generator Set, 3 kW, 400 Hz

LIST OF ABBREVIATIONS/ACRONYMS

<u>Abbreviation/Acronym</u>	<u>Name</u>
A2	Fault Indicator Module
A5	Governor Control
AAL	Additional Authorization List
AC	Alternating Current
AFB	Air Force Base
AFR	Air Force Regulation
AFTO	Air Force Task Order
ALC	Air Logistics Center
AOAP	Army Oil Analysis Program
App	Appendix
AR	Army Regulation
ATLASS	Asset Tracking Logistics and Supply System
BII	Basic Issue Items
BT	Battery/Battery Terminal
C	Centigrade
CAGEC	Commercial and Government Entity Code
CARC	Chemical Agent Resistive Coating
CB1	DC CIRCUIT BREAKER
CB3	GFCI (60 Hz only)
CECOM	Communications and Electronics Command
cm	Centimeter

LIST OF ABBREVIATIONS/ACRONYMS - Continued

<u>Abbreviation/Acronym</u>	<u>Name</u>
CN	Change Notice
COEI	Components of End Item
CPC	Corrosion Prevention and Control
CTA	Consolidated Table of Allowance
DA	Department of the Army
dBA	Decibels referred to 1 kilowatt
DC	Direct Current
DLAR	Defense Logistics Agency Regulation
DS2	Decontaminating Solution 2
DS6	AC CIRCUIT INTERRUPTER Indicator
DSN	Defense Switched Network
ECP	Engineering Change Proposal
EIC	End Item Code/Equipment Item Code
EIR	Equipment Improvement Recommendation
EMI	Electromagnetic Interference
ESD	Electrostatic Discharge
F	Fahrenheit
FL	FUEL LEVEL Switch
FM	Field Manual
FO	Foldout
ft	Foot
GFCI	Ground Fault Circuit Interrupter
GND	Ground
Hg	Mercury
HP	Horsepower
HT	Engine Temperature Switch
Hz	Hertz
IPB	Illustrated Parts Breakdown
IUID	Item Unique Identification
J1	Convenience Receptacle
JTA	Joint Table(s) of Allowance
kg	Kilogram
kW	Kilowatt
L1	AC output terminal 1 (load)
L2	AC output terminal 2 (load)
LOEP	List of Effective Pages
LOG/TP	Logistics/Technical Publication
M1	VOLTAGE Meter
M2	LOAD Meter

LIST OF ABBREVIATIONS/ACRONYMS - Continued

<u>Abbreviation/Acronym</u>	<u>Name</u>
M3	HOURS Meter
M5	FUEL LEVEL Meter
MAC	Maintenance Allocation Chart
MCO	Marine Corps Order
MCPDS	Marine Corps Publication Data System
MEP	Mobile Electric Power
MIL	Military
MIL-HDBK	Military Handbook
ml	Milliliter
MST	Maintenance Support Team
MT5	Fuel Level Sender
MTOE	Modified Table of Organization and Equipment
N	Neutral
NATO	North Atlantic Treaty Organization
NAVMC	Navy Marine Corps
NAVSUPINST	Naval Supplementary Instruction
NBC	Nuclear, Biological, Chemical
NSN	National Stock Number
OEA	Office of Energy Assurance
OP	Oil Pressure/Low Oil Pressure Switch
OSHA	Occupational Safety and Health Act
P/N	Part Number
P/O	Part of
Pam	Pamphlet
PMCS	Preventive Maintenance Checks and Services
PQDR	Product Quality Deficiency Report
psi	Pounds per Square Inch
QC	Quality Control
QDR	Quality Deficiency Report
QTY	Quantity
R1	VOLTAGE ADJUST Potentiometer
ROD	Report of Discrepancy
RPM	Revolutions per Minute
RPSTL	Repair Parts and Special Tools List
RTV	Room Temperature Vulcanizing
S1	START/RUN/STOP Switch
S17	AUX FUEL Switch
S18	PREHEAT Switch
S19	EMERGENCY STOP button

LIST OF ABBREVIATIONS/ACRONYMS - Continued

<u>Abbreviation/Acronym</u>	<u>Name</u>
S20	Temperature Switch
S21	Temperature Switch
S5	CIRCUIT INTERRUPTER Switch
S7	BATTLE SHORT Switch
SAE	Society of Automotive Engineers
SDR	Supply Discrepancy Report
SE	Support Equipment
SECNAVINST	Secretary of the Navy Instruction
SF	Standard Form
SMR	Source, Maintenance, and Reliability
SOS	Source of Supply
SPAWAR	Space and Naval Warfare Center
SR1	NATO Slave Receptacle
SRA	Specialized Repair Activity
STB	Supertropical Bleach
TAMMS	The Army Maintenance Management System
TB	Technical Bulletin/Terminal Board
TDA	Table of Distribution and Allowances
TDR	Transportation Discrepancy Report
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TO	Task Order (Air Force)
TOE	Table of Organization and Equipment
TQG	Tactical Quiet Generator
U.S./US	United States
UM	Unit of Measure
USAMECOM	U.S. Army Mobile Equipment Command
UUT	Unit Under Test
V	Volt
VAC	Volts Alternating Current
VDC	Volts Direct Current

QUALITY OF MATERIEL

Material used for replacement, repair, or modification must meet the requirements of this technical manual. If quality or material requirements are not stated in this technical manual, the material must meet the requirements of the drawings, standards, specifications, or approved Engineering Change Proposals (ECPs) applicable to the subject equipment.

SAFETY, CARE, AND HANDLING

The following general precautions and safety regulations will be prepared: Electrostatic Discharge (**ESD**) control standards for the protection of electrical and electronic parts, assemblies, and equipment will be prepared. **ESD** classes will be identified. See MIL-STD-1686 and MIL-HDBK-263, which contains **ESD** control procedures and material necessary to protect these items.

SUPPORTING INFORMATION FOR REPAIR PARTS, SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT**Common Tools and Equipment**

For authorized common tools and equipment, see the Modified Table of Organization and Equipment (MTOE), CTA 50-970, or CTA 8-100, as applicable to your unit. Tool Kit, General Mechanics; Automotive, Supply Catalog SC5180-9D-CL-N26, is the primary supply source for tools used in maintenance of the generator set.

Special Tools, TMDE, and Support Equipment

See Chapter 7, Parts Information for complete data on special tools and equipment required for generator set maintenance. See WP 0140, Maintenance Allocation Chart (MAC), for special tools and equipment used at the field maintenance level.

Repair Parts

- a. The two-level maintenance concept requires on-board spares to accompany deployment operations. See WP 0143 for a list of on-board spares required for field level maintenance of the generator set.
- b. Repair parts are listed and illustrated in Chapter 7 - Parts Information of this manual.

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****EQUIPMENT DESCRIPTION AND DATA**

EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES**Characteristics**

The 3 kW generator set has the following characteristics:

- 3 kW, 60 Hz (MEP-831A)/400 Hz (MEP-832A), Tactical Quiet Generator (TQG)
- Skid-mounted with forklift provisions
- Six lifting handles, four tie-down rings
- Hinged enclosure, allowing quick access for preventive and scheduled maintenance
- Thermostatically controlled, two-fan enclosure cooling system
- 24 VDC cranking system
- Single-cylinder, air-cooled, direct-injection, four-stroke-cycle diesel engine
- Permanent Magnet Alternator (PMA) with frequency converter (A8)
- Four-gallon fuel tank (allowing 8 hours of continuous operation at full load)

Capabilities and Features

The 3 kW generator set has the following capabilities and features:

- 3,000 to 3,600 RPM operating speed
- 3.0 kW, 1 phase, 2 wire, 120 VAC or 1 phase, 3 wire, 120/240 VAC
- Rated engine power of 6.7 HP at 3,600 RPM
- Equipped with a 24 VDC NATO slave receptacle
- Equipped with a 2-plug 120 VAC convenience receptacle with Ground Fault Circuit Interrupter (GFCI) for the 120 VAC convenience receptacle (MEP-831A, 60 Hz only)
- Audio noise rating less than 72 dBA at 23 feet from enclosure; less than 85 dBA at operator's position
- Weight: dry = 304.0 pounds (maximum) (MEP-831A), 302.0 pounds (maximum) (MEP-832A); wet (fuel tank full) = 334.0 pounds (maximum)
- Dimensions: 34.8 x 27.8 x 26.5 inches

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS**(See Figure 1)**

The 3 kW Tactical Quiet Generator Set, MEP-831A (60 Hz), (NSN: 6115-01-285-3012), and MEP-832A (400 Hz), (NSN: 6115-01-287-2431), hereafter referred to as generator set, is a portable unit capable of being mounted on a trailer for transportation. The generator set is designed to provide a quiet source of AC power under temperature ranges from -25 to +120 °F (-32 to +49 °C), at any level of relative humidity, and at altitudes of up to 8,000 feet (2440 meters) above sea level.

The generator set consists of the following components: a frame and housing assembly (Figure 1, Item 1); a one-cylinder diesel engine (2); a Permanent Magnet Alternator (PMA) (3); a control box assembly (18); an output/load panel (16); a welded skid base (17); primary and auxiliary fuel systems; an enclosure cooling and ventilation system; an engine exhaust system (20); a 24 VDC battery; and associated wiring harnesses, electrical connectors, and fuel and oil hoses.

Frame and Housing Assembly

The frame and housing assembly (1) contains a control box assembly (18), a cooling air system, and an exhaust assembly (20). It protects the engine, generator, and other internal components from damage. It incorporates fire-retardant, acoustical insulation to reduce noise levels and acts as a shield to reduce electromagnetic pulse effects on generator set components.

A welded skid base (17) provides the main structural support for the generator set. The engine/generator assembly is mounted to the skid base with vibration isolators that isolate engine generated vibrations from the rest of the generator set. The generator set's plastic fuel tank is contained within the skid base, as is the 24 VDC battery.

The skid base contains four swing-out lifting handles (7), two standard lifting handles (9), four tie down rings (8), and two forklift openings (12). An oil drain plug (10) and fuel drain plug (11) protrude through openings on the skid base. A 24 VDC NATO Slave Receptacle (14) and output terminal connections, behind the cover (16), are mounted to the skid base at the rear of the generator set.

A hinged main access cover (4) allows easy access for inspecting and maintaining the generator set. Two latches (6) lock the cover in place when it is closed. Air ducts in the main access cover and enclosure housing allow hot exhaust air to be ventilated.

Cooling System

Air intake openings and engine intake ducts on the main access cover allow for engine cooling, using external air. Two thermostatically controlled fans (5), one mounted in the main access cover and one mounted in the back panel, activate during high temperature conditions to drive hot exhaust air through openings in the cover.

Battery

A 24 VDC battery, mounted in the frame and housing assembly, provides cranking power for the engine as well as DC power for the control system. The battery's location in the frame and housing assembly permits easy servicing. Openings in the main access cover vent escaping battery gases to the atmosphere, preventing gas build-up inside the cover.

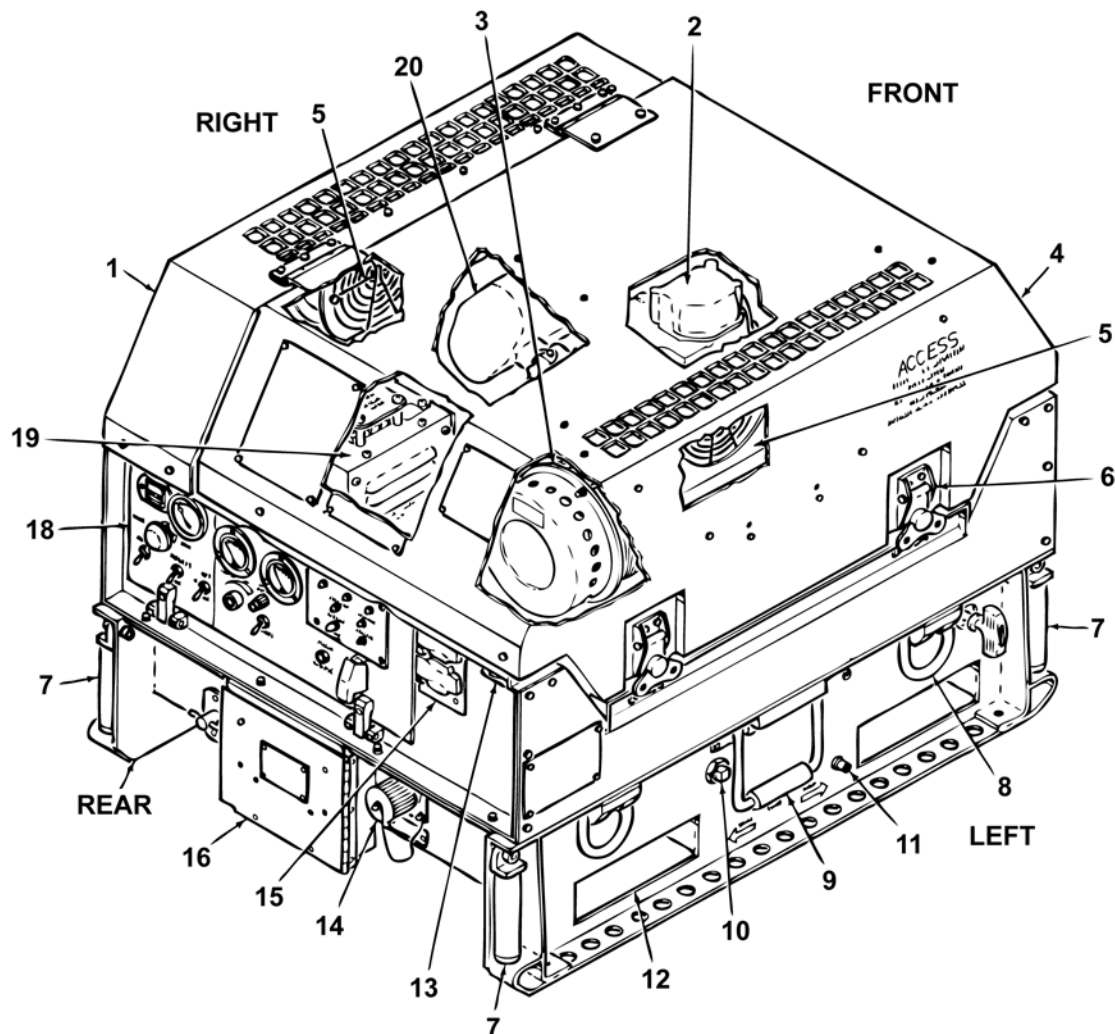
Exhaust System

The generator set exhaust system (20) consists of a muffler and exhaust piping. Engine exhaust vents out of the generator set through an opening in the top of the main access cover. Insulating material on exhaust system components protects maintenance personnel against potential burn hazards and reduces heat transfer into the enclosure assembly.

Control Box Assembly

The control box assembly (18) is mounted to the frame and housing assembly (1) at the rear of the generator set. It contains instruments, controls, and indicators required to operate the generator set. It also contains a control panel; a Ground Fault Circuit Interrupter (GFCI), 60 Hz only (13); and a convenience receptacle, 60 Hz only (15). Internal components include the governor control module, control logic relays and diodes, voltage surge arrestors, diagnostic test points, and associated wiring harnesses and electrical connectors.

The control panel portion of the control box assembly (18) is hinged to allow access for testing and maintenance. It has the following instruments and switches: an HOURS meter, a FUEL LEVEL meter, a VOLTAGE meter, a LOAD meter, a START/RUN/STOP switch, an EMERGENCY STOP button, an AUX FUEL switch, a PREHEAT switch, a VOLTAGE ADJUST potentiometer, a CIRCUIT INTERRUPTER switch, a DC CIRCUIT BREAKER switch, a BATTLE SHORT switch, and a fault indicator module. The fault indicator module has lights that indicate the following generator set conditions: ENGINE HIGH TEMP, LOW OIL PRESSURE, NO FUEL, OVERVOLTAGE, OVERLOAD SHORT CIRCUIT, and BATTLE SHORT ON. See WP 0004 for a complete explanation of each instrument and switch.

**LEGEND**

- | | | | |
|----|-----------------------------------|----|-------------------------------------|
| 1 | Frame and Housing Assembly | 11 | Fuel Drain Plug |
| 2 | Diesel Engine Assembly | 12 | Forklift Opening |
| 3 | Permanent Magnet Alternator (PMA) | 13 | GFCI (60 Hz only) |
| 4 | Main Access Cover | 14 | NATO Slave Receptacle |
| 5 | Cooling Fan | 15 | Convenience Receptacle (60 Hz only) |
| 6 | Cover Latch | 16 | Output/Load Terminal Cover |
| 7 | Lifting Handle | 17 | Welded Skid Base |
| 8 | Tie-Down Ring | 18 | Control Box Assembly |
| 9 | Lifting Handle | 19 | Frequency Converter (A8) |
| 10 | Oil Drain Plug | 20 | Exhaust System |

Figure 1. Location of Generator Set Components.

Receptacle, Filter, and Terminals

The output terminal board and ground terminal are located on the generator set skid base, just below the control box assembly (18). A hinged cover (16) allows access to the three output terminals and single ground terminal. An insulated wrench (load wrench), used for connecting wires to the terminals, is secured to the hinged main access cover. A filter mounted to the front of the output terminals prevents Electromagnetic Interference (EMI). The generator set's 24 VDC NATO Slave Receptacle (14) is mounted to the skid base (17), to the right of the output terminal board.

Diesel Engine/Generator Assembly

The engine/generator assembly (Figure 2) consists of a single-cylinder diesel engine (14); a Permanent Magnet Alternator (PMA) (5); and associated electrical, fuel, and oil components. The engine/generator assembly is mounted to the skid base (8) with vibration mounts (7) to prevent engine vibration from affecting the operation of other generator set components. A fuel drain plug (9) and oil drain plug (10) allow maintenance personnel to drain engine fluids.

Diesel Engine

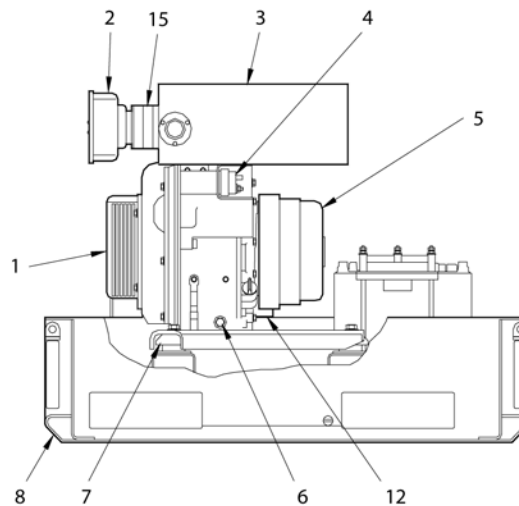
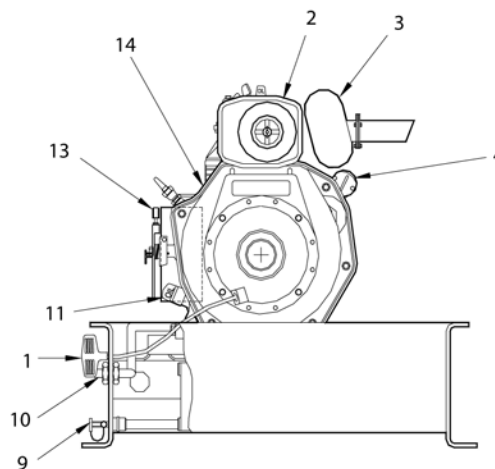
The generator set is equipped with a single-cylinder, air-cooled, direct-injection, four-stroke-cycle diesel engine (14). The engine is designed to operate between 3,000 and 3,600 RPM, with an output of 6.7 HP at 3,600 RPM. See TM 9-2815-257-24.

The engine has self-contained oil lubrication and fuel systems. A mechanical governor actuator (13) is set for 3,750 RPM, maximum, and is controlled by an electrical governor for variable speed operation. The engine is equipped with an air filter (2), a muffler (3), a 24 VDC starter motor (4), a manifold heater (15), an engine high-temperature switch (6), an engine oil low-pressure switch (12), and an oil fill cap and gauge (11). A rope-pull recoil starter system (1) allows for manual starting of the engine.

Engine cooling is provided by a flywheel fan, which forces air over the cylinder fins and engine components. The fan is completely guarded to prevent inadvertent contact during operation.

Permanent Magnet Alternator (PMA)

The PMA (5) consists of four 3-phase isolated AC output windings. Voltage output is proportional to engine speed (approximately 190 VAC at 3 kW, 3,450 RPM). The rotating portion of the PMA is mounted directly to the engine, on the engine crankshaft extension, without a bearing. The PMA stator is directly mounted to the engine and uses Class H insulation.

LEFT SIDE VIEW**REAR VIEW****LEGEND**

- | | | | |
|---|-----------------------------------|----|---------------------|
| 1 | Recoil System | 9 | Fuel Drain Plug |
| 2 | Air Filter | 10 | Oil Drain Plug |
| 3 | Muffler | 11 | Oil Fill Cap/Gauge |
| 4 | Starter Motor | 12 | Oil Pressure Switch |
| 5 | Permanent Magnet Alternator (PMA) | 13 | Governor Actuator |
| 6 | Temperature Switch | 14 | Diesel Engine |
| 7 | Vibration Mount | 15 | Manifold Heater |
| 8 | Skid Base | | |

Figure 2. Diesel Engine/Generator Assembly.**Frequency Converter (A8)**

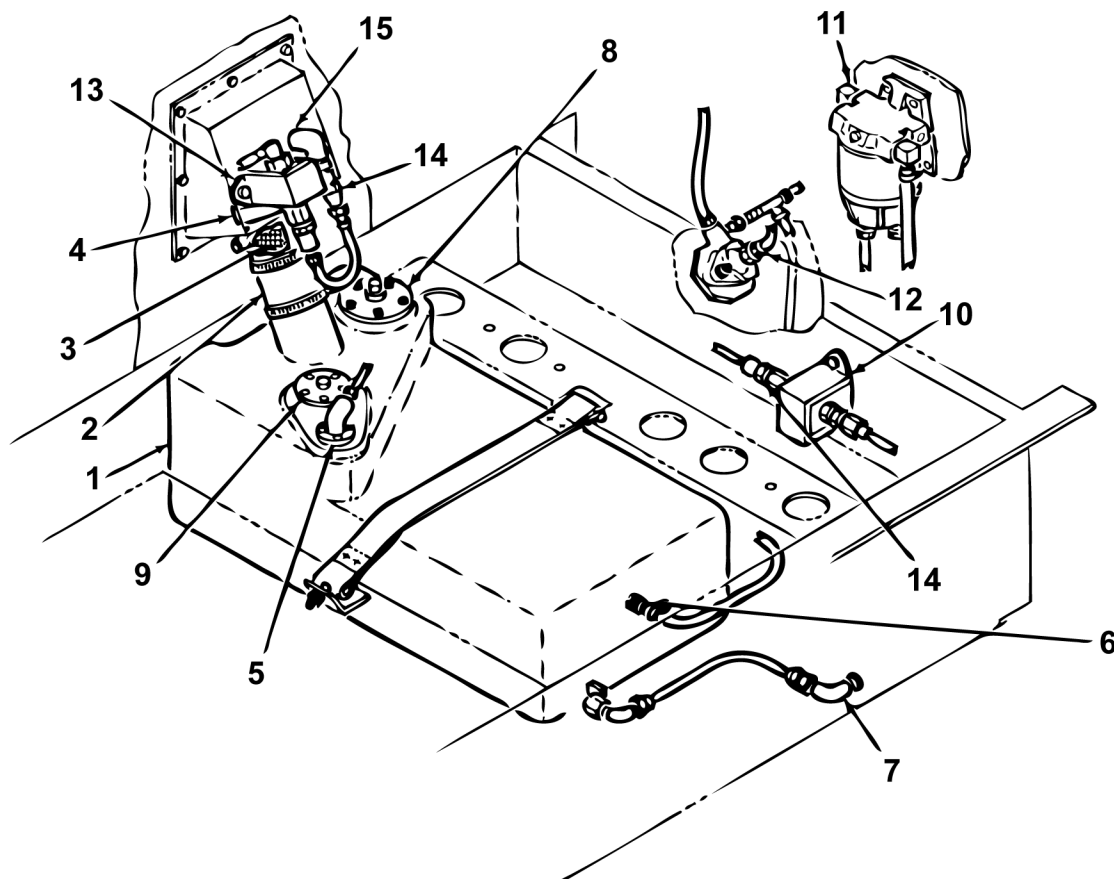
The generator frequency converter (A8) (Figure 1, Item 19) is located in the skid base, between the control box and generator. It consists of rectifiers, a frequency converter (A8), and associated electronics, and it provides the regulated 120 VAC, 2-wire, or 120/240 VAC, 3-wire (single-phase only), output. Voltage regulation is maintained within one percent, throughout specified voltage ranges, from no load to rated load. An output control signal from the converter is connected to the governor control unit to vary engine speed, depending on load condition. This enables the generator set to operate at lower engine speeds for light-load conditions while maintaining the required output voltage.

Fuel System Assembly

The generator set is equipped with a 4-gallon fuel tank (Figure 3, Item 1) that provides enough fuel to operate the unit for 8 hours at full load. The tank is mounted on the skid base. The tank's filler assembly consists of a filler neck (2), a fuel strainer (3), and a vented fill cap (4). The tank contains a fuel pick-up connection (5), a fuel return connection (6), a fuel drain connection (7), a sending unit (8), and a fuel level switch (9).

An electric fuel pump (10) feeds fuel from the tank (1), through a combination fuel filter/water separator (11), into the engine's fuel injection pump (12). The electric fuel pump (10) provides automatic fuel system priming and bleeding. An electronic governor actuator is linked, via a rod, to the fuel injection pump and is used for engine shutdown control.

An auxiliary fuel tank (13) allows the generator set to operate using an auxiliary fuel source. A fuel tank strainer assembly (14) is provided between the auxiliary fuel input connection (15) and the fuel pump. The fuel pump is controlled by the level switch, which allows fuel transfer from the auxiliary fuel source to the generator set fuel tank (1). Auxiliary fuel operations are controlled by the AUX FUEL switch (located on the generator set control panel). See WP 0004 for a complete explanation of each instrument and switch.



LEGEND

- | | | | |
|---|--------------------|----|---------------------------------|
| 1 | Fuel Tank | 9 | Fuel Level Switch |
| 2 | Filler Neck | 10 | Electric Fuel Pump |
| 3 | Fuel Strainer | 11 | Fuel Filter/Water Separator |
| 4 | Fill Cap | 12 | Fuel Injection Pump |
| 5 | Pick-Up Connection | 13 | Auxiliary Fuel Tank |
| 6 | Return Connection | 14 | Fuel Tank Strainer Assembly |
| 7 | Drain Connection | 15 | Auxiliary Fuel Input Connection |
| 8 | Sending Unit | | |

Figure 3. Generator Set Fuel System.

DIFFERENCES BETWEEN MODELS

Generator set model MEP-831A operates at a frequency of 60 Hz, and MEP-832A operates at 400 Hz. MEP-831A is equipped with both a Ground Fault Circuit Interrupter (GFCI) (Figure 1, Item 13) and a convenience receptacle (15); however, MEP-832A does not have these components.

EQUIPMENT DATA

See Table 1, Equipment Data, for a summary of specific capabilities, limitations, and critical data for operating and maintaining the generator set.

Table 1. Equipment Data.

WEIGHTS AND DIMENSIONS

Weight (dry)	304.0 pounds (138.0 kg) maximum (MEP-831A)
Weight (dry)	302.0 pounds (138.0 kg) maximum (MEP-832A)
Weight (wet) (full fuel tank)	334.0 pounds (151.6 kg) maximum
Length	34.8 inches (88.4 cm)
Width	27.8 inches (70.6 cm)
Height	26.5 inches (67.3 cm)

GENERAL SPECIFICATIONS

Output power source	120 VAC convenience receptacle (60 Hz only)
Alternate starting aid	24 VDC slave receptacle
Battery	24 VDC, lead-acid type
Frequency rating:	
MEP-831A	60 Hz
MEP-832A	400 Hz
Rated voltage:	
1 phase, 2 wire	120 VAC
1 phase, 3 wire	120/240 VAC
Voltage adjustment range	114 to 126 V for the 120 V connection 228 to 252 V for the 240 V connection
Current output	31 Amps for 120 V 16 Amps for 120/240 V
Audio noise rating	72 dBA (max) at 23 feet (7 meters) from perimeter of set, 47.25 inches (1.2 meters) above ground 85 dBA (max) at operator's position

FUEL REQUIREMENTS

Diesel fuel:	
A-A-52557, Type 1-D	-25 to +20 °F (-31 to -7 °C)
A-A-52557, Type 2-D	+20 to +120 °F (-7 to +49 °C)
Turbine fuel:	
MIL-T-83133, JP-8	-25 to +120 °F (-31 to +49 °C)
Fuel tank capacity	4.0 gallons (15.1 liters)
Auxiliary fuel system	continual replenishment
Fuel consumption rate	0.5 gallon per hour at rated load

Table 1. Equipment Data. - Continued

TRANSPORTATION

Manual transport	Up to 6 personnel required (handles provided)
Truck, rail, air, and trailer transport	4 tie-down rings provided
Inclined transport angle	25° (max) any direction

PERFORMANCE CHARACTERISTICS**Generator Set**

Operating temperature range:

-25 to +120 °F (-32 to +49 °C)

Kilowatt capacity at altitude/temperature:

1,000 ft (718.1 mm Hg) at 107 °F (41.7 °C)	3.0 kW
---	--------

4,000 ft (656.3 mm Hg) at 95 °F (35.0 °C)	2.7 kW
--	--------

8,000 ft (564.9 mm Hg) at 95 °F (35.0 °C)	2.3 kW
--	--------

Output terminals:

Alternating current	L1
Alternating current	L2
Neutral	N
Ground	GND

Diesel Engine

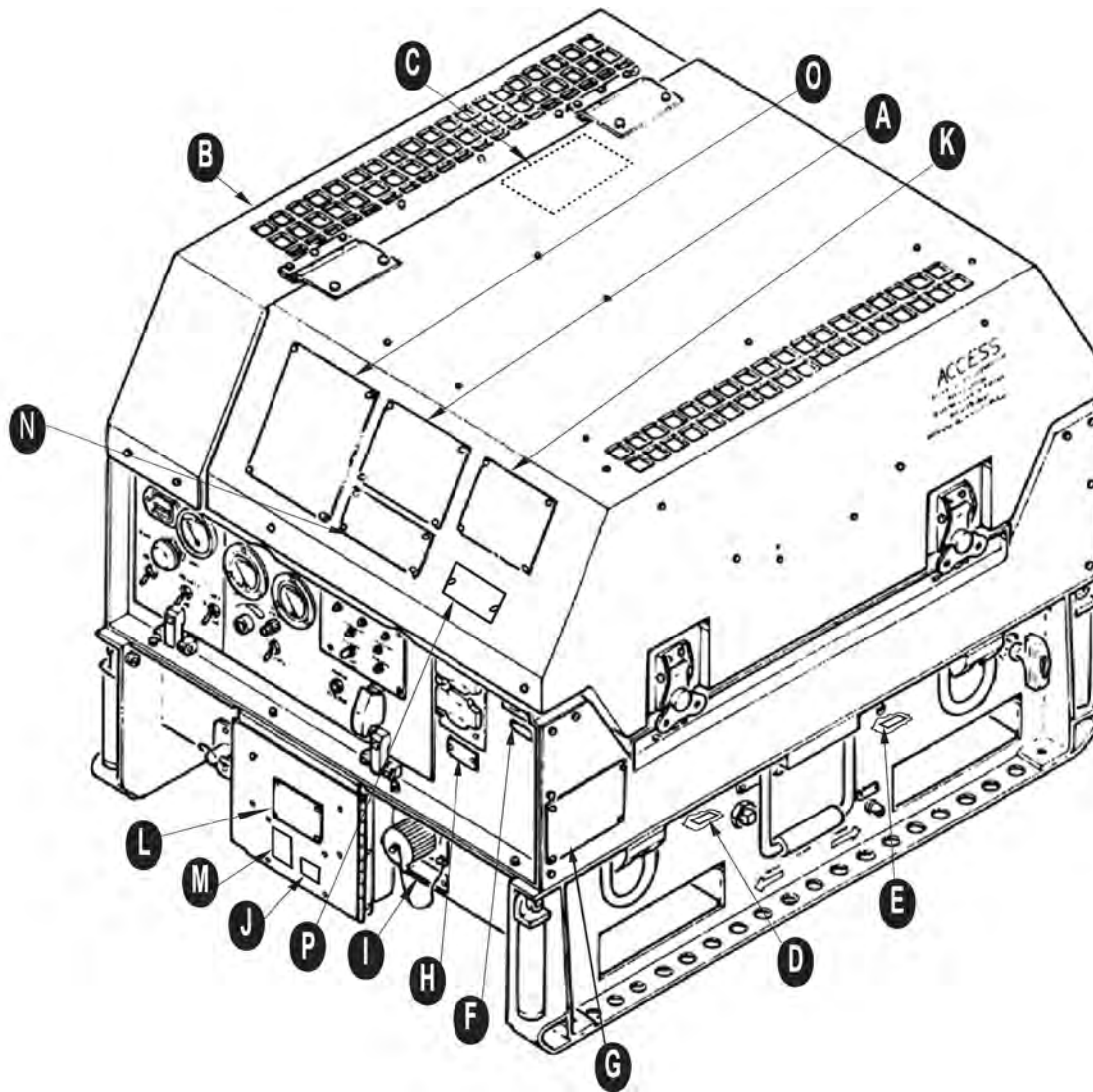
Manufacturer	Yanmar Diesel Engine Co., Ltd.
Model	L70AE-D/DE
Weight (dry)	86.0 pounds (39.0 kg)
Length	15.08 inches (38.3 cm)
Width	16.58 inches (42.1 cm)
Height	17.72 inches (45.0 cm)
Horsepower	6.7 horsepower (at operating speed)
Operating RPM	3,000 to 3,600 RPM
Maximum RPM	3,800 RPM
No load RPM (governor controlled)	3,000 to 3,050 RPM
Rated load RPM (governor controlled)	3,400 to 3,600 RPM
Engine cooling system	Forced air cooling
Oil requirements:	
MIL-L-46167, OEA	-25 to +40 °F (-31 to +5 °C)
MIL-L-2104, OE/HDO-15/40	+5 to +120 °F (-15 to +49 °C)
MIL-L-2104, OE/HDO-10	-15 to +40 °F (-26 to +5 °C)
MIL-L-2104, OE/HDO-30	+15 to +90 °F (-9 to +32 °C)
MIL-L-2104, OE/HDO-40	+30 to +120 °F (-1 to +49 °C)

Table 1. Equipment Data. - Continued

Oil capacity:	
Engine	1.2 quarts (1.1 liters)
Oil consumption rate	0.04 ounce (1.18 ml) per hour at rated load
Compression ratio	19.5
Bore x stroke	3.07 x 2.44 inches (78 x 62 ml)
Cylinder	1
Displacement	18.1 in (296 cm)

IDENTIFICATION AND INSTRUCTION PLATES

Figure 4 illustrates all data, instruction, and warning plates found on the generator set.



LEGEND

A	OE ID Plate	I	OE Slave Receptacle
B	OE Fuel Capacity	J	OE GND
C	OE Oil Capacity	K	OE Kilowatt Capacity
D	OE Fuel Drain	L	OE High-voltage Caution
E	OE Oil Drain	M	OE Terminal Voltage
F	OE GFCI	N	OE Grounding Caution
G	OE Battery Connections	O	OE Operation
H	OE Voltage	P	OE IUID Plate

Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 1 of 7).

U.S. DEPARTMENT OF DEFENSE NATO STANDARD OTAN			
GENERATOR SET DIESEL ENGINE 3KW 60HZ			
MODEL	MEP-831A	NSN	6115-01-285-3012
SER NO.	FZA	REG NO.	
TM	TM9-6115-639-13&P	NAVFAC	-
TO	35C2-3-386-51W/IPB	TM	10155A-OI/1
VOLTS	120V 1PH, 120/240V 1PH		
AMPS	31/16	PF	0.8
DRY WT	304 LB	LG	34.8 IN W 27.8 IN HGT 26.5 IN
DATE MFD		CONTR NO.	DAAK01-96-C-0085
WARRANTY		DATE INSP	
MFD BY	FERMONT	INSP STAMP	

U.S. DEPARTMENT OF DEFENSE NATO STANDARD OTAN			
GENERATOR SET DIESEL ENGINE 3KW 400HZ			
MODEL	MEP-832A	NSN	6115-01-287-2431
SER NO.	FZA	REG NO.	
TM	TM9-6115-639-13&P	NAVFAC	-
TO	35C2-3-386-51W/IPB	TM	10155A-OI/1
VOLTS	120V 1PH, 120/240V 1PH		
AMPS	31/16	PF	0.8
DRY WT	302 LB	LG	34.8 IN W 27.8 IN HGT 26.5 IN
DATE MFD		CONTR NO.	DAAK01-96-C-0085
WARRANTY		DATE INSP	
MFD BY	FERMONT	INSP STAMP	

Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 2 of 7).

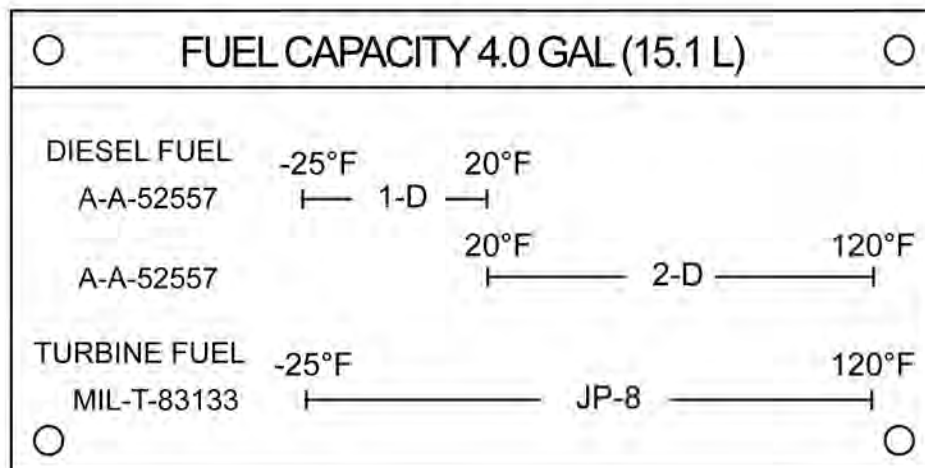
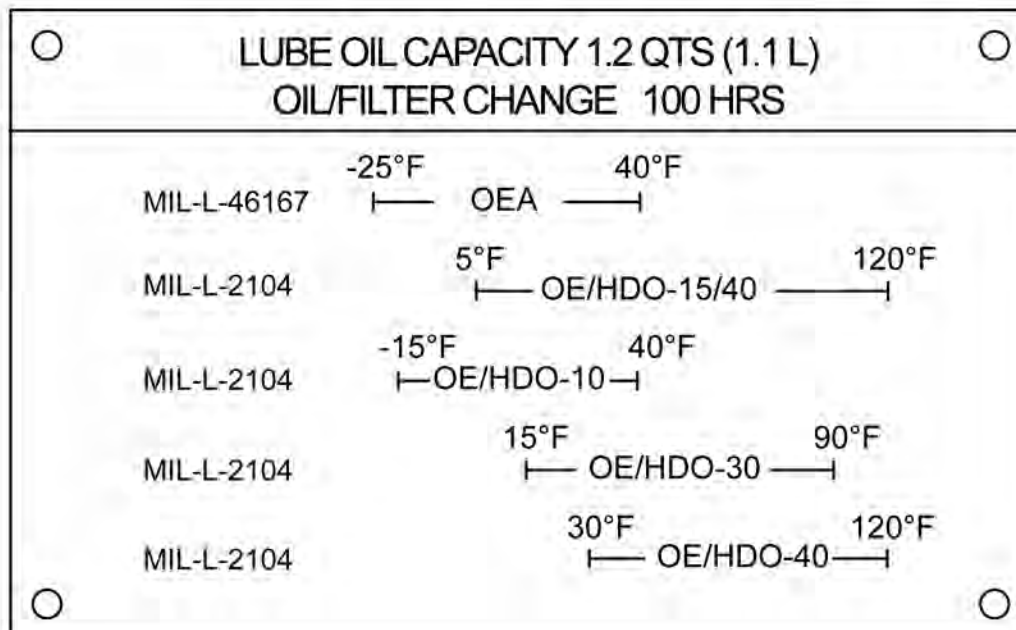
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Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 3 of 7).

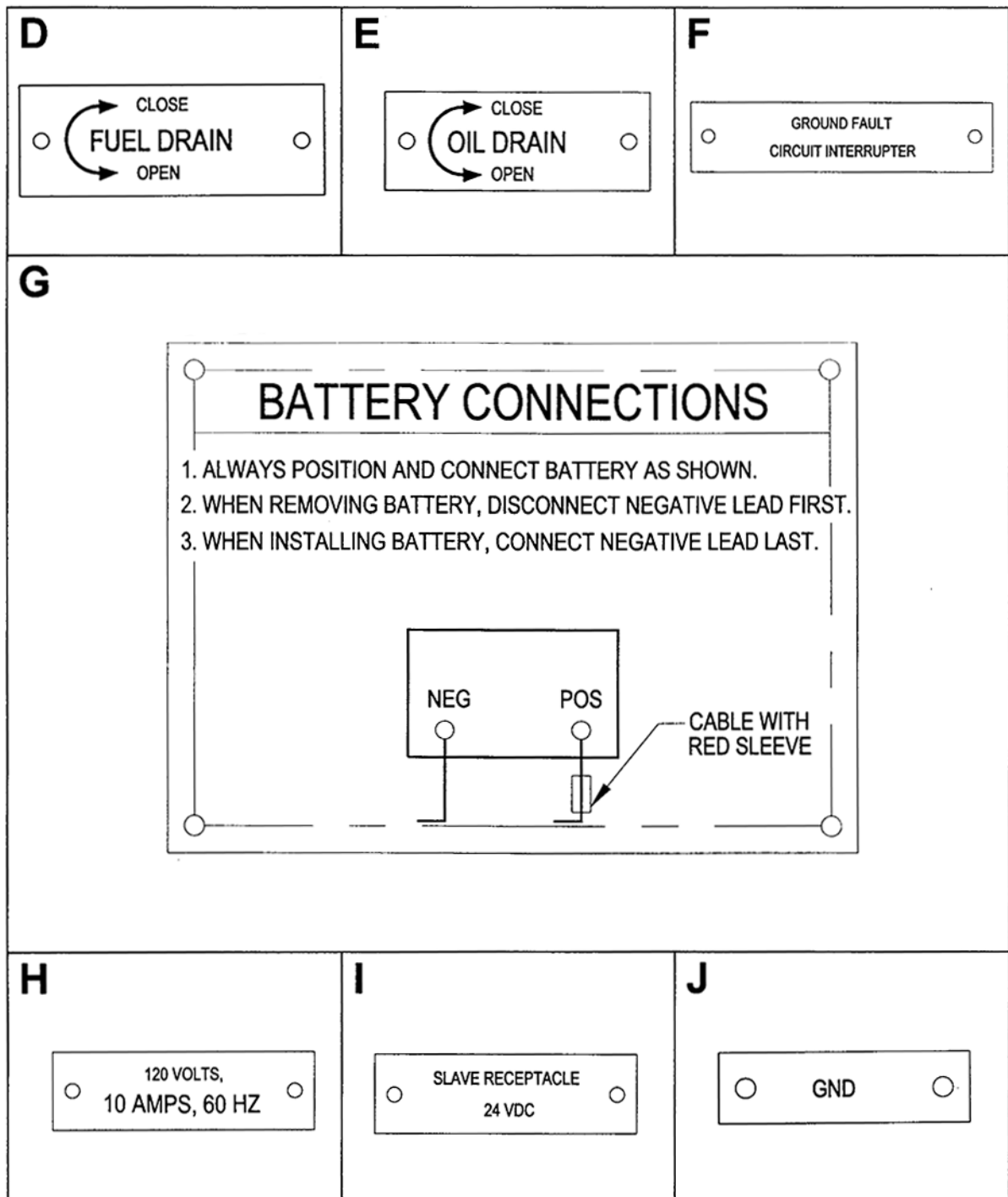


Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 4 of 7).

K

KILOWATT CAPACITY		
KW	ALTITUDE	TEMP
3.0	1000 FEET (718.1 MM HG)	107°F (41.7°C)
2.7	4000 FEET (656.3 MM HG)	95° F (35°C)
2.3	8000 FEET (564.9 MM HG)	95°F (35°C)
HERTZ RATING		400
RATED VOLTAGES, CURRENT AND PHASES		120 V, 31 AMPS, 1 PH, 2 WIRE
		120/240 V, 16 AMPS, 1 PH, 3 WIRE
VOLTAGE ADJUSTMENT RANGES		114/126 V - 120 VOLT CONNECTION
		228/252 V - 120/240 VOLT CONNECTION
POWER FACTOR		0.8
TYPE 1, MODE II SIZE 3		

KILOWATT CAPACITY		
KW	ALTITUDE	TEMP
3.0	1000 FEET (718.1 MM HG)	107°F (41.7°C)
2.7	4000 FEET (656.3 MM HG)	95°F (35°C)
2.3	8000 FEET (564.9 MM HG)	95°F (35°C)
HERTZ RATING		60
RATED VOLTAGES, CURRENT AND PHASES		120 V, 31 AMPS, 1 PH, 2 WIRE
		120/240 V, 16 AMPS, 1 PH, 3 WIRE
VOLTAGE ADJUSTMENT RANGES		114/126 V - 120 VOLT CONNECTION
		228/252 V - 120/240 VOLT CONNECTION
POWER FACTOR		0.8
TYPE 1, MODE III SIZE 3		

Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 5 of 7).

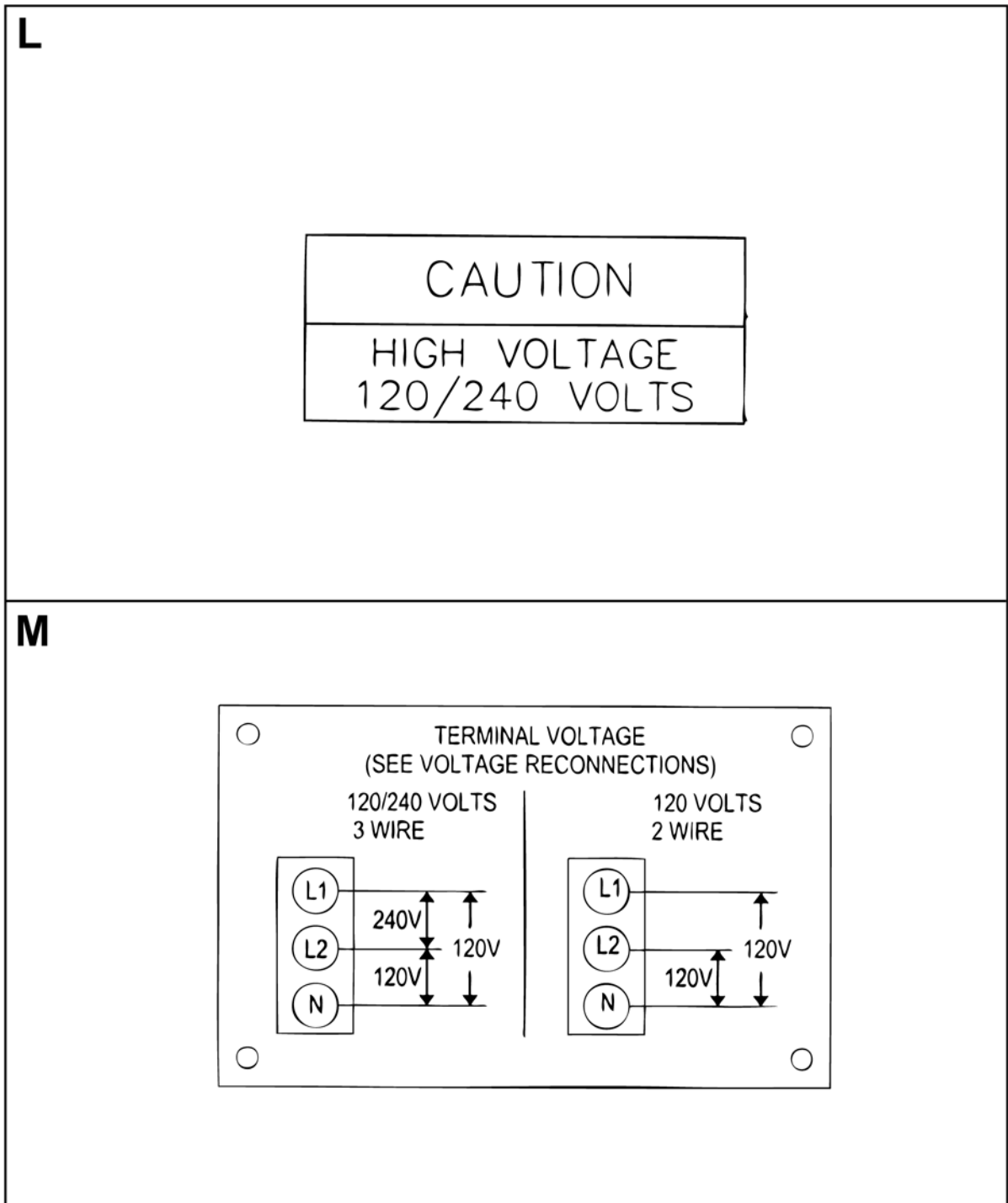


Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 6 of 7).

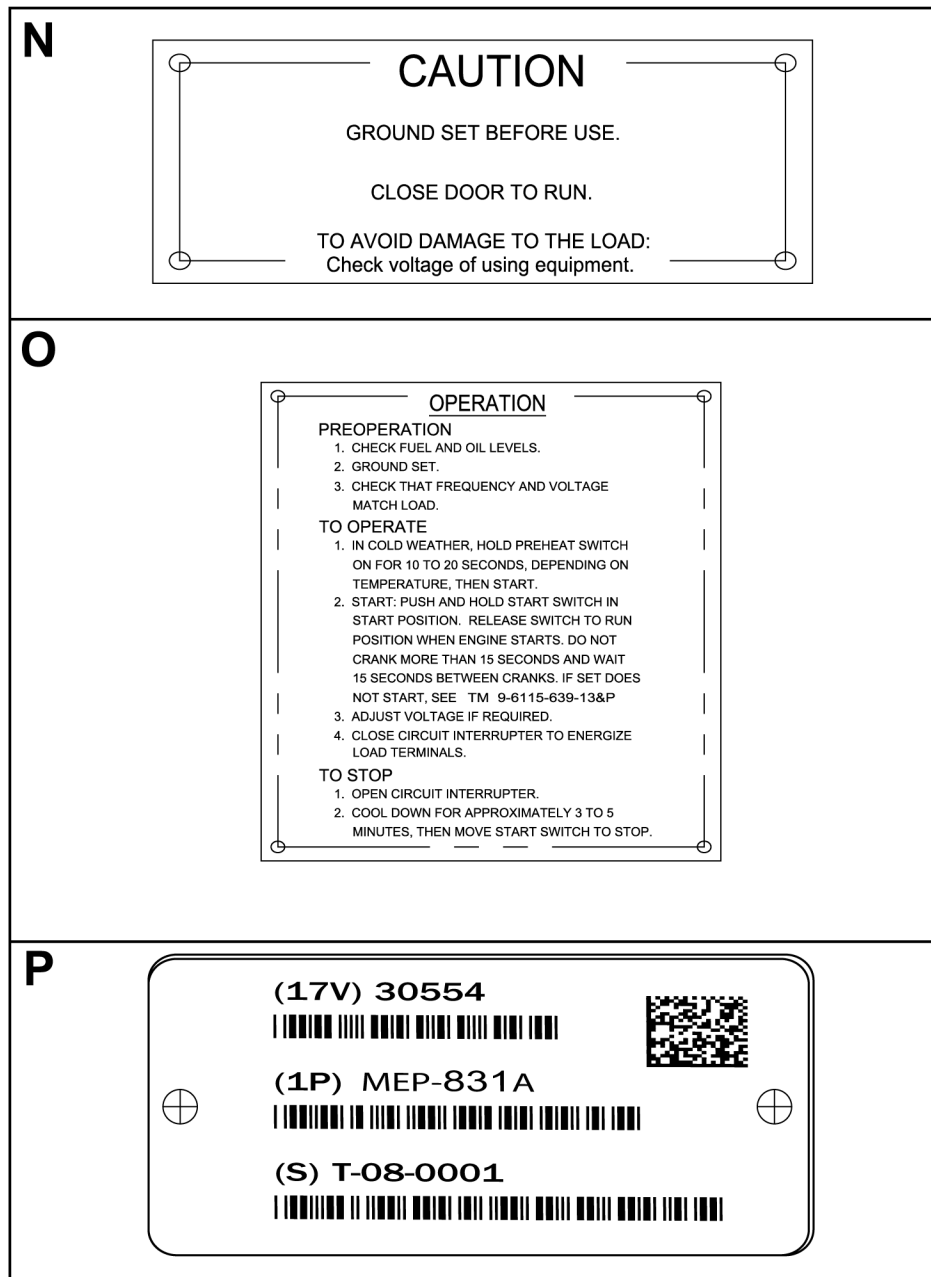


Figure 4. Generator Set Data, Instruction, and Warning Plates (Sheet 7 of 7).

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****THEORY OF OPERATION**

THEORY OF OPERATION

The theory behind the operation of the generator set is described in the following paragraphs. Each component depends on the other for efficient operation of the generator set. The information contained herein will assist operator and field maintenance personnel in understanding how the generator set functions. This knowledge will help isolate components that have failed.

ELECTRICAL SYSTEM

The generator set has two electrical systems: direct current (DC) and alternating current (AC) (Figure FO-1). The DC system provides generator control circuitry, relay logic, and engine ranking. The AC system produces voltage for output application. Five test points (on terminal board TB3) (See FO-2) provide malfunction isolation for critical components of the generator set.

DIRECT CURRENT SYSTEM (Figure FO-1)

- a. The DC system (Figure FO-1) is powered by a 24 VDC battery (BT1). The battery is charged by the battery charging regulator (A9) when the engine is running. Engine cranking is initiated by placing the START/RUN/STOP switch (S1), located on the control panel, in the START position. This signals the engine start contactor (K2) to actuate the engine start solenoid (L4) and energize the starter motor (B1).

NOTE

When starting the set, if switch (S1) is not held in the START position long enough (at least two seconds) the DC control circuitry will not activate and the engine can only be shut down manually. This is done by lifting the main cover and pressing down the governor actuator lever until you hear the engine completely shutdown.

- b. With the START/RUN/STOP switch (S1) in the START or RUN position, the engine fuel transfer pump (E2) is energized, allowing fuel to be pumped to the engine high pressure pump. Placing the START/RUN/STOP switch in the RUN position de-energizes the starter motor (B1). Placing the START/RUN/STOP switch in the STOP position opens the circuit to the engine fuel transfer pump (E2) and the governor control (A5), stopping fuel flow to the engine. DC voltage is removed from the AC circuit interrupter coil, causing the contactor to open.
- c. Pressing the EMERGENCY STOP button (S19), located on the control panel, opens the AC circuit interrupter (K1) and disconnects power to the governor control (A5). This causes the generator set to shut down.
- d. The generator set is equipped with an engine preheat system to help in cold-weather operation, below +20 °F (-6.6 °C). Prior to starting the engine the preheat mode may be actuated by placing the PREHEAT switch (S18), located on the control panel, in the ON position. This signals the engine preheat contactor (K13) to energize the air heaters (H1 and H2). The air heater heats intake air, which, in turn, assists in igniting fuel when injected into the engine combustion chamber.
- e. Should engine oil temperature exceed normal maximum operating temperature (+248 °F) (120 °C), a heatsensitive temperature switch (HT) closes the circuit to energize the fault lockout relay (K12) and shut down the engine. The ENGINE HIGH TEMP indicator on the malfunction indicator module (A2) illuminates. The fault lockout relay (K12) locks out power to the engine until the FAULT RESET/LAMP TEST button on A2 is depressed while the START/RUN/STOP switch is in the RUN position. If the oil temperature has not decreased below normal maximum, the fault can not be reset. This safety mechanism prevents the operator from using the generator set until the malfunction has been corrected.

- f. Should engine oil pressure drop below 15 psi, a low oil pressure switch (OP) closes the circuit to energize the fault lockout relay (K12) and shut down the engine. The LOW OIL PRESS indicator on the malfunction indicator module (A2) illuminates. The fault lockout relay (K12) locks out power to the engine until the FAULT RESET/LAMP TEST button on A2 is depressed while the START/RUN/STOP switch is in the RUN position. The set can then be re-started. Alternatively, the system can be reset by placing the START/RUN/STOP switch in the STOP position.
- g. Relay K8, located in the frequency converter (A8), is energized if an overload condition exists. The overload condition may be either a current overload or a real power (kW) overload. The AC circuit interrupter (K1) opens, disconnecting power from the load. The OVERLOAD SHORT CIRCUIT indicator on the malfunction indicator module (A2) illuminates. Once the malfunction has been corrected, the malfunction indicator can be reset by depressing the FAULT RESET/LAMP TEST button while the START/RUN/STOP switch is in the RUN position. The AC circuit interrupter (K1) can then be re-closed.
- h. Relay K6, located in the frequency converter (A8), is energized if a short circuit condition exists. The fault lockout relay (K12) is energized, stopping the engine. The AC circuit interrupter (K1) opens, disconnecting power from the load. The OVERLOAD SHORT CIRCUIT indicator on the malfunction indicator module (A2) illuminates. The fault lockout relay (K12) locks out power to the engine until the FAULT RESET/LAMP TEST button on A2 is depressed while the START/RUN/STOP switch is in the RUN position. The set can then be re-started. Alternatively, the system can be reset by placing the START/RUN/STOP switch in the STOP position.
- i. Relay K3, located in the frequency converter (A8), is energized if an overvoltage condition exists. The fault lockout relay (K12) is energized, stopping the engine. The AC circuit interrupter (K1) opens, disconnecting power from the load. The OVER VOLTAGE indicator on the malfunction indicator module (A2) illuminates. The fault lockout relay (K12) locks out power to the engine until the FAULT RESET/LAMP TEST button on A2 is depressed while the START/RUN/STOP switch is in the RUN position. The set can then be re-started. Alternatively, the system can be reset by placing the START/RUN/STOP switch in the STOP position.
- j. In an emergency situation, the BATTLE SHORT switch (S7) can be activated to allow generator set operation under certain fault conditions. The set cannot be started with the BATTLE SHORT switch in the ON position. Once the set is running, placing the switch (located on the control panel) in the ON position bypasses all faults except the overload short circuit condition. The BATTLE SHORT indicator on the malfunction indicator module (A2) illuminates. The generator set continues to operate under high temperature, low oil pressure, low fuel, or overvoltage conditions. The appropriate indicator light on A2 illuminates if a fault condition occurs.
- k. In generator set model MEP-832A (400 Hz), two thermostatically controlled DC ventilation fans (B2 and B3) are mounted in the generator set. One is mounted on the inside portion of the main access cover and the second is mounted inside the generator set by the right-side panel. These fans provide internal cooling of the generator set under high temperature operating conditions. The fan temperature switches (S20 and S21) (see FO-1, Sheet 2) are set to turn ON fan B2 when internal air temperature reaches 85 °F (29 °C) and fan B3 when internal air temperature reaches 110 °F (43 °C).

ALTERNATING CURRENT SYSTEM (Figure FO-1)

- a. The power for the AC electrical system (Figure FO-1) is provided by the Permanent Magnet Alternator (PMA) (G1). The frequency converter (A8) converts this AC power electronically to 120/240 V, 60 Hz or 400 Hz power.

NOTE

The frequency converter (A8) is not waterproof. Water in the A8 can cause it to short out, thereby creating a catastrophic failure.

- b. In generator set model MEP-831A (60 Hz), a common 15 amp duplex convenience receptacle (J1) provides up to 10 amps of power for common 120 VAC appliance or tool loads. CB3 provides both a 10 amp limitation and Ground Fault Circuit Interrupter protection for the convenience receptacle circuitry and the connected appliance.

NOTE

If a ground fault occurs the set output voltage will be greatly reduced. CB3 must be reset to restore normal operation.

- c. Once the generator set reaches normal operating voltage (114 to 126 V for 120 V connection, 228 to 252 V for 240 V connection), the CIRCUIT INTERRUPTER switch (S5), located on the control panel, is placed in the CLOSED position. The AC circuit interrupter (K1) closes, applying frequency converter (A8) output voltage to the output terminal board (TB2, terminals L1, L2, and N). Placing the CIRCUIT INTERRUPTER switch (S5) in the OPEN position opens the AC circuit interrupter, removing frequency converter (A8) output voltage from the output terminals.
- d. Voltage adjustment is accomplished using the VOLTAGE ADJUST potentiometer (R1), located on the control panel. Output from the frequency converter (A8) is displayed on a LOAD meter (M2) and a VOLTAGE meter (M1). Both meters are located on the control panel.
- e. In generator set model MEP-831A (60 Hz), two thermostatically controlled AC ventilation fans (B2 and B3) are mounted in the generator set main access cover. These fans provide internal cooling of the generator set under high temperature operating conditions. The fan temperature switches (S20 and S21) are set to turn on fan B2 when internal air temperature reaches 85 °F (29 °C) and fan B3 when internal air temperature reaches 110 °F (43 °C).

GENERATOR (Figure FO-1)

- a. The AC generator (G1) (see Figure FO-1) is a direct-coupled Permanent Magnet Alternator (PMA). The rotor and fan are dynamically balanced at all speeds up to 125 percent rated speed to minimize vibration. The windings and coils in the stator assembly use Class H insulating material. Temperature rise of the windings is limited to a change of 221 °F (105 °C) (maximum).
- b. The generator produces voltage by rotating permanent magnets in the rotor past a stator winding. The magnetized poles of the rotor have alternate north and south polarity. The magnetic flux lines leave each north pole of the rotor, pass through the stator, and return to the adjacent south poles of the rotating field.

NOTE

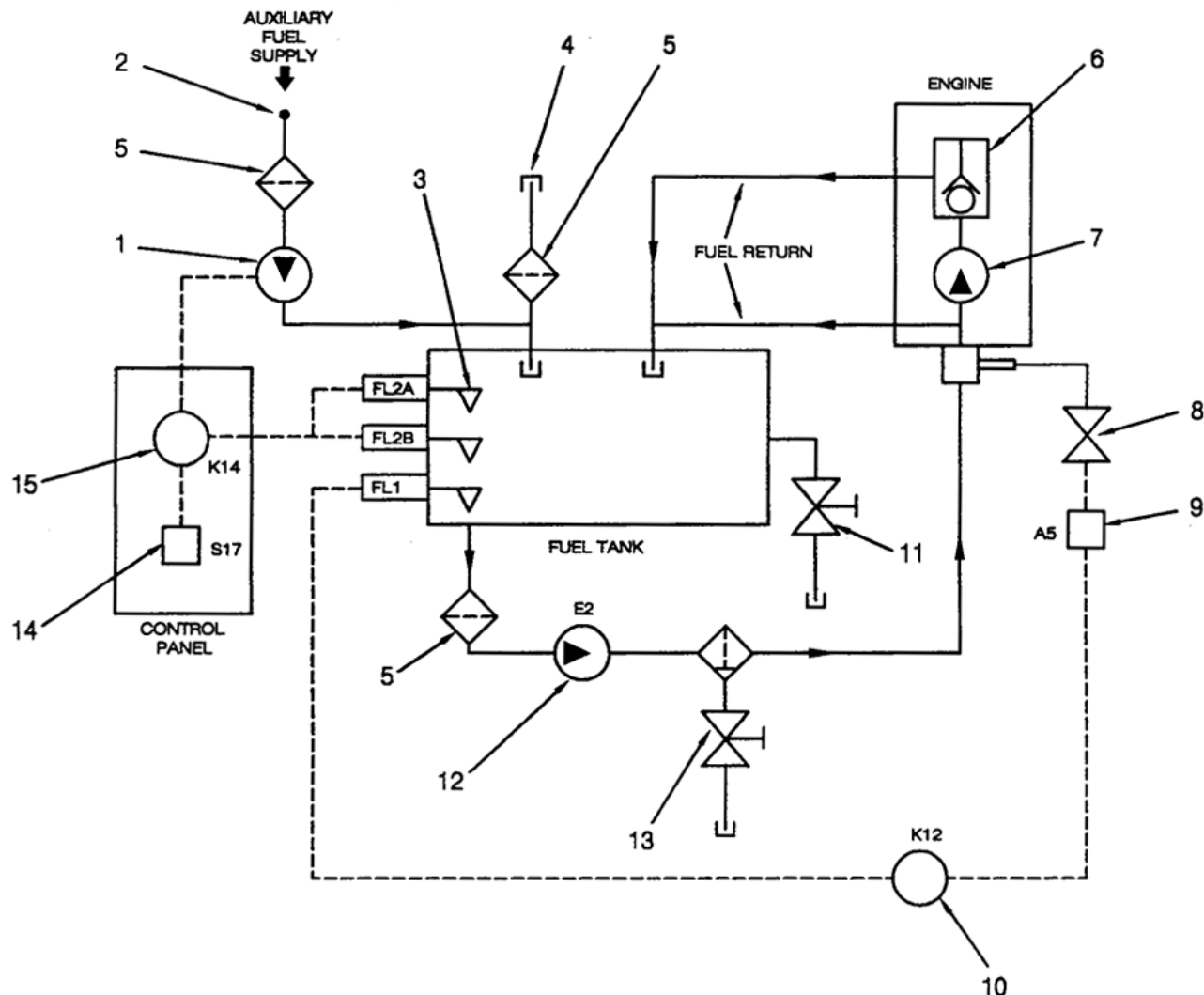
The frequency converter (A8) converts generator output to a 120/240 V, 60 Hz or 400 Hz output, regardless of engine speed. The electric governor varies the engine speed in proportion to the kW load on the generator set.

- c. As the rotor turns, voltage is induced in the stator windings. The stator voltage output is connected to the static frequency converter (A8). Voltage output can be varied using the VOLTAGE ADJUST rheostat (R1). Frequency output is not adjustable.

FUEL SYSTEM (Figure 1)

- a. The generator set fuel system (Figure 1) consists of a 4.0 gallon (15.1 liter) fuel supply tank, fuel transfer pumps, fuel filter/water separator, auxiliary fuel intake system, and engine fuel components. The fuel tank is sized to contain enough fuel to operate the generator set for 8 hours at full load using any of the specified fuels (See WP 0010, Table 1). The tank is connected to a fuel fill pocket, which contains a vented fill cap (4), a fuel filler neck, and a fuel strainer (5). A tank drain valve (11) is located at the base of the tank.
- b. The engine fuel supply line passes fuel from the fuel tank, through a fuel filter/water separator (13), a primary fuel transfer pump (12), and a fuel injection pump (7), into the fuel injector (6). The fuel filter/water separator removes micro-particles and separates water from the fuel flow. Water collects in the filter/water separator bowl where it can be drained.
- c. The generator set fuel system is equipped with two fuel transfer pumps: primary (12) and auxiliary (1). The primary fuel transfer pump (12) feeds fuel from the fuel tank to the engine injection system. When the START/RUN/STOP switch (S1) (see Figure FO-1) is placed in the START or RUN position, the primary fuel transfer pump is energized. Fuel flows to the fuel injection pump (Figure 1, Item 7). The pump provides the pressurized fuel to operate the fuel injector (6).
- d. For generator set operation from an auxiliary fuel source, the auxiliary fuel hose is connected to the set at the auxiliary fuel connection (2). The AUX FUEL switch (14, located on the control panel) is placed in the ON position. A three-position float switch (3) monitors tank fuel level and controls auxiliary fuel system components. If fuel is below the float switch (FL2B), the auxiliary fuel transfer relay (15) energizes and activates the auxiliary fuel pump (1). The auxiliary fuel pump begins operation and draws fuel from the auxiliary source until the fuel level in the tank rises above the float switch (FL2A). Once the fuel level rises above the float switch (FL2A), the switch opens and de-energizes the auxiliary fuel transfer relay (15). The level monitoring/servicing cycle continues until the AUX FUEL switch (14) is placed in the OFF position.

- e. If at any time during operation the tank fuel level drops below the float switch (FL1), the fault lockout relay (10) opens and de-energizes the governor control (9) and governor actuator (8), cutting off fuel to the engine. This prevents the fuel system from running dry, causing loss of prime in the fuel injection pump (7). The NO FUEL indicator on the fault isolation module illuminates, and the generator set immediately shuts down. Once the fault lockout relay (10) has been actuated, the engine does not run until the FAULT RESET button on the malfunction indicator module has been depressed.
- f. If the fuel level drops below the float switch (FL2B) and an auxiliary fuel source is not available, the generator set continues to operate for 3 to 4 hours before the float switch (FL1) is actuated and shutdown occurs.

**LEGEND**

- | | | | |
|---|---------------------------|----|-------------------------------|
| 1 | Auxiliary Fuel Pump | 9 | Governor Control |
| 2 | Auxiliary Fuel Connection | 10 | Fault Lockout Relay |
| 3 | Float Switch | 11 | Tank Drain Valve |
| 4 | Fill Cap | 12 | Primary Fuel Transfer Pump |
| 5 | Fuel Strainer | 13 | Fuel Filter/Water Separator |
| 6 | Fuel Injector | 14 | AUX FUEL Switch |
| 7 | Injection Pump | 15 | Auxiliary Fuel Transfer Relay |
| 8 | Governor Actuator | | |

Figure 1. Fuel System Schematic.**END OF WORK PACKAGE**

CHAPTER 2

OPERATOR INSTRUCTIONS

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 2
OPERATOR INSTRUCTIONS

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
Description and Use of Operator Controls and Indicators	0004
Operation Under Usual Conditions.....	0005
Operation Under Unusual Conditions.....	0006

OPERATOR MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS

OPERATOR CONTROLS AND INDICATORS

Prior to placing the generator set into operation, personnel must be familiar with the location and function of all switches, controls, and indicators, as described below and identified in Figure 1. See generator set electrical schematic, Figure FO-1, for reference designations.

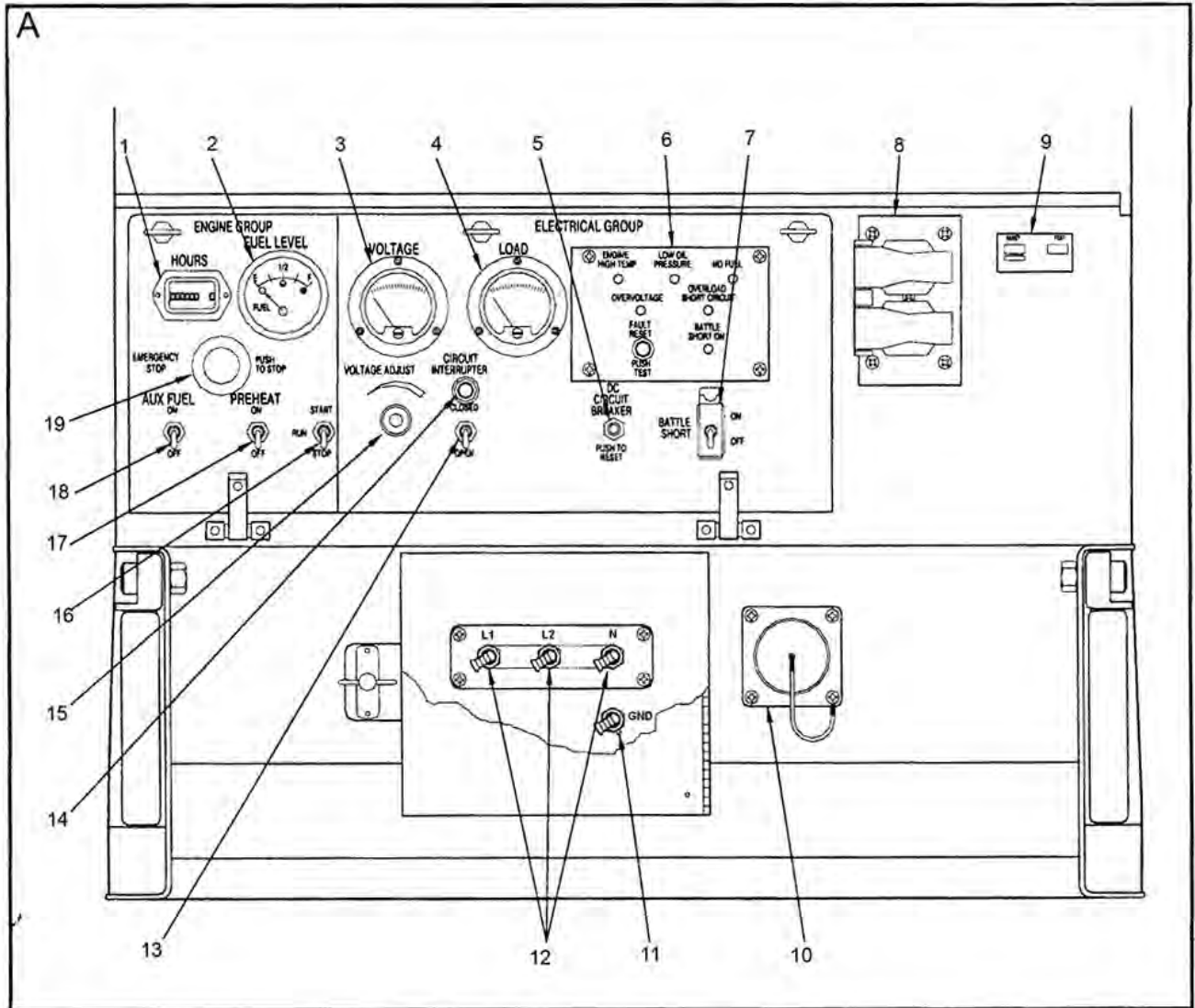


Figure 1. Generator Set Controls and Indicators (Sheet 1 of 4).

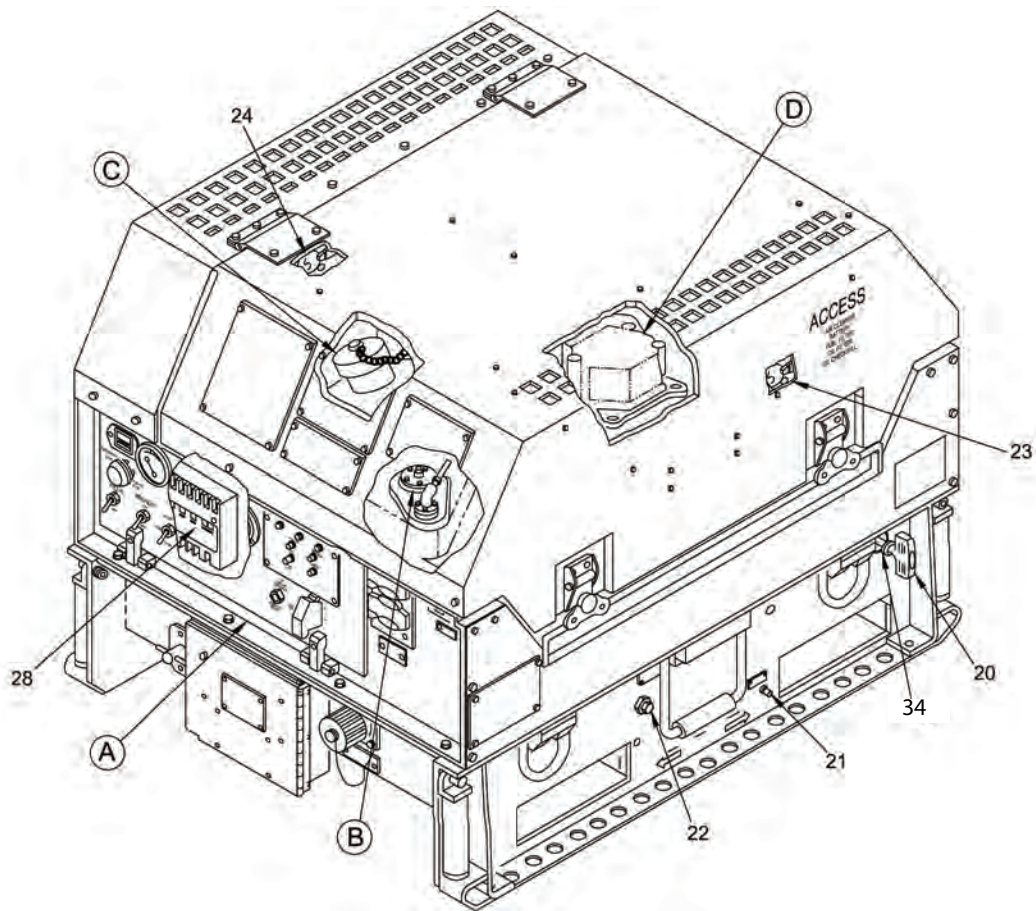


Figure 1. Generator Set Controls and Indicators (Sheet 2 of 4).

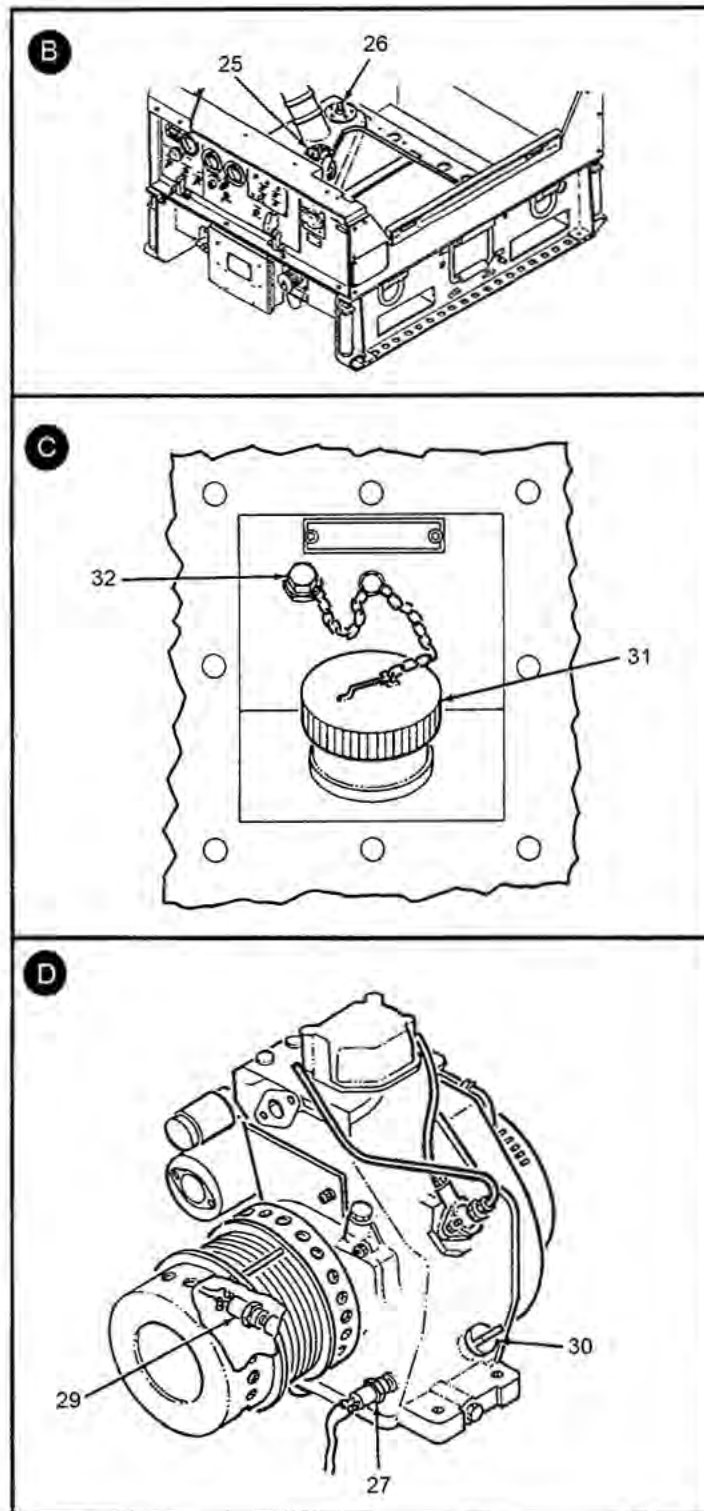


Figure 1. Generator Set Controls and Indicators (Sheet 3 of 4).

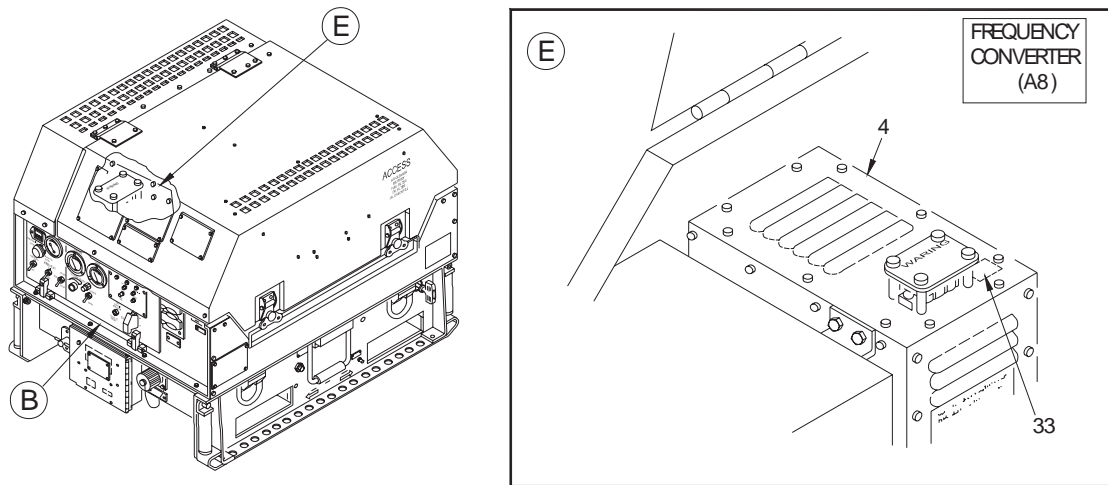


Figure 1. Generator Set Controls and Indicators (Sheet 4 of 4).

Table 1. Operators Controls and Indicators Table.

Key	Control/Indicator	Function
1.	HOURS Meter (M3)	Indicates hours of generator set operation.
2.	FUEL LEVEL Meter (M5)	Indicates amount of fuel remaining in generator set fuel tank.
3.	VOLTAGE Meter (M1)	Indicates generator set output voltage.
4.	LOAD Meter (M2)	Indicates generator load in kilowatts.
5.	DC CIRCUIT BREAKER Switch (CB1)	Trips to stop generator set operation in case of electrical surge in DC control system. Push to reset breaker.
6.	Fault Indicator Module (A2)	Contains lights that indicate generator set operating conditions. Includes the following indicator lights: <ul style="list-style-type: none"> • ENGINE HIGH TEMP fault (red) • LOW OIL PRESSURE fault (red) • NO FUEL fault (red) • OVERVOLTAGE fault (red) • OVERLOAD SHORT CIRCUIT fault (red) • BATTLE SHORT ON operation (yellow) Dual-purpose FAULT RESET/PUSH TEST push-button switch allows operator to test indicator lights before operation and reset fault isolation module after fault has been remedied.
7.	BATTLE SHORT Switch (S7)	Two-position switch that allows generator set operation under certain fault conditions. <ul style="list-style-type: none"> • ON position bypasses all faults except short circuit conditions. • BATTLE SHORT indicator on fault indicator module (A2) (see Item 6) will light when switch is in ON position. • OFF position returns generator set to normal operating mode, allowing faults to halt generator set operation.
8.	Convenience Receptacle (J1) (60 Hz only)	Single-phase duplex receptacle that allows 120 VAC appliance or tool connection.
9.	GROUND FAULT CIRCUIT INTERRUPTER (GFCI) (CB3) (60 Hz only)	Provides automatic circuit interruption and circuit protection for the convenience receptacle (J1).
10.	NATO SLAVE RECEPTACLE (SR1)	Allows for 24 VDC auxiliary power connection for starting generator set.
11.	GND Terminal	Generator set ground terminal.
12.	L1, L2, N Terminals	Generator set alternating current (L1, L2) and neutral (N) terminals.
13.	CIRCUIT INTERRUPTER Switch (S5)	Two-position switch that applies generator voltage to the output terminal board. <ul style="list-style-type: none"> • CLOSED position signals AC circuit interrupter (K1) to close, applying voltage to the terminal board. • OPEN position opens AC circuit interrupter (K1), terminating current to the load.
14.	AC CIRCUIT INTERRUPTER Indicator (DS6)	Lights when CIRCUIT INTERRUPTER switch (S5) is in CLOSED position, indicating load is being applied to terminal board.
15.	VOLTAGE ADJUST Potentiometer (R1)	Allows operator to adjust generator set output voltage.

Table 1. Operators Controls and Indicators Table. - Continued

Key	Control/Indicator	Function
16.	START/RUN/STOP Switch (S1)	Three-position switch that controls generator set operation. <ul style="list-style-type: none"> START position is spring-loaded and activates engine starter (B1). Must be held in position. RUN position cuts electrical power to starter and energizes all circuits required for normal operation. STOP position opens circuit to engine fuel transfer pump (E2) and governor control (A5). Fuel flow to engine stops and generator set shuts down.
17.	PREHEAT Switch (S18)	Two-position switch that controls engine preheat system. <ul style="list-style-type: none"> ON position sends a signal to engine preheat contactor (K13) to energize engine air heater. Used during cold weather operation. OFF position de-energizes engine air heater, halting engine preheat operations.
18.	AUX FUEL Switch (S17)	A two-position switch, located on control panel assembly, that allows generator set to operate using an auxiliary fuel source. <ul style="list-style-type: none"> ON position allows a three-position fuel level switch (FL), mounted in the generator set fuel tank, to regulate auxiliary fuel flow into the fuel tank. See Item 25 for details. OFF position de-energizes auxiliary fuel circuit, preventing auxiliary fuel pump (E1) from operating.
19.	EMERGENCY STOP button (S19)	A push-button switch that opens AC circuit interrupter (K1) and disconnects power to governor control (A5), which causes generator set to shut down. For emergencies only.
20.	Engine Start Handle	Allows for manual start of generator set engine. Activates engine's recoil starter assembly.
21.	Fuel Drain Plug	Allows personnel to drain generator set fuel tank. Connected to a fuel drain line.
22.	Engine Oil Drain Plug	Allows personnel to drain engine oil sump. Connected to an oil drain line.
23.	Temperature Switch (S21)	Monitors temperature inside generator set enclosure. Activates ventilation fan (B3) when temperature reaches 110 °F (43 °C).
24.	Temperature Switch (S20)	Monitors temperature inside generator set enclosure. Activates ventilation fan (B2) when temperature reaches 85 °F (29 °C).
25.	Fuel Level Switch (FL)	Three-position float switch that monitors fuel level in generator set fuel tank. Controls auxiliary fuel transfer relay (K14) when AUX FUEL switch (see Item 18) is in ON position. When fuel level is below switch (FL2B), auxiliary fuel transfer relay (K14) energizes and activates auxiliary fuel pump (E1) to begin fuel pumping. When fuel level rises above switch (FL2A), transfer relay opens, deactivating pump. If fuel drops below switch (FL1), fault lockout relay (K12) opens and de-energizes governor control (A5) (See Item 28), cutting off fuel to engine. The NO FUEL indicator on fault indicator module (A2) will light (see Item 6).
26.	Fuel Level Sender (MT5)	Sends generator set fuel tank level data to FUEL LEVEL meter (M5) (see Item 2).

Table 1. Operators Controls and Indicators Table. - Continued

Key	Control/Indicator	Function
27.	Low Oil Pressure Switch (OP)	Monitors engine oil pressure. If oil pressure drops below 15 psi, switch closes circuit to energize fault lockout relay (K12) and shut down engine. The LOW OIL PRESSURE indicator on fault indicator module (A2) will light (see Item 6).
28.	Governor Control (A5)	Controls engine's mechanical governor to adjust engine speed.
29.	Engine Temperature Switch (HT)	Monitors engine temperature. If engine temperature rises above 265 °F (129 °C), switch closes circuit to energize fault lockout relay (K12) and shut down engine. The ENGINE HIGH TEMP indicator on fault indicator module (A2) will light (see Item 6).
30.	Engine Oil Fill Cap and Gauge	Allows for engine oil servicing. Gauge in cap measures crankcase oil level.
31.	Fuel Fill Cap	Allows for generator set fuel servicing, using a fill tank or fuel nozzle. Includes a mesh fuel strainer.
32.	Auxiliary Fuel Cap	Allows for connection of an auxiliary fuel line.
33.	Voltage Selection Switch	Allows selection of 120 VAC or 120/240 VAC on MEP-831A sets. Located on top of Frequency Converter (A8).
34.	Feed-Through Hole for Recoil Winding Mechanism Pull Rope	Allows the Pull Rope to travel as it winds and unwinds when starting the Generator Set Manually.

END OF WORK PACKAGE

OPERATOR MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****OPERATION UNDER USUAL CONDITIONS**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1,
Item 6)
Ground (GND) Cable (WP 0124, Figure 32, Item 5)
GND Output Terminal (WP 0124, Figure 32, Item 5)
Coupling (WP 0124, Figure 32, Item 5)
Grounding Rod (WP 0124, Figure 32, Item 5)
Driving Stud (WP 0124, Figure 32, Item 5)
Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

References

WP 0002, Equipment Description and Data
WP 0004, Description and use of
Operator Controls and Indicators.
WP 0006, Operation Under Unusual Conditions
WP 0007, Operator Troubleshooting Index
WP 0010, Operator PMCS, Including Lubrication
Instructions
WP 0026, Battery Cables
WP 0138, References

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

ASSEMBLY AND PREPARATION FOR USE**WARNING**

Operation and maintenance of the 3 kW generator sets contains many possibilities for injury or death to personnel. Be sure to be familiar with general first aid procedures as referenced in FM 4-25.11, First Aid (WP 0138, References). Failure to comply may cause injury or death to personnel.

WARNING

To prevent injury to personnel and damage to equipment, use caution when lifting or moving generator set. Six people are required for manual lifting. Use lifting rings for lifting device and forklift openings for forklift only. Do not lift generator set over personnel. Failure to observe this warning could result in severe personal injury or death.

WARNING

If damaged or defective components are discovered, repair must be performed before operations can begin. Perform required repairs and adjustments before proceeding. Do not operate the generator set with damaged components. Personal injury can occur if damaged parts are left unfixed. Failure to observe this warning could result in severe personal injury or death.

NOTE

Prior to placing generator set into service, operating personnel must be familiar with the location and function of all switches, controls, and indicators. See WP 0004, Operator Controls and Indicators and Figure 1 before continuing with the following procedures.

1. Using a 500-pound capacity hoist or similar lifting device, remove generator set from its shipping container. Place on a suitable work surface.
2. Remove packing material from generator set.
3. Inspect generator set for damage incurred during shipping. If equipment has been damaged, report damage in accordance with DA PAM 750-8.
4. Check generator set against packing slip to ensure shipment is complete. Report all discrepancies in accordance with the instructions of DA PAM 750-8.
5. Check all tags and forms accompanying generator set for special instructions. Do not remove any forms or tags until generator set is installed and ready for operation. When generator set is installed, remove forms and tags and forward to Quality Control (QC) section office.

END OF TASK

GROUNDING THE GENERATOR SET

WARNING

High voltage is produced when generator set is in operation. Never attempt to start the generator set unless it is properly grounded. Do not ground yourself in standing water. Never attempt to connect or disconnect load cables while the generator set is running. Failure to comply may cause injury or death to personnel.

WARNING

Metal jewelry can conduct electricity and become entangled in generator set components. Remove all jewelry and do not wear loose clothing when working on equipment. Failure to comply may cause injury or death to personnel.

1. Connect ground rod and cable as follows:
 - a. Open output load terminal cover. Insert ground cable (Figure 2, Item 1) through slot on generator set GND output terminal (2). Using load terminal wrench, tighten terminal nut.
 - b. Connect coupling (3) to ground rod (4), and screw driving stud (5) into coupling. Make sure driving stud seats on ground rod.

NOTE

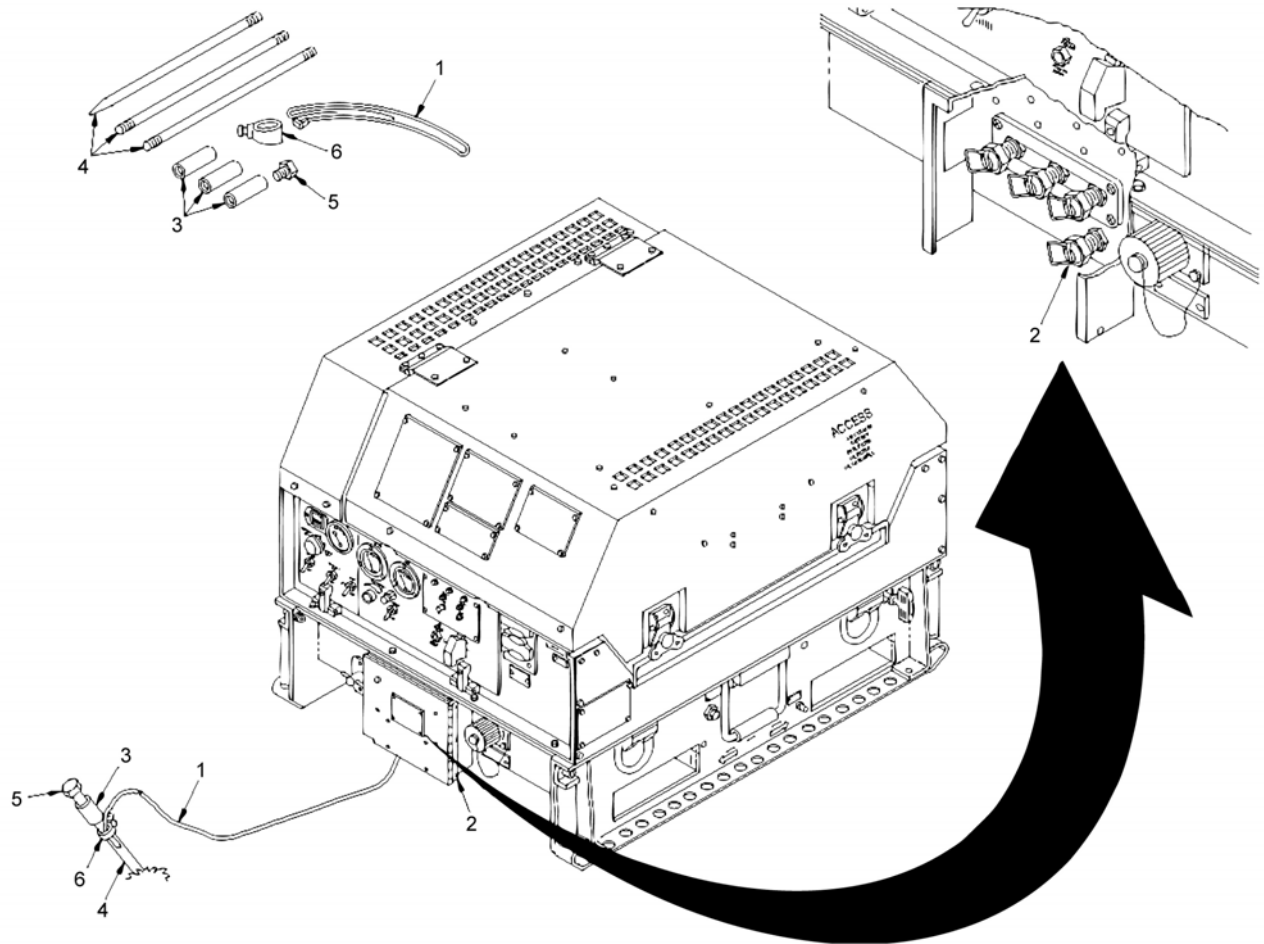
For ease of removal, install ground rod at a 45° angle.

- c. Drive ground rod (4) into ground on a 45° angle until coupling (3) is just above ground surface.
- d. Remove driving stud (5) and install another section of ground rod (4). Install another coupling (3) and driving stud (5).
- e. Drive ground rod (4) down until new coupling (3) is just above ground surface.
- f. Repeat Steps d and e, above, until ground rod has been driven 8 feet or deeper, providing an effective ground.
- g. Connect clamp (6) and ground cable (1) to ground rod (4). Tighten clamp screw securely to prevent movement.

END OF TASK

BATTERY

1. Install battery. If required, see WP 0026. Ensure battery cables are properly connected.

**LEGEND**

- 1 Ground Cable
- 2 GND Output Terminal
- 3 Coupling
- 4 Ground Rod
- 5 Driving Stud
- 6 Clamp

Figure 1. Ground Rod and Cable Installation.**WARNING**

If battery is not installed, battery cable ends must be isolated from each other, and positive end must be isolated from ground. Failure to isolate battery cable ends could result in severe electrical discharge. When not connected to battery, connect battery cable ends to plastic storage stud. Failure to observe this warning could result in severe personal injury or death.

2. If auxiliary power is required, connect auxiliary power cable to NATO SLAVE RECEPTACLE (Figure 2, Item 6).

NOTE

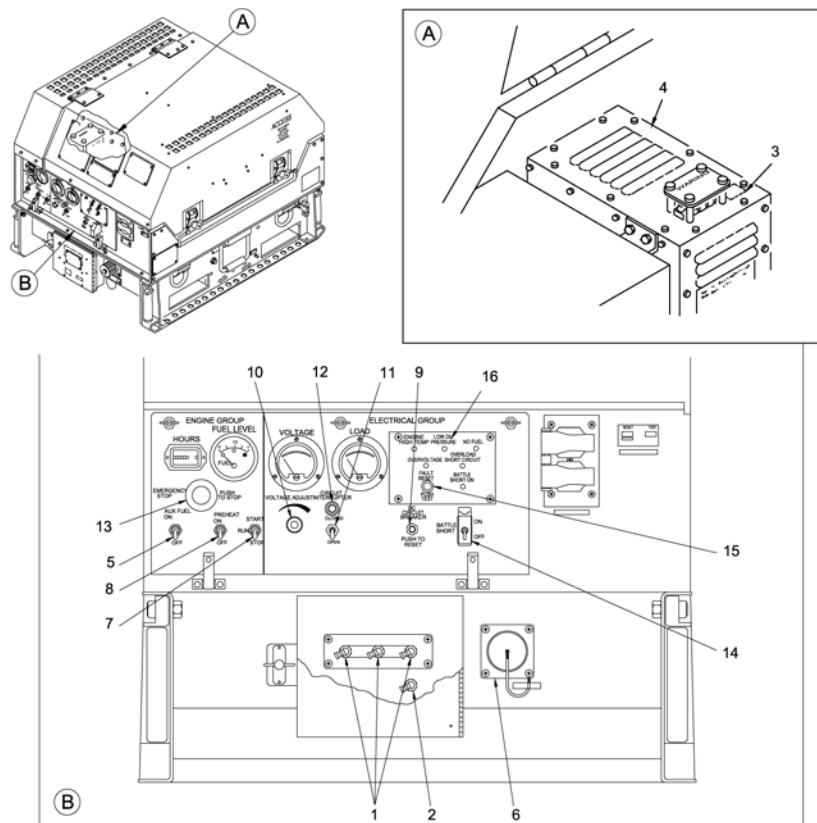
If auxiliary fuel source is used, perform procedure outlined in Step 4.

3. Fill fuel tank, as described in the steps below:

WARNING

Fuel used in this generator set is combustible and toxic to skin, eyes, and respiratory tract. Avoid repeated or prolonged contact. Handle only in a well-ventilated area. Keep away from sparks, open flames, or other sources of ignition. Do not splash fuel on hot components. Do not fuel generator set while it is operating. Do not overfill the tank. Ensure generator set is properly grounded before fueling. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in personal injury and equipment damage due to potential fuel ignition and possible explosion. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in severe personal injury or death.

- a. Remove fuel fill cap (WP 0004, Figure 1, Item 31) from fuel tank.
 - b. If generator set is to be refueled by a gas vehicle, fuel vehicle, or fuel-distribution vehicle, then connect a static ground line (provided with the fueling source) between generator set ground stud and fueling source.
 - c. Fill fuel tank with up to 4 gallons of diesel fuel.
 - d. Remove static ground line and install fuel fill cap (WP 0004, Figure 1, Item 31).
4. If auxiliary fuel source is to be used, connect as follows:
 - a. Remove auxiliary fuel cap (WP 0004, Figure 1, Item 32) from auxiliary fuel connection.
 - b. Connect auxiliary fuel line to auxiliary fuel connection. Ensure diesel fuel is used.

**LEGEND**

- | | |
|---------------------------------------|----------------------------------|
| 1 Load Terminals | 9 DC CIRCUIT BREAKER |
| 2 Ground Terminal | 10 VOLTAGE ADJUST potentiometer |
| 3 Voltage Selector Switch Access Door | 11 CIRCUIT INTERRUPTER Switch |
| 4 Frequency Converter (A8) | 12 CIRCUIT INTERRUPTER Indicator |
| 5 AUX FUEL Switch | 13 EMERGENCY STOP Button |
| 6 NATO Slave Receptacle | 14 BATTLE SHORT Switch |
| 7 START/RUN/STOP Switch | 15 FAULT PRESET/PUSH TEST Switch |
| 8 PREHEAT Switch | 16 LOW OIL PRESSURE Indicator |

Figure 2. Operating Procedures.**END OF TASK****FUEL**

1. If required, drain preservative oil from engine crankcase, in accordance with WP 0010, Lubrication Instructions.
2. Fill engine crankcase with oil, in accordance with WP 0010, Lubrication Instructions.

END OF TASK**INITIAL ADJUSTMENTS, DAILY CHECKS, AND SELF-TEST****Initial Adjustments**

No initial adjustments are required for operation of the generator set.

Daily Checks

Perform all operator PMCS, in accordance with WP 0010, Table 1.

Self-Test

To check the operational readiness of generator set protection devices and indicators, perform the following procedures:

WARNING

DC voltages are present at generator set electrical components even with the generator set shut down. Avoid shorting any positive terminal with ground or negative. If no DC voltage is required, always disconnect DC power source to the generator set before working on it. Failure to observe this warning could result in severe personal injury or death by electrocution.

WARNING

Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.

1. Ensure DC CIRCUIT BREAKER (Figure 3, Item 9) is pushed in.
2. Ensure EMERGENCY STOP button (13) is pulled out.
3. Place START/RUN/STOP switch (7) in RUN position. Low oil pressure light should illuminate.
4. Depress FAULT RESET/PUSH TEST button (15) on fault indicator module and CIRCUIT INTERRUPTER indicator (12) on control panel to check indicators. All indicator lights must illuminate. If CIRCUIT INTERRUPTER indicator does not illuminate, replace bulb. If any malfunction light does not illuminate, refer malfunction to field level maintenance.
5. Place START/RUN/STOP switch (7) in STOP position.
6. Repeat Steps 1 through 3, above, to verify malfunction was corrected.

END OF TASK

OPERATING PROCEDURES

WARNING

Make sure personnel are familiar with generator set before operating. Follow proper procedures. Failure to observe this warning could result in injury to personnel and damage to equipment.

WARNING

Exhaust discharge contains deadly gases, including carbon monoxide. Do not operate generator set in enclosed area unless exhaust discharge is properly vented outside. Position generator set as far away from personnel, shelters, and occupied vehicles as possible. Failure to observe this warning could result in severe personal injury or death due to carbon monoxide poisoning.

WARNING

Shut down generator set at first sign of failure. Continued operation could result in injury to personnel and will cause damage to equipment. If generator set is shut down by activation of a safety device, do not operate again until cause of shut down has been determined and eliminated. Failure to observe this warning could result in severe personal injury or death.

WARNING

With main access cover open, the noise level of the generator set when operating could cause hearing damage. Hearing protection must be worn when working near the generator set while it is running. Failure to observe this warning could result in severe personal injury or death.

WARNING

High voltage is produced when generator set is in operation. Never attempt to start the generator set unless it is properly grounded. Do not ground yourself in standing water. Never attempt to connect or disconnect load cables while the generator set is running. Failure to comply may cause injury or death to personnel.

WARNING

Metal jewelry could conduct electricity. Remove all metal jewelry and loose, dangling articles and clothing before working on generator set. Failure to observe this warning could result in severe personal injury or death from electric shock.

WARNING

Jewelry and other loose, dangling articles and clothing could be caught in moving parts. Remove jewelry and loose, dangling articles and clothing before working on generator set. Failure to observe this warning could result in severe personal injury or death.

1. Open output terminal cover to access load and ground terminals (Figure 2, Items 1 and 2). Connect load cables in accordance with TERMINAL VOLTAGE nameplate mounted on inside of cover (120/240 volts, 3-wire or 120 volts, 2-wire). Close terminal cover and lock.

CAUTION

Ensure Voltage Selector Switch setting matches load-cable voltage connections. Mismatch will cause damage to equipment.

2. Set Voltage Selector Switch to match load cable voltage connections as follows:
 - a. Unlock generator set main access cover latches and lift cover to open.
 - b. Locate Voltage Selector Switch access door (3) on top of Frequency Converter (A8) (4). Open access door and place Voltage Selector Switch in desired position (120/240 volts, 3-wire or 120 volts, 2-wire). Close and lock door.

NOTE

Voltage Selector Switch access door (3) must be closed securely or generator set will not produce power.

- c. Close generator set main access cover and lock using latches.
3. If auxiliary fuel source is connected, place the AUX FUEL switch (5) in ON position.
4. If auxiliary power is required, connect auxiliary power cable to NATO SLAVE RECEPTACLE (6).

WARNING

If battery is not installed, battery cable ends must be isolated from each other, and positive end must be isolated from ground. Failure to isolate battery cable ends could result in severe electrical discharge. Failure to observe this warning could result in severe personal injury or death.

5. If temperature is below +5 °F (-15 °C), see WP 0006.

CAUTION

Crank engine no longer than 15 seconds each time. Damage to starter motor can occur. Wait 15 seconds before attempting to crank again. If engine does not run after third attempt, see WP 0007, Table 1.

6. Ensure DC CIRCUIT BREAKER (9) is pushed in. Ensure EMERGENCY STOP button (13) is pulled out. Place START/RUN/STOP switch (7) in RUN position. Ensure LOW OIL PRESSURE indicator (16) is illuminated. Place START/RUN/STOP switch (7) in START position to crank engine. Switch is spring-loaded and must be held in place. Release switch to RUN position once engine starts and AC voltage is indicated, but no longer than 5 seconds after engine starts.
7. Adjust generator set voltage, as required, using VOLTAGE ADJUST potentiometer (10).
8. Place CIRCUIT INTERRUPTER switch (11) in CLOSED position. The CIRCUIT INTERRUPTER indicator (12) will illuminate when load is connected.

END OF TASK**GENERATOR SET SHUT DOWN**

1. Place CIRCUIT INTERRUPTER switch (Figure 2, Item 11) in OPEN position. The CIRCUIT INTERRUPTER indicator light (12) will go out when load is disconnected. Allow unit to run in this condition for approximately 3-5 minutes to cool down engine.
2. Place START/RUN/STOP switch (7) in STOP position to shut down generator set.
3. Pull out DC CIRCUIT BREAKER (9).

END OF TASK**EMERGENCY SHUT DOWN**

To stop generator set under emergency conditions, push EMERGENCY STOP button (Figure 2, Item 13). Place START/RUN/ STOP switch (7) in STOP position. The EMERGENCY STOP button is maintained in the STOP position and must be pulled out prior to restarting the generator set.

END OF TASK**OPERATION OF AUXILIARY EQUIPMENT**

See Fuel, for operation.

END OF TASK**OPERATING INSTRUCTIONS ON DECALS AND INSTRUCTION PLATES**

See WP 0002, Figure 4 for operating instruction plates, information plates, data plates, warning plates, and caution plates found on the generator set.

END OF TASK**END OF WORK PACKAGE**

OPERATOR MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

OPERATION UNDER UNUSUAL CONDITIONS

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Personnel Required

(1)

References

WP 0002, Equipment Description and Data
WP 0005, Operation Under Usual Conditions
WP 0007, Operator Troubleshooting Index
WP 0016, Field PMCS, Including Lubrication
Instructions

Equipment Condition

10 OHMS of Resistance AT Connector J10
Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

BATTLE SHORT OPERATION

WARNING

Generator battle short mode is for emergency operation only. Prolonged use under this mode could damage the generator set or pose potential shock hazard to personnel. Failure to observe this caution could cause severe damage to generator set.

1. If the generator set is malfunctioning, it can still operate. The BATTLE SHORT switch (WP 0005, Figure 2, Item 14) allows the generator set to override anticipated system fault shutdowns to maintain operation. The overload short circuit fault cannot be overridden.
2. To operate the generator set in battle short mode, place BATTLE SHORT switch (WP 0005, Figure 2, Item 14) in ON position while generator set is running.

END OF TASK

UNUSUAL ENVIRONMENT / WEATHER

1. The generator set is designed to operate within a temperature range of -25 to +120 °F (-32 to +49 °C). The set should not be operated in temperatures outside this range.
2. If temperature is below +5 °F (-15 °C), activate engine preheat system as follows:
 - a. Ensure DC CIRCUIT BREAKER (WP 0005, Figure 2, Item 9) is pushed in. Ensure EMERGENCY STOP button (13) is pulled out. Place START/RUN/STOP switch (7) in RUN position.
 - b. Place PREHEAT switch (8) in ON position. Hold for 30 seconds if temperature is below +5 °F (-15 °C).
 - c. Continue to hold PREHEAT switch (8) in ON position while cranking engine (Step d). Release PREHEAT switch once engine has started and has reached operating speed.
 - d. If operating in very dusty or hot conditions, perform PMCS more frequently (see WP 0016, Table 1).
 - e. In dusty and dry environments, change air filter and oil sooner than is recommended in lubrication instructions.

CAUTION

Crank engine no longer than 15 seconds each time. Damage to starter motor can occur. Wait 15 seconds before attempting to crank again. If engine does not run after third attempt, see WP 0007, Table 1.

- f. Place START/RUN/STOP switch (7) in START position to crank engine. Switch is spring loaded and must be held in place. Release switch to RUN position once engine starts.
3. Altitude also plays a role in the performance of the generator set. See the KILOWATT CAPACITY plate (WP 0002, Figure 4) for generator set load derating.
4. The generator set performs in heavy rain or snow; however, the gaskets on the cover assembly must be checked to ensure they are properly installed and functioning. To allow cooling and combustion air to flow freely, clear any snow from around generator set. The cooling air for the Frequency Converter (A8) enters the generator set from the bottom. Make sure air can flow under the generator set.

END OF TASK

NUCLEAR, BIOLOGICAL, AND CHEMICAL DECONTAMINATION PROCEDURES

The generator set can be operated by personnel wearing Nuclear, Biological, or Chemical (NBC) protective clothing, without special tools or support equipment. See FM 3-5, NBC Decontamination, for information on decontamination procedures. Below are specific procedures for the generator set:

1. Control-panel-indicator sealing gaskets, gaskets at output terminal door, control-panel gaskets, rubber tubing in the engine compartment, the muffler thermal blanket, coverings for electrical conduits, and fuel drain tubing will absorb and retain chemical agents. Replacement of these items is the recommended method of decontamination.
2. Lubricants, fuel, or battery fluid may be present on the external surfaces of the generator set or components due to leaks or normal operation. These fluids will absorb NBC agents. The preferred method of decontamination is removal of these fluids, using conventional decontamination methods in accordance with FM 3-5.
3. Continued decontamination of external generator set surfaces with Supertropical Bleach (STB) and Decontaminating Solution Number 2 (DS2) will degrade clear plastic indicator coverings to a point where reading indicators will be impossible. This problem will become more evident for soldiers wearing protective masks. The use of STB or DS2 decontaminates in these areas should be minimized. Indicators should be decontaminated with warm, soapy water.
4. External surfaces of the control-panel assembly marked with painted or stamped lettering will not withstand repeated decontamination using STB or DS2 without degradation of the lettering. The recommended method of decontamination for these areas is warm, soapy water.
5. Below are the areas that will entrap contaminants, making efficient decontamination extremely difficult:
 - The space behind knobs and switches on the control panel.
 - Exposed heads on screws.
 - Hinged areas of access doors.
 - Spaces behind externally mounted equipment specification data plates.
 - Areas around external oil drain and fuel drain valves.
 - Fuel caps.
 - The output load terminal access door.
 - The NATO slave receptacle.
 - Areas around tie-down and lifting rings.
 - External screens covering ventilation areas.
6. Replacement of these items, if available, is the preferred method of decontamination. While stressing the importance of thoroughness and the probability of some degree of continuing contact and vapor hazard, conventional decontamination methods should be used on the areas listed above.

7. In an NBC contamination environment, the generator set should be operated with main access cover closed to reduce the effects of contamination.
8. The use of overhead shelters or chemical protective covers is recommended as an additional means of protection against contamination, in accordance with FM 3-5. If using covers, care should be taken to provide adequate space for airflow and exhaust.
9. See FM 3-3 and 3-4 for additional Army NBC information. All other services will use their applicable directives.

END OF TASK

MANUAL STARTING

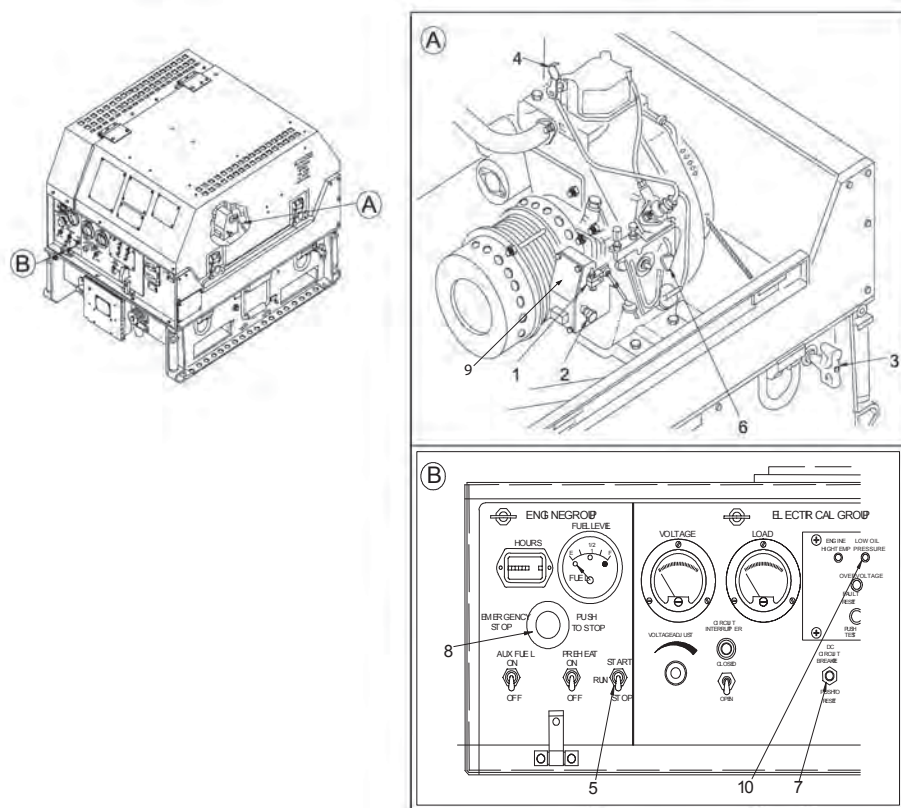
NOTE

Remove auxiliary fuel line before manually starting generator set. Make sure recoil starter rope is not close to any of the fuel lines.

1. Push in DC CIRCUIT BREAKER (Figure 1, Item 7).
2. Pull out EMERGENCY STOP button (8).
3. Place START/RUN/STOP switch (5) in RUN position.
4. Open generator set main access cover.
5. Lift actuator lever (1) to maximum fuel position and push in lock pin (2) on side of governor actuator (9). Release actuator lever (1). Engine speed will temporarily be controlled by the mechanical governor.
6. Pull out recoil starter handle (3) to the point where you feel strong resistance. Then return handle to starting position.
7. Pull decompression lever (4) down. The lever will return automatically.
8. With both hands briskly pull out recoil starter handle (3). Pull hard and fast, all the way out. Engine will start.
9. After engine starts, reset low oil pressure fault, if necessary, by pressing fault reset button.
10. Place the START/RUN/STOP switch in the START position momentarily to engage control circuitry. Return to RUN position.
11. Once engine has started, lift actuator lever (1) to maximum fuel position (allowing lock pin to come out). Slowly lower lever, allowing electronic governor to take over.

NOTE

If generator set has an operational battery installed, it will be necessary to reset the LOW OIL PRESSURE (10) fault on the malfunction indicator module before releasing the lock pin. If fault is not reset, generator set will shutdown.

**LEGEND**

- 1 Governor Actuator Lever
- 2 Lock Pin
- 3 Recoil Starter Handle
- 4 Decompression Lever
- 5 START/RUN/STOP Switch
- 6 Speed Control Knob
- 7 DCCIRCUIT BREAKER
- 8 EMERGENCY STOP button
- 9 Actuator Governor
- 10 LOW OIL PRESSURE Fault Malfunction Indicator

Figure 1. Manual Engine Starting.**END OF TASK****END OF WORK PACKAGE**

CHAPTER 3

OPERATOR TROUBLESHOOTING PROCEDURES

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 3
OPERATOR TROUBLESHOOTING PROCEDURES

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
Operator Troubleshooting Index.....	0007
Operator Troubleshooting Procedures	0008

OPERATOR MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

OPERATOR TROUBLESHOOTING INDEX

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Personnel Required

(1)

References

WP 0008, Operator Troubleshooting Procedures

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

GENERAL

This section contains operator troubleshooting procedures for the generator set. Each malfunction or problem symptom is addressed, followed by a series of inspections or tests necessary to determine the probable cause and corrective action.

TROUBLESHOOTING

- a. This chapter does not list all possible malfunctions that may occur, nor does it list all tests or inspections that may be performed or all corrective actions for each malfunction. Only those checks and tests authorized for the operator level are covered. If a malfunction is not listed, or is not remedied by corrective actions, notify field maintenance personnel.
- b. If a malfunction or failure occurs during operation or performance check, see Table 1 for the problem and applicable troubleshooting procedure. Then go to WP 0008, Table 1 for test/inspection procedures and corrective actions.

The following warnings apply to WP 0008:

WARNING

High voltage is produced when generator set is being operated. Use care when working around an open control panel when generator set is on. Improper operation of generator set or failure to follow this warning could result in severe personal injury or death by electrocution.

WARNING

High voltage is produced when generator set is in operation. Never attempt to start the generator set unless it is properly grounded. Do not ground yourself in standing water. Never attempt to connect or disconnect load cables while the generator set is running. Failure to comply may cause injury or death to personnel.

WARNING

DC voltages are present at generator set electrical components even with the generator set shut down. Avoid shorting any positive terminal with ground or negative. If no DC voltage is required, always disconnect DC power source to the generator set before working on it. Failure to observe this warning could result in severe personal injury or death by electrocution.

WARNING

Never attempt to connect or disconnect load cables while generator set is running. Failure to observe this warning could result in severe personal injury or death by electrocution.

WARNING

Never work alone when reaching into generator set to service or adjust it. Be sure to work with someone who could provide aid in case of an emergency. Failure to observe this warning could result in severe personal injury or death.

WARNING

Shut down generator set at first sign of failure. Continued operation could result in injury to personnel and will cause damage to equipment. If generator set is shut down by activation of a safety device, do not operate again until cause of shut down has been determined and eliminated. Failure to observe this warning could result in severe personal injury or death.

WARNING

Fuel used in this generator set is combustible and toxic to skin, eyes, and respiratory tract. Avoid repeated or prolonged contact. Handle only in a well-ventilated area. Keep away from sparks, open flames, or other sources of ignition. Do not splash fuel on hot components. Do not fuel generator set while it is operating. Do not overfill the tank. Ensure generator set is properly grounded before fueling. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in personal injury and equipment damage due to potential fuel ignition and possible explosion. Ensure approved gloves and face shield are worn during handling. Failure to observe this warning could result in severe personal injury or death.

WARNING

Avoid contacting metal items with bare skin in extreme cold weather. Failure to observe this warning could result in severe personal injury or death.

WARNING

Metal jewelry can conduct electricity and become entangled in generator set components. Remove all jewelry and do not wear loose clothing when working on equipment. Failure to comply may cause injury or death to personnel.

WARNING

Operating the generator set exposes personnel to a high noise level. Hearing protection must be worn when operating or working near the generator set when the generator set is running. Failure to comply with this warning can cause hearing damage to personnel.

WARNING

Make sure personnel are familiar with generator set before operating. Follow proper procedures. Failure to observe this warning could result in damage to equipment and could also result in severe personal injury or death.

Malfunction/Symptom**Troubleshooting
Procedure****Symptom Index**

Engine fails to crank	1
Engine cranks but fails to start	2
Engine starts and stops	3
Generator set fails to build up to rated voltage	4
Generator set fails to supply power to the load	5
ENGINE HIGH TEMP indicator illuminates	6
LOW OIL PRESSURE indicator illuminates during operation	7
NO FUEL indicator illuminates	8
Generator set causes radio interference	9
Engine emits white smoke	10
Engine emits black smoke	11
Engine fails to start in cold weather	12
No power at convenience receptacle	13
Engine fails to stop when EMERGENCY STOP button is pressed or when START/RUN/STOP switch is in STOP position	14

END OF WORK PACKAGE

OPERATOR MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

OPERATOR TROUBLESHOOTING PROCEDURES

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Personnel Required

(1)

References

WP 0001, General Information
WP 0002, Equipment Description and Data
WP 0004, Description and Use of Operator and
Indicators
WP 0005, Operation Under Usual Conditions
WP 0006, Operation Under Unusual Conditions
WP 0010, Operator PMCS, Including Lubrication
Instructions
WP 0011, Operator Maintenance Procedures

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

Table 1. Operator Level Troubleshooting.

MALFUNCTION		TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE FAILS TO CRANK	a.	Check that EMERGENCY STOP button is not engaged.	Pull out switch to disengage.
	b.	Check that START/RUN/STOP switch is in START position.	Place switch in START position.
	c.	Check if DC CIRCUIT BREAKER is tripped.	Reset by depressing pushbutton.
	d.	Check malfunction indicator module for system fault light.	See applicable troubleshooting procedure for fault condition.
	e.	Check battery wires for proper/secure connection.	Tighten connections.
	f.	Performing Steps a-e, above, does not yield results.	Refer trouble to field level maintenance.
2. ENGINE CRANKS BUT FAILS TO START	a.	Check if PREHEAT switch was activated for cold weather operation.	Place switch in proper position.
	b.	Check that mechanical governor speed control knob is in START position and tightened.	Adjust speed control knob and tighten (see WP 0006, Figure 1, Item 6).
	c.	With START/RUN/STOP switch in RUN position, ensure governor actuator lever (see WP 0006, Figure 1, Item 1) is releasing from magnet.	If governor actuator lever does not release, refer trouble to field level maintenance.

Table 1. Operator Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	d. Check fuel tank level (see WP 0011, Fuel System).	Service fuel tank as required. Press FAULT RESET push-button to reset fault indicator module.
	e. If operating on AUX FUEL, check that AUX FUEL switch is in ON position.	Place switch in ON position. Press FAULT RESET push-button to reset fault indicator module.
	f. Inspect for crimped or pinched fuel lines.	Straighten flexible fuel lines. Refer to field level maintenance if fuel line is damaged.
	g. Check for water in fuel filter/water separator (see WP 0011, Fuel Filter/Water Separator).	Drain water from fuel filter/water separator by turning valve.
	h. Performing Steps a-g, above, does not yield results.	Refer trouble to field level maintenance.
3. ENGINE STARTS AND STOPS	a. Check that electrical connections are properly tightened.	Tighten connections.
	b. Inspect for crimped, pinched, or leaking fuel lines.	Straighten flexible fuel lines. Refer to field level maintenance if fuel line is damaged.
	c. Check for water in fuel filter/water separator (see WP 0011, Fuel Filter/Water Separator).	Drain water from fuel filter/water separator by turning valve.
	d. Performing Steps a-c, above, does not yield results.	Refer trouble to field level maintenance.
4. GENERATOR SET FAILS TO BUILD UP TO RATED VOLTAGE	a. Check that VOLTAGE ADJUST rheostat is properly set.	Adjust rheostat to achieve rated voltage.
	b. Check that Voltage Selector Switch access door is fully closed and secured (see WP 0005, Operating Procedures).	Close and secure access door.
	c. Performing Steps a-b, above, does not yield results.	Refer trouble to field level maintenance.
5. GENERATOR SET FAILS TO SUPPLY POWER TO THE LOAD	a. Check that CIRCUIT INTERRUPTER switch is not in OPEN position.	Move switch to CLOSED position (WP 0004, Figure 1, Item 13).
	b. Check that Ground Fault Circuit Interrupter (GFCI) is not tripped.	Reset GFCI by depressing button (WP 0004, Figure 1, Item 9).
	c. Check that load hook-up is correct.	Match generator voltage output (Voltage Selector Switch position) with load requirement (see WP 0005, Operating Procedures). Set wiring in accordance with TERMINAL VOLTAGE data plate (WP 0002, Figure 4, Sheet 6 of 7).

Table 1. Operator Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6. ENGINE HIGH TEMP INDICATOR ILLUMINATES	d. Performing Steps a-c, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check air inlet ducts for clogging or obstructions.	Clear restrictions and blockages. Press FAULT RESET push button to reset fault indicator module.
	b. Check air inlet grill on recoil starter for clogging or obstructions.	Clear restrictions and blockages. Press FAULT RESET push button to reset fault indicator module.
	c. Check air filter for clogging.	Remove filter and inspect (WP 0011, Air Filter). Replace filter as required.
	d. Check if generator set is overloaded.	Reduce load. Press FAULT RESET pushbutton to reset fault indicator module.
7. LOW OIL PRESSURE INDICATOR ILLUMINATES DURING OPERATION	e. Performing Steps a-d, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check engine oil level.	Service as required (WP 0001). Press FAULT RESET pushbutton to reset fault indicator module.
8. NO FUEL INDICATOR ILLUMINATES	b. Performing Step a, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check fuel tank level (See WP 0011, Fuel System).	Service fuel tank as required. Press FAULT RESET pushbutton to reset fault indicator module.
9. GENERATOR SET CAUSES RADIO INTERFERENCE	b. If operating on AUX FUEL, check that AUX FUEL switch is in ON position.	Place switch in ON position. Press FAULT RESET pushbutton to reset fault indicator module.
	c. Performing Steps a-b, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check that output terminals and cables are connected tightly.	Tighten connections using load wrench.
	b. Check that ground wire is connected tightly.	Tighten connection using load wrench.
	c. Check that ground rod is properly installed and operational.	Replace ground rod.
10. ENGINE EMITS WHITE SMOKE	d. Performing Steps a-c, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check engine oil level to see if it is too high.	Refer trouble to field level maintenance to drain and service engine oil.

Table 1. Operator Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
11. ENGINE EMITS BLACK SMOKE	b. Check for water in fuel filter/water separator (see WP 0011, Fuel Filter/Water Separator).	Drain water from fuel filter/ water separator by turning valve.
	c. Performing Steps a-b, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check air filter for clogging or dirt.	Remove filter and inspect (See WP 0011, Air Filter). Replace filter as required.
12. ENGINE FAILS TO START IN COLD WEATHER	b. Check to see if engine has run for prolonged periods at idle speed (no load).	Operate engine at rated load only.
	c. Performing Steps a-b, above, does not yield results.	Refer trouble to field level maintenance.
	a. Check that PREHEAT switch is in ON position.	Place switch in ON position.
13. NO POWER AT CONVENIENCE RECEPTACLE	b. Check that proper fuel is being used for cold weather operation.	Use proper fuel as noted on FUEL CAPACITY data plate (WP 0002, Figure 4, Sheet 3 of 7).
	c. Check for crimped or pinched fuel lines. Check for clogs or frozen water in fuel lines and filter separator.	Straighten flexible fuel lines. Refer to field level maintenance if fuel line or filter separator is frozen or damaged.
	d. Performing Steps a-c, above, does not yield results.	Refer trouble to field level maintenance.
14. ENGINE FAILS TO STOP WHEN EMERGENCY STOP BUTTON IS PRESSED OR WHEN START/RUN/STOP SWITCH IS IN STOP POSITION.	a. Check that Ground Fault Circuit Interrupter (GFCI) is not tripped.	Reset GFCI by depressing button.
	b. Check that 10 Amp circuit breaker (located on back of GFCI) is not tripped.	Reset circuit breaker if tripped.
	c. Performing Steps a-b, above, does not yield results.	Refer trouble to field level maintenance.
14. ENGINE FAILS TO STOP WHEN EMERGENCY STOP BUTTON IS PRESSED OR WHEN START/RUN/STOP SWITCH IS IN STOP POSITION.	a. Verify actuator level is touching magnet.	Manually move actuator lever to magnet. Notify field level maintenance.

END OF WORK PACKAGE

CHAPTER 4

OPERATOR MAINTENANCE INSTRUCTIONS

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 4
OPERATOR MAINTENANCE INSTRUCTIONS

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
PMCS Introduction	0009
PMCS, Including Lubrication Instructions.....	0010
Operator Maintenance Procedures	0011

OPERATOR MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PMCS INTRODUCTION

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1, Item 6)
Ground (GND) Cable (WP 0124, Figure 32, Item 5)
GND Output Terminal (WP 0124, Figure 32, Item 5)
Coupling (WP 0124, Figure 32, Item 5)
Grounding Rod (WP 0124, Figure 32, Item 5)
Driving Stud (WP 0124, Figure 32, Item 5)
Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

References

WP 0010, Operator PMCS, Including Lubrication Instructions
WP 0143, Expendable Supplies and Durable Items List

Equipment Condition

Generator set shut down, and properly grounded (WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)
Engine cool

INTRODUCTION TO OPERATOR PMCS TABLE

Preventive Maintenance Checks and Services (PMCS) means systematic caring for, inspecting, and servicing of equipment to keep it in good condition and to prevent breakdowns. As generator set operator, your mission is to ensure that the generator set is ready for operation at all times. It must be inspected so that defects can be discovered and corrected before they result in damage or failure.

1. Be sure to perform your PMCS as indicated. Always perform your PMCS in the same order, so it gets to be a habit. Once you have had some practice, you will quickly spot anything wrong.
2. Perform your BEFORE PMCS before you operate the generator set. Pay attention to WARNINGS, CAUTIONS, and NOTES.
3. Perform your DURING PMCS while you operate the generator set. Monitor the generator set and its related components while it is actually being operated. Pay attention to WARNINGS, CAUTIONS, and NOTES.
4. Perform your AFTER PMCS right after operating the generator set. Pay attention to WARNINGS, CAUTIONS, and NOTES.
5. Perform your WEEKLY PMCS once a week.
6. If your equipment does not perform as required, see Chapter 3, Operator Troubleshooting Procedures, for possible problems. Use DA Form 2404 or DD Form 5982E, Equipment Inspection and Maintenance Worksheet, to record any faults you discover before, during, or after operation.
7. Be prepared to assist field maintenance when they lubricate the generator set. Perform any other services when required by field maintenance.

Explanation of Table Entries

Your Preventive Maintenance Checks and Services (PMCS), WP 0010, Table 1, lists inspections and care required to keep your generator set in good operating condition. It is set up so you can make your BEFORE OPERATION checks as you walk around the generator set.

Item No. Column. The Item No. column lists each check or service in chronological order.

Interval Column. The Interval column tells you when to do a certain check or service. Intervals are based on operating hours, unless otherwise noted.

Item to be Checked or Serviced Column. The Item to be Checked or Serviced column directs maintenance personnel to the general area on the generator set where the check or service is to be performed.

Procedure Column. The Procedure column tells you how to do required checks and services. Tolerances, adjustment limits, and instrument readings are included as applicable. When replacement or repair of a component is required, the procedures column will direct you to the appropriate task.

NOTE

The terms ready/available and mission capable refer to same status: Equipment is on hand and ready to perform its combat missions. (See DA PAM 750-8).

Equipment Not Ready/Available if: Column. The Equipment Not Ready/Available If column tells you when your generator set is not operational and why the generator set cannot be used.

If the generator set does not perform as required, see Chapter 3, Operator Troubleshooting Procedures.

If anything looks wrong and you cannot fix it, write it on your DA Form 2404 or DD Form 5988E. IMMEDIATELY report it to your supervisor.

When you perform PMCS, always keep a rag or two handy. Following are checks common to the entire generator set:

1. Keep It Clean. Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use approved cleaning solvents (see WP 0143) on all metal surfaces. Use soap and water when you clean rubber or plastic material.
2. Rust and Corrosion. Check components for rust and corrosion. If any bare metal or corrosion exists, clean and apply a thin coat of oil. Report it to your supervisor.
3. Bolts, Nuts, and Screws. Check bolts, nuts, and screws for obvious looseness or to see if they are missing, bent, or broken. You cannot inspect them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find a bolt, nut, or screw you think is loose, tighten it or report it to your supervisor.
4. Welds. Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.
5. Electric Wires and Connectors. Look for cracked, frayed, or broken insulation. Look for bare wires, and loose or broken connectors. Tighten loose connectors. Report any damaged wires to your supervisor.
6. Hoses and Fluid Lines. Look for wear, damage, and leaks, and make sure clamps and fittings are tight. Wet spots show leaks, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to your supervisor.

When you check for "operating condition," you look at the component to see if it is serviceable.

CLEANING AGENTS

WARNING

Compressed air is dangerous and could cause serious bodily harm, if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or to prevent unbroken skin of the operator or other personnel. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 pounds per square inch gauge (psig). Use it only with effective chip-guarding and personnel protective equipment (industrial safety glasses and full face shield). DO NOT use compressed air to dry parts when solvent cleaners have been used. Failure to observe this warning could result in severe personal injury.

WARNING

Do not use TRICHLOROTRIFLUOROETHANE, TRICHLOROETHANE, and similar chemical solvents for ordinary cleaning of equipment. These substances threaten public health and the environment by destroying ozone in the Earth's upper atmosphere. Use suitable non-hazardous cleaning materials (see WP 0143) such as a clean cloth, water, and mild detergent or an approved substitute solvent, such as isopropyl alcohol. Failure to observe this warning could result in personal injury.

WARNING

Handle solvents as combustible liquids. Do not use near heat, sparks, or flame. Use solvents in well-ventilated areas only. Avoid prolonged breathing of vapor. Avoid bodily contact. Use chemical (solvent-resistant) gloves and chemical splash goggles when using solvent materials. Solvents may be reactive with acids and oxidizers; do not mix or cross-apply with other cleaners or chemicals. An organic vapor respirator with dust and mist filter is recommended when solvent is applied as a spray. Keep containers closed between applications. Provide mechanical ventilation if used in confined spaces. Store cleaning materials in a well-ventilated area away from food or drink. To avoid the possibility of spontaneous combustion, place solvent-saturated waste rags in a sealed metal container after use. Coordinate the use of this material with your supporting Industrial Hygiene and Safety Offices. Ensure you read and understand the Material Safety Data Sheet (MSDS) for the solvent before use. Failure to observe this warning could result in severe personal injury or death.

CAUTION

When cleaning inside generator set, engine must be COLD (same temperature as outside air). DO NOT point water stream directly at any electrical connection. DO NOT use high-pressure water supply system. Damage to engine, electrical system, and other components may result.

NOTE

Use only those authorized cleaning solvents or agents listed in WP 0143, Expendable and Durable Items List.

POWER WASHING**CAUTION**

After power washing generator set, allow it to dry out thoroughly. DO NOT START GENERATOR SET UNLESS IT HAS COMPLETELY DRIED AFTER WASHING.

1. When using a power washer to clean the exterior generator set enclosure, always cover all air ducts and exhaust ports, using waterproof material to prevent damage to components. Cover control box, output panel components, and Frequency Converter (A8). Make sure end of power washing wand is no closer than three feet from generator set. Failure to follow these directions may result in damage to generator set. Use water pressure and volume similar to a standard household water supply (50 psi maximum, 3 gallons per minute). After cleaning, allow generator set to air dry. Do not use compressed air to dry unit. Do not run engine to decrease drying time.
2. Remove all waterproof material from ducts and other components before starting generator set.

NOTE

Keep cleaning solvents, gasoline, and lubricants away from rubber or soft plastic parts. They will deteriorate material.

3. When cleaning grease buildup or rusty places, use an approved cleaning solvent (see WP 0143). Then apply a thin coat of light oil to affected area.

LEAKAGE DEFINITIONS FOR OPERATOR PMCS

You need to know how fluid leakage affects the generator set. Following are types/classes of leakage an operator needs to know to be able to determine the status of the generator set. Learn these leakage definitions. Remember, when in doubt, notify your supervisor.

WARNING

Class III oil leaks should be reported IMMEDIATELY to your supervisor. Fuel leaks of any kind require immediate system shutdown. Failure to observe this warning could result in severe personal injury or death.

CAUTION

Equipment operation is allowable with Class I or Class II oil leakage. Consideration must be given to fluid capacity in the item/system being checked/inspected. When in doubt, notify your supervisor. When operating with Class I or II oil leaks, continue to check fluid levels as required in your PMCS.

Table 1. Leakage Definitions.

Leakage Class	Leakage Definition
Class I	Seepage of fluid, as indicated by wetness or discoloration, not great enough to form drops.
Class II	Leakage of fluid great enough to form drops but not enough to cause drops to drip from item being checked or inspected.
Class III	Leakage of fluid great enough to form drops that fall from item being checked or inspected.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking. Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

END OF WORK PACKAGE

OPERATOR MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
PMCS, INCLUDING LUBRICATION INSTRUCTIONS

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
 Standard Automotive Tool Set
 (WP 0140, Table 2, Item 5)
 Multimeter (WP 0140, Table 2, Item 1)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1,
 Item 6)
 Ground (GND) Cable (WP 0124, Figure 32, Item 5)
 GND Output Terminal (WP 0124, Figure 32, Item 5)
 Coupling (WP 0124, Figure 32, Item 5)
 Grounding Rod (WP 0124, Figure 32, Item 5)
 Driving Stud (WP 0124, Figure 32, Item 5)
 Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

References

WP 0006, Operation Under Unusual Conditions
 WP 0009, PMCS Introduction
 WP 0011, Operator Maintenance Procedures
 WP 0025, Battery
 WP 0036, Load Meter
 WP 0042, Voltage Adjust Rheostat

Equipment Condition

Generator set shut down, and properly grounded
 (WP 0005)
 Battery cables disconnected (WP 0026)
 Cable disconnected for NATO Slave Receptacle
 (WP 0066)
 Engine cool

Drawings Required

FO-1

Table 1. Operator PMCS for MEP-831A/MEP-832A.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1.	Before	Overall generator set	a. Inspect for cracks, dents, and corrosion in accordance with WP 0011, Main Access Cover. b. Inspect for loose or missing hardware.	Significant cracks in any generator set component.
2.	Before	Generator set main access cover	a. Inspect main access cover for security of attachment in accordance with WP 0011, Main Access Cover. b. Inspect air intake and exhaust ducts for obstructions and blockages. Clear obstructions and check for damage. c. Check all main access cover gaskets to ensure they fit properly (snugly but not too tightly) and are not torn.	Main access cover is not secure. Latches do not lock, allowing main access cover to rattle excessively. Intake or exhaust is blocked or damaged.

Table 1. Operator PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
3.	Before	Control box and output panel	a. Inspect for secure attachment. Check that hinged panel is closed and locked. b. Inspect switches, meters, indicators, and terminals. Conduct fault lamp test by depressing FAULT RESET/PUSH TEST switch. See WP 0011, Control Box and Output Panel Assemblies. c. Inspect electrical wires for damage, corrosion, or electrical short. Check for bent, broken, or missing pins.	Any switch is not operable or any meter is damaged. Fault indicator is defective or lamp does not light. Wires or connectors are damaged.
4.	Before	Convenience receptacle (60 Hz only)	Inspect convenience receptacle for damage. Check for signs of electrical short or corrosion.	Receptacle damaged, shorted, or corroded.
5.	Before	NATO Slave Receptacle	Inspect NATO slave receptacle for damage. Check for signs of electrical short or corrosion.	Receptacle damaged, shorted, or corroded.
6.	Before	Output panel	a. Inspect output panel door for security. Check locking latch operates properly.	
<p style="text-align: center;">WARNING</p> <p>High voltage is produced when generator set is in operation. Never attempt to start the generator set unless it is properly grounded. Do not ground yourself in standing water. Never attempt to connect or disconnect load cables while the generator set is running. Failure to comply may cause injury or death to personnel.</p>				
			b. Check load and ground terminals for security of attachment. Inspect for signs of electrical short or corrosion. c. Check ground rod cable for proper installation. Check for correct connection.	Terminals are loose, damaged, disconnected, shorted, or corroded. Set is not grounded properly.
7.	Before	Exhaust system	a. Inspect exhaust system for cracks, holes, or dents. Ensure secure attachment. b. Inspect muffler for damage.	Exhaust system is damaged to the extent it will affect operation or safety of personnel.
8.	Before	Fuel fill ports	a. Inspect fill neck strainer for damage. Remove obstructions or blockage. b. Inspect vented fuel cap and auxiliary fuel connection for damage or leakage. Check that caps are securely attached.	Strainer is damaged. Fuel cap is damaged to the point where fuel leakage is likely.

Table 1. Operator PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
9.	Before	Fuel tank and hoses	Inspect generator set and engine fuel system components for damage or leaks, in accordance with WP 0011, Fuel System.	Fuel leaks of any kind are present. Fuel line is cut or damaged.
10.	Before	Fuel filter/water separator	Inspect and drain filter/separator in accordance with WP 0011, Fuel Filter/Water Separator.	Water and fuel are mixed. Separator is damaged or leaking.
11.	Before	Skid base	<ul style="list-style-type: none"> a. Inspect oil and fuel drain ports for damage. Ensure drain plugs are securely attached. b. Inspect lifting handles and tie-down rings for damage. Check to see they are securely attached. c. Inspect engine vibration mounts for cracks, wear, or deterioration. 	<ul style="list-style-type: none"> Drain ports are damaged to the extent they will leak. Lifting handles do not operate or are loose. Vibration mounts are damaged or worn.
12.	Before	Battery	<ul style="list-style-type: none"> a. Open main access cover. Inspect battery cables for corrosion, evidence of electrical short, and damage. Check for cuts, tears, or exposed wires. b. Inspect battery terminals and battery posts for corrosion and damage. Check for security of attachment and that battery terminal quick release feature is functional. c. Inspect battery for cracks, corrosion, or evidence of leakage. 	NOTE: If a battery does not provide power to the electrical starter motor, the generator is still mission-capable. See WP 0006, Manual Starting for manual starting.
<p style="text-align: center;">NOTE</p> <p>Recharge battery at 90 days and ensure battery is fully charged prior to electrical starting. see WP 0025 for battery recharging procedures.</p>				
13.	Before	Frequency Converter (A8)	Open main access cover. Inspect Frequency Converter (A8) and area around it for signs of water. If water is present, thoroughly dry out Frequency Converter (A8) before starting generator.	Water is in Frequency Converter (A8).
14.	Before	Engine oil	<ul style="list-style-type: none"> a. Open main access cover. Remove oil fill cap and inspect oil level. If servicing is required, refer to field level maintenance. b. Inspect areas around oil filter and oil drain hose for leaks, damage, and loose or missing parts. 	<ul style="list-style-type: none"> Class III oil leaks, damage, or loose or missing parts are present. See leakage class definitions (WP 0009, Leakage Definitions for Operator PMCS).

Table 1. Operator PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
			c. Inspect for contamination.	Oil shows signs of contamination.
15.	Before	Engine air filter	Inspect air filter for clogs (see WP 0011, Air Filter).	Filter is clogged.
16.	Before	Engine alternator compartment	Inspect electrical wires for damage, corrosion, or electrical short. Check for bent, broken, or missing terminals.	Damaged wires, or broken or missing terminals.
17.	During	VOLTAGE and LOAD meters (control panel)	Monitor output levels during generator set operation. Adjust output, as required, using VOLTAGE ADJUST potentiometer. See WP 0036 and WP 0042.	Adjustments cannot be made.
18.	During	FUEL LEVEL Meter (located on control panel)	a. Monitor fuel level while generator is running.	Fuel level is empty or level meter is inoperable.
<p style="text-align: center;">WARNING</p> <p>Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.</p>				
			b. Replenish fuel as follows: Shut down generator set. Remove fuel fill cap and fill with diesel fuel. Replace fuel fill cap.	
<p style="text-align: center;">WARNING</p> <p>Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.</p>				
19.	During (After 8 hours of constant use)	Engine oil	<p>a. Shut down generator set. Open main access cover.</p> <p>b. Remove engine oil fill cap and check oil level. Service, as required, in accordance with WP 0011.</p>	Oil level is at or below minimum oil level mark on dipstick.
<p style="text-align: center;">WARNING</p> <p>Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.</p>				

Table 1. Operator PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
20.	During (After 8 hours of constant use)	Fuel filter/water separator	a. Shut down generator set. Open main access cover. b. If water is present, drain water from fuel filter/water separator by turning valve.	Water and fuel are mixed. Separator is damaged or leaking.
21.	After	Fuel lines	Open main access cover. Inspect all fuel lines for cuts, tears, loose connections, or evidence of leakage.	Fuel leaks of any kind are present. Lines are cut, torn, loose, or damaged.
22.	After	Overall generator set	a. Inspect for cracks, dents, and corrosion, in accordance with WP 0011, Main Access Cover. b. Inspect for loose hardware.	Cracks allow water to enter Frequency Converter (A8) or dents adversely affect operation of generator set.
23.	After	Data plates	Check for legibility.	
24.	After	Engine	a. Inspect engine fuel piping for damage, kinks, or evidence of leakage. b. Inspect hoses for evidence of wear, cracking, or deterioration. Check connections for tightness.	Fuel leaks of any kind are present. Pipes or hose are damaged.

WARNING

Check to ensure that all parts of the starter wiring including the wires, and the connection point are completely coated with a layer of NSN: 8040-00-117-8510. Failure to comply may cause damage to the generator set and/or injury to soldiers.

Mandatory Replacement Parts List

There are no replacement parts required for these PMCS procedures.

LUBRICATION INSTRUCTIONS**NOTE**

In dusty and dry environments, change oil and air filter ahead of schedule to reduce generator set problems.

- These lubrication instructions are for operator level personnel. Lube intervals (on-condition or hard time) are based on normal operation. Lube more during constant use and less during inactive periods. Use correct grade of lubricant for seasonal temperature expected.

CAUTION

Always wipe clean all oil filler components before starting your lube service. Use correct type or grade of oil. Overfilling will cause spillage and harm engine components.

2. For equipment under manufacturer's warranty, hard-time oil service intervals must be followed. Intervals must be shortened if lubricants are known to be contaminated or if operation is under adverse conditions (such as longer-than-usual operating hours, extended idling periods, or extreme dust).
3. Remove engine oil fill cap (Figure 1, Item 1) from engine block (2). Remove O-ring (3).
4. Inspect oil fill cap (1) for obvious damage. Check to see oil level gauge (4) is securely attached to cap. Inspect for corrosion.
5. Inspect O-ring (3) for cuts, tears, or permanent set. Replace O-ring if it does not properly seal.
6. Using a clean rag, inspect area around oil fill port for evidence of leakage. Clean area of dirt and accumulated grime.
7. Apply a light coat of lubricating oil to O-ring (3) and install into oil fill port.
8. Insert engine oil fill cap (1) into engine block (2), but do not screw in.
9. Remove oil fill cap (1) from engine block (2) and read oil level. If not between hash marks add oil. Engine oil should be no higher than the 2nd thread below the top of the fill port in the engine block (2).
10. Insert engine oil fill cap (1) into engine block (2) and tighten.

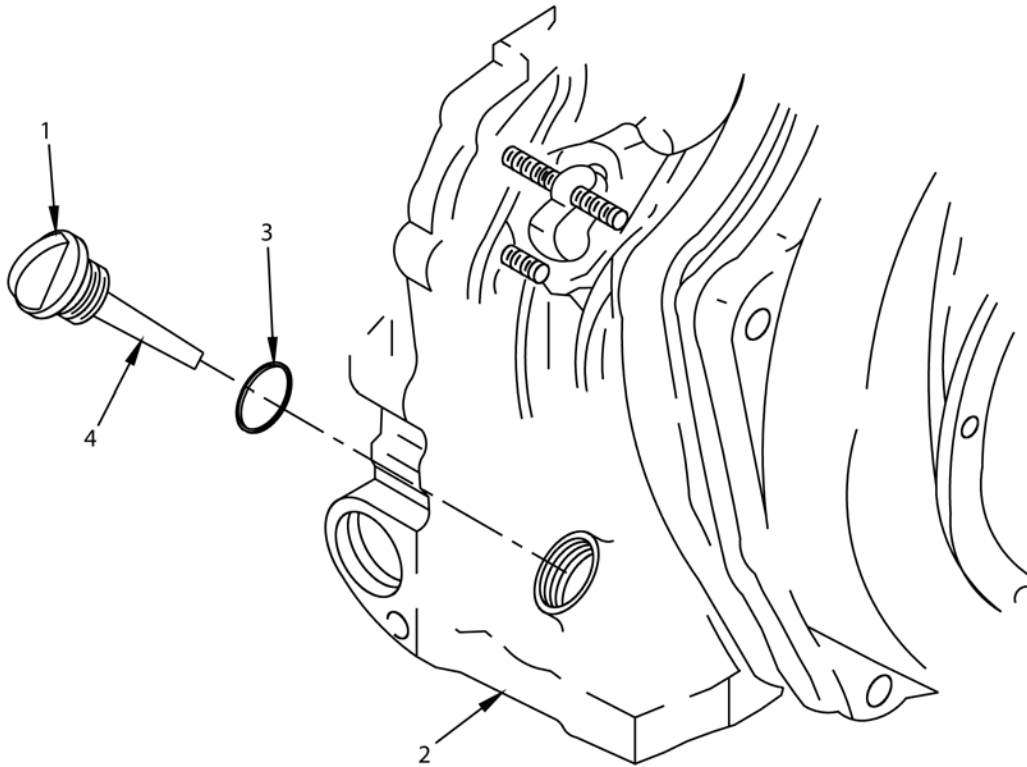


Figure 1. Oil Fill Cap.

END OF TASK

END OF WORK PACKAGE

OPERATOR MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****OPERATOR MAINTENANCE PROCEDURES**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1,
Item 6)
Ground (GND) Cable (WP 0124, Figure 32, Item 5)
GND Output Terminal (WP 0124, Figure 32, Item 5)
Coupling (WP 0124, Figure 32, Item 5)
Grounding Rod (WP 0124, Figure 32, Item 5)
Driving Stud (WP 0124, Figure 32, Item 5)
Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

GENERAL

This work package contains information on generator set maintenance tasks that are the responsibility of the operator. If a procedure is not located in this chapter, the operator is not authorized to perform it.

WARNING

Never service or perform maintenance on generator set while engine is running. Always shut down generator set before servicing. Allow engine to cool before handling components. Failure to observe this warning could result in severe personal injury or death.

INSPECTION OF INSTALLED ITEMS**Main Access Cover**

1. Inspect main access cover for missing or loose components, cracks, dents, or other damage.
2. Check main access cover latches to ensure they are properly secured. Check that latches can be easily opened, that they are not stuck. Ensure latches lock main access cover securely.
3. Open main access cover. Check that supports hold main access cover in place. Inspect main access cover insulating material for damage and to see if it is securely attached. Close main access cover, and lock using latches.
4. If damage is found, notify field level maintenance for repair.

END OF TASK**Control Box and Output Panel Assemblies**

1. Inspect control panel switches for ease of operation. Ensure switches spring back to position.
2. Clean HOURS meter, FUEL LEVEL meter, and VOLTAGE meter with a clean dry cloth. Inspect them for broken glass or improper indication.

3. With START/RUN/STOP switch in RUN position, conduct fault module indicator self-test by depressing FAULT RESET/PUSH TEST pushbutton. All indicator lights should illuminate.
4. Open control panel. Check rear of controls and indicators for obvious damage and evidence of electrical short. Inspect sealing gasket for cuts and tears. Ensure gaskets are securely attached. Close control panel.
5. Inspect convenience receptacle cover and ensure it is securely attached. Inspect NATO slave receptacle for damage. Make sure receptacle cover is securely attached.
6. Inspect load and ground terminals for cracks, missing surge arrestors, or other obvious damage.
7. If damage is found, notify field level maintenance for repair.

END OF TASK

Fuel System

1. Open main access cover and inspect inside of enclosure assembly for evidence of fuel leakage. Inspect fuel tank for signs of damage. Check that tank is securely attached to skid base.
2. Inspect fuel hoses for cuts, tears, or evidence of deterioration. Check that hoses are securely fastened to fittings.
3. Close main access cover and lock using latches.
4. Inspect fuel tank fill cap and auxiliary fuel connection cap to ensure they are securely attached.
5. Visually inspect inside of filler neck for sufficient fuel in tank.
6. Remove fuel-tank fill cap from filler neck. Remove fuel strainer and inspect for collected contaminants. Clean strainer and replace. Replace fuel-tank fill cap and tighten.
7. If damage is found, notify field level maintenance for repair.

END OF TASK

Fuel Filter/Water Separator

1. Open main access cover to gain access to fuel filter/water separator.
2. Inspect fuel filter/water separator drain valve for damage or evidence of leakage. If leak or damage is found, notify field level maintenance for repair.
3. Inspect fuel filter/water separator bowl for water. Drain water by turning valve. After water is drained, close valve. Close main access cover and lock, using latches.

END OF TASK

Air Filter

1. Unlock main access cover to gain access to air filter.
2. Remove cover (Figure 1, Item 1) from air filter housing (2) by removing wing nut (3) and washer (4). Remove filter (5) from housing (2).
3. Inspect air filter for dirt, clogging, or obstruction. Replace as required. Check air filter rubber gasket to ensure it is secure.
4. Install new filter (5) into housing (2). Replace cover (1) onto housing, using wing nut (3) and washer (4).
5. Close main access cover and lock in place, using latches.

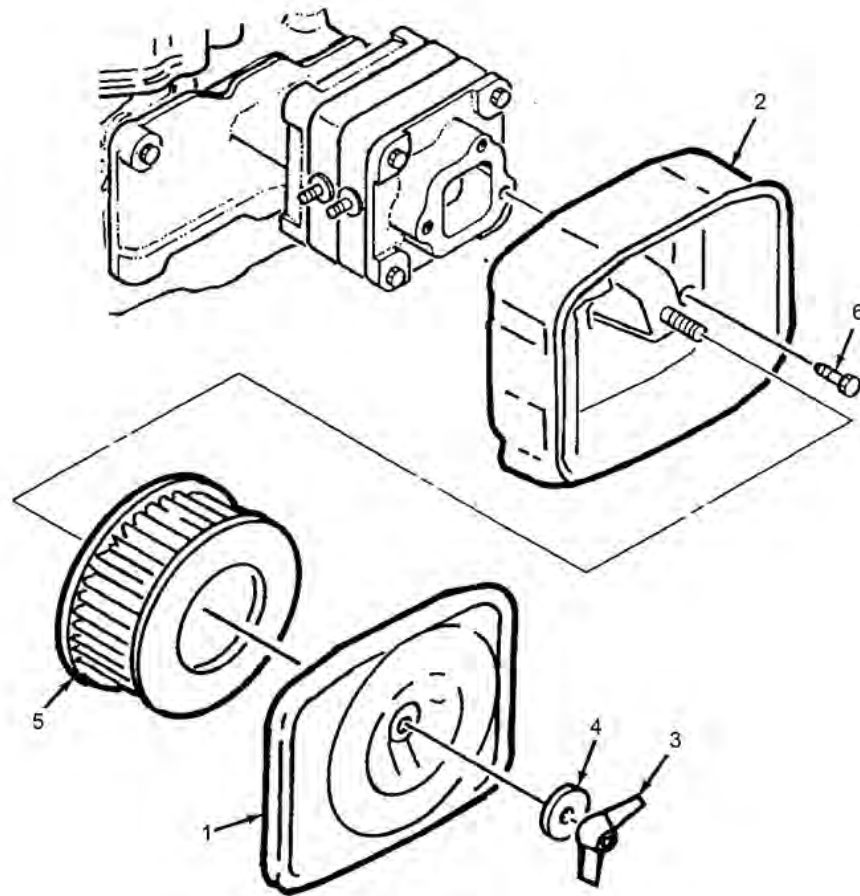


Figure 1. Air Filter Replacement.

END OF TASK

END OF WORK PACKAGE

CHAPTER 5

FIELD TROUBLESHOOTING PROCEDURES

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 5

FIELD TROUBLESHOOTING PROCEDURES

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
Field Troubleshooting Index	0012
Field Troubleshooting Procedures.....	0013

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FIELD TROUBLESHOOTING INDEX**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Personnel Required

(1)

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

GENERAL

This work package contains field level troubleshooting procedures and tests for the generator set. Each malfunction or trouble symptom is addressed, followed by a series of inspections or tests necessary to determine the probable cause and corrective action.

TROUBLESHOOTING

- a. This chapter does not list all possible malfunctions that may occur, all tests or inspections that may be performed, or all corrective actions for each malfunction. Only those checks and tests authorized for field level maintenance are covered. If a malfunction is not listed, or is not remedied by corrective actions, notify personnel at a higher maintenance level.
- b. Prior to using the troubleshooting table, be sure you have performed all normal operational checks. See the system electrical schematic (Figure FO-1), system wiring diagram (Figure FO-2), generator set wiring harness diagrams (Figures FO-3 and FO-4), control panel wiring harness diagrams (Figures FO-5 and FO-6), and diagnostic test points (Figure 1) for assistance in troubleshooting electrical components. Perform continuity checks on suspect wiring and harnesses as required, using these schematics and diagrams, using these schematics and diagrams.
- c. These troubleshooting procedures assume that electrical wires are undamaged and wiring harnesses are operable. Conduct continuity checks on suspect wiring and harnesses, as required, prior to performing troubleshooting procedures in WP 0013, Table 1. See Table 1, Field Level Symptom Index, for determining applicable troubleshooting procedure located in WP 0013, Table 1.
- d. Perform all correction actions listed for each malfunction.
- e. See TM 9-2815-257-24 for troubleshooting the diesel engine and its components.

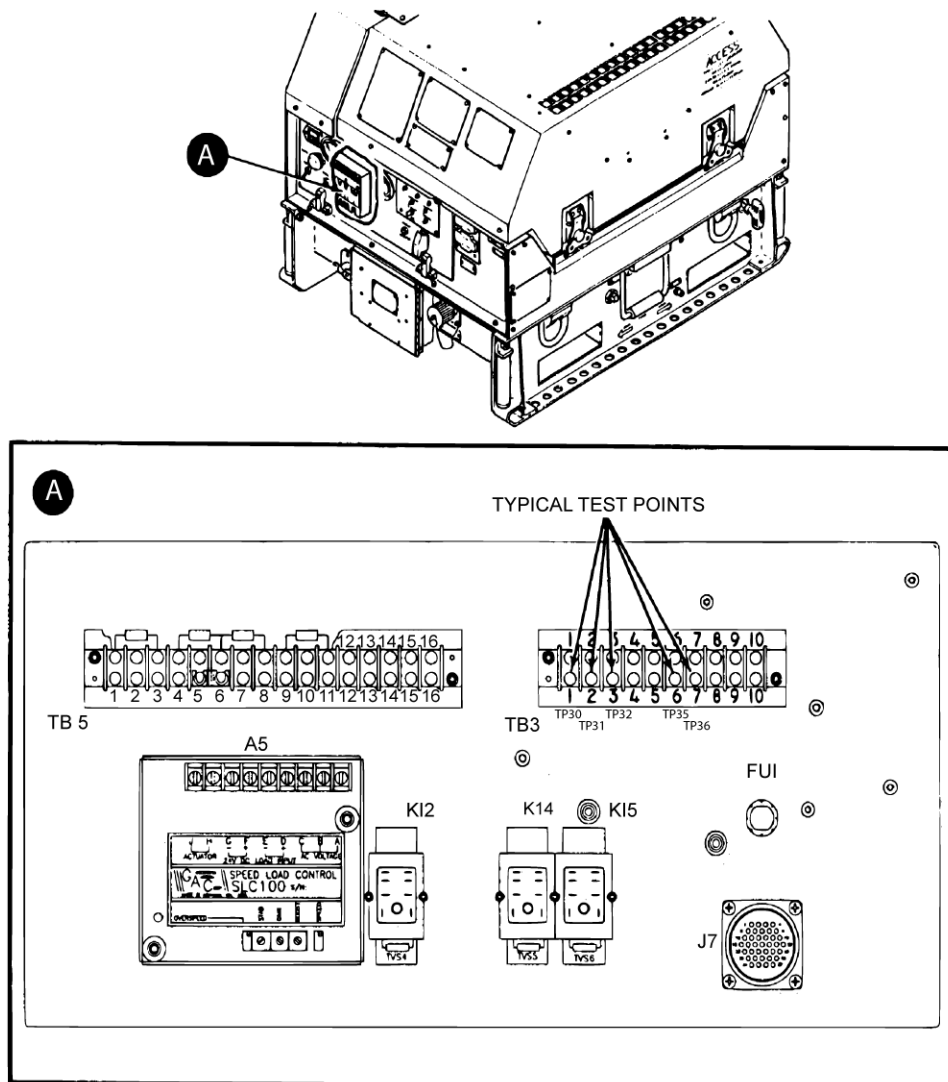


Figure 1. Troubleshooting.

Malfunction/Symptom**Troubleshooting
Procedure**

Engine fails to crank	1
Engine cranks but fails to start	2
Engine Cranks Slowly	3
Low Battery Voltage	4
Engine starts and stops	5
Engine fails to start in cold weather	6
Engine fails to stop when EMERGENCY STOP button is pressed	7
Engine starts, no generator voltage reading	8
Generator set fails to supply power to the load	9
No reading on kilowatt (LOAD) meter (M2) when load is applied	10
While generator is running, no power at convenience receptacle	11
Generator set causes radio interference	12
Circuit interrupter fails to close	13
Circuit interrupter fails to remain closed when CIRCUIT INTERRUPTER switch is released	14
Auxiliary fuel system fails to energize when generator fuel tank is low on fuel	15
BATTLE SHORT indicator fails to illuminate when BATTLE SHORT switch in ON	16
Fan (B2) fails to operate at high temperature	17
Fan (B3) fails to operate at high temperature	18
Engine emits white smoke	19
Engine emits black smoke	20
Malfunction indicators fail to illuminate when PUSH TEST switch is pressed	21
ENGINE HIGH TEMP indicator illuminates	22
LOW OIL PRESSURE indicator illuminates	23
NO FUEL indicator illuminates	24
Engine fails to develop full power	25
Abnormal engine noise/excessive vibration	26
Generator fails to generate sufficient voltage/output fluctuates	27
Generator noisy when running	28

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FIELD TROUBLESHOOTING PROCEDURES**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

References

WP 0004, Description and Use of Operator and
Indicators
WP 0018, Engine Assembly, Diesel
WP 0019, Governor Control Module
WP 0020, Governor Actuator Assembly
Maintenance
WP 0022, Permanent Magnet Alternator (PMA)
WP 0024, Battery Charging Regulator
WP 0025, Battery
WP 0027, Contactor Assembly
WP 0028, Frequency Converter (A8)
WP 0035, Voltage Meter
WP 0036, Load Meter
WP 0037, Fault Indicator Module
WP 0038, Operator Switches
WP 0039, Emergency Stop Button
WP 0041, Circuit Interrupter Indicator Light
WP 0042, Voltage Adjust Rheostat
WP 0043, Relay
WP 0044, Fuse, Diode and Terminal Block
WP 0046, Ground Fault Circuit Interrupter (GFCI)
WP 0047, Load terminals and EMI Filter
WP 0051, Fuel System Assembly
WP 0052, HI/LO Temperature Switches
WP 0056, Fuel-Level Switch
WP 0058, Primary Fuel Pump
WP 0059, Auxiliary Fuel Pump
WP 0060, Fuel Filter/Water Separator
WP 0079, Permanent Magnet Alternator (PMA)

Personnel Required

(1)

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

Table 1. Field Level Troubleshooting.

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
1. ENGINE FAILS TO CRANK	a. Check battery for loose connections, corrosion, or damaged cable.	Clean battery terminals and tighten connections.
	b. Check battery voltage as follows:	
	(1) Pull out EMERGENCY STOP button and push in DC Circuit Breaker.	
	(2) Place START/RUN/STOP switch in START position.	
	(3) Connect positive (+) probe of multi-meter to terminal board TB3, test point TP30.	
	(4) Connect negative (-) probe to TB3, test point TP31.	If not present, service battery (WP 0025). Replace, as required.
	(5) Reading should be 20 to 32 VDC.	
	c. Check Circuit Breaker, (CB1) as follows:	
	(1) Push Circuit Breaker (CB1) in.	
	(2) Check voltage from LOAD terminal on CB1 to TP31. Voltage should read 20-32 VDC.	If voltage is not present, replace CB1.
	d. Check EMERGENCY STOP button as follows:	
	(1) Press in circuit breaker (CB1).	
	(2) Pull out EMERGENCY STOP button.	
	(3) Connect positive (+) probe of multi-meter to S19-A2.	
	(4) Connect negative (-) probe to terminal board TB3, test point TP31.	If voltage is not present, remove and replace EMERGENCY STOP button (WP 0039).
	(5) Multimeter should read 20 to 32 VDC.	
	e. Check START/RUN/STOP switch as follows:	
	(1) Pull out EMERGENCY STOP button.	
	(2) Connect positive (+) probe of multi-meter to terminal board TB5, pin 11.	
	(3) Connect negative (-) probe to TB3, test point TP31.	
	(4) Place START/RUN/STOP switch in START position.	
	(5) Reading should be 20 to 32 VDC.	If voltage is not present, remove and replace START/RUN/STOP switch (WP 0038).
	f. Check diode (CR1) as follows:	
	(1) Connect positive (+) probe of multi-meter to terminal board TB5, pin 9.	
	(2) Connect negative (-) probe to TB3, test point TP31.	
	(3) Place START/RUN/STOP switch in START position.	
	(4) Reading should be 20 to 32 VDC.	If voltage is not present, remove and replace diode (WP 0044).

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
2. ENGINE CRANKS BUT FAILS TO START	g. Check relay (K15) as follows: (1) Place START/RUN/STOP switch in STOP position. (2) Remove relay K15 and ohm out pins 1 and 9. (3) Reading should be zero ohms at relay K15, pins 1 and 9.	If not zero ohms, remove and replace relay (WP 0043).
	h. Check Battle Short Switch, S7. (1) Verify Battle Short Switch, S7 is not in closed position. (2) Check for continuity between pins 1 and 2 of S7. There should be zero ohms resistance.	If there is no continuity, replace S7.
	i. Check engine start contactor (K2): (1) Disconnect wires connected to X1 and X2 of K2 relay. (2) Remove diodes from X1 and X2. (3) Connect multimeter probes to terminals X1 and X2 of K2 relay. (4) Resistance should be approximately 55 ohms.	If multimeter indicates infinity or 0 ohms, replace K2 (WP 0027).
	j. Check engine solenoid (L4): (1) Connect positive (+) probe of multimeter to K2-A2. (2) Connect negative (-) probe of multimeter to TP31. (3) Continuity should be approximately 1.4 ohms.	If continuity does not read 1.4 ohms, remove and replace engine starter motor in accordance with TM 9-2815-257-24.
	k. See TM 9-2815-257-24.	Follow instructions in TM 9-2815-257-24.
	a. Check for clogged fuel filter/water separator element.	If clogged, remove and replace fuel filter/water separator element (WP 0060).
	b. Check that fuel pump assembly is operating when START/RUN/STOP switch is placed in RUN position (audible sound).	See fuel pump test procedures (WP 0058 for primary fuel pump and WP 0059 for auxiliary fuel pump).
	c. Using multimeter verify voltage reads 20-32 VDC at Battery Terminals.	
	d. Check diode (CR2) as follows: (1) Open control panel and connect positive (+) probe of multimeter to terminal board TB3, test point TP32. (2) Connect negative (-) probe to TB3, test point TP31. (3) Place START/RUN/STOP switch in RUN position.	

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	(4) Multimeter should read 20 to 32 VDC.	If voltage is not present, remove and replace diode (WP 0044).
	e. Check fault lockout relay (K12) as follows:	
	(1) Connect positive (+) probe of multi-meter to A5-F.	
	(2) Connect negative (-) probe to terminal board TB3, test point TP31.	
	(3) Place START/RUN/STOP switch in START position.	
	(4) Multimeter should read 20 to 32 VDC.	If voltage is not present, remove and replace fault relay (WP 0043).
	f. Check governor control (A5) as follows:	
	(1) Disconnect J10/P10 at actuator.	
	(2) Connect positive (+) probe of multi-meter to A5-H.	
	(3) Connect negative (-) probe to A5-J.	
	(4) Place START/RUN/STOP switch in START position.	
	(5) Multimeter should read 20 to 32 VDC.	If voltage is not present, remove and replace governor control module (A5) (WP 0018).
	g. Test governor actuator (A6).	
	(1) Visually inspect actuator to ensure that actuator plate (WP 0020, Figure 1, Item 19) is flush against magnet of actuator.	If not flush, adjust per WP 0020.
	(2) Unplug J10 and measure resistance of actuator. Resistance should be a minimum 10 ohms.	If actuator coil is open or resistance is less than 10 ohms replace actuator (WP 0020).
	h. Refer to TM 9-2815-257-24 Trouble Shooting Procedures.	Follow instructions in TM 9-2815-257-24.
3. ENGINE CRANKS SLOWLY	a. Check fuel injection for proper timing.	If not 36 VAC minimum, remove and replace PMA (WP 0079).
	b. See TM 9-2815-257-24.	
4. LOW BATTERY VOLTAGE	a. Inspect and test regulator fuse (FU1).	Remove and replace defective fuse (WP 0044).
	b. Check generator (G1) as follows:	
	(1) Connect positive (+) probe of multi-meter to FU1-2.	
	(2) Connect negative (-) probe to terminal board TB4-9.	
	(3) Start generator set.	
	(4) Reading should be 36 VAC minimum.	If reading is not 36 VAC minimum, refer to next higher level of maintenance for replacement of permanent magnet alternator (PMA) (WP 0079).

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	c. Check battery charging regulator (A9) as follows: <ol style="list-style-type: none"> (1) Disconnect battery cable from negative (-) battery terminal. (2) Manually start the set. (3) Insert multimeter test probes into J6 connector. Locate red and black wires in back of J6. Reading should be a minimum 24 VDC. 	If 24 VDC is not measured, remove and replace battery charging regulator (WP 0024). Refer trouble to next higher level of maintenance.
5. ENGINE STARTS AND STOPS	a. Check fuel lines for obstructions, kinks, or clogging. Inspect for leaks. Possible air in fuel system. Check for loose or damaged connections.	Remove and replace damaged or defective fuel lines. Tighten connections. Remove and replace damaged components as required.
	b. Check for clogged fuel filter/water separator element.	Remove and replace fuel filter/water separator element (WP 0060).
	c. Adjust engine valve clearance in accordance with TM 9-2815-257-24.	Using a feeler gauge check clearance of valves. Clearance should be 0.10 to 0.15 minimum.
6. ENGINE FAILS TO START IN COLD WEATHER	a. Remove one wire from each heater and check for continuity of air heaters (H1) and (H2).	Remove and replace air heater in accordance with TM 9-2815-257-24.
	b. Check PREHEAT switch (S18) as follows: <ol style="list-style-type: none"> (1) Connect positive (+) probe of multimeter to switch (S18-1). (2) Connect negative (-) probe to terminal board TB3, test point (TP31). (3) Place PREHEAT switch in ON position. (4) Reading should be 20 to 32 VDC. 	If not present, remove and replace PREHEAT switch (WP 0038).
	c. Check engine preheat relay (K13) as follows: <ol style="list-style-type: none"> (1) Connect positive (+) probe of multimeter to relay K13-A2. (2) Connect negative (-) probe to terminal board (TB3), test point (TP31). (3) Place PREHEAT switch in ON position. (4) Reading should be 20 to 32 VDC. 	If voltage is not present, remove and replace preheat relay (WP 0042).
	d. Test preheater relays (K13) and preheater switch (S18). Steps b and c.	Replace preheater in accordance with TM 9-2815-257-24.

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
7. ENGINE FAILS TO STOP WHEN START/RUN/STOP SWITCH IS PLACED IN STOP POSITION OR EMERGENCY STOP BUTTON IS PRESSED	<p style="text-align: center;">NOTE</p> <p>If engine fails to stop when EMERGENCY STOP button is pressed or if engine START/RUN/STOP switch is shut off, push actuator lever to OFF position and perform the troubleshooting steps in malfunction 6.</p>	
	<p>a. Check EMERGENCY STOP button (S19) as follows:</p> <ol style="list-style-type: none"> (1) Pull out EMERGENCY STOP button. (2) Connect positive (+) probe of multi-meter to S19, terminal A2. (3) Connect negative (-) probe to terminal board (TB3), test point (TP31). (4) Place START/RUN/STOP switch in RUN position. Voltage should read 20-32 VDC. (5) Press EMERGENCY STOP button. (6) Reading should go from 24 to 0 VDC. 	<p>If reading does not drop to 0 VDC, replace EMERGENCY STOP button (WP 0039).</p>
	<p>b. Perform ADJUST procedure of Governor Actuator Assembly Maintenance, WP 0020.</p>	<p>If generator set does not shut down properly, go to next troubleshooting step.</p>
	<p>c. Perform TEST procedure of Governor Actuator Assembly Maintenance, WP 0020.</p>	<p>If actuator resistance is too low, or there is no continuity, replace actuator.</p>
	<p>d. Perform TEST procedure of Governor Control Module Maintenance, WP 0019.</p>	<p>If Governor Control Module does not pass test, replace.</p>
	<p>e. If engine still does not shut off, notify next higher level maintenance.</p>	
8. ENGINE STARTS, NO VOLTAGE READING	<p>a. Check that Frequency Converter (A8) voltage reconnection cover is closed.</p> <p>b. Measure voltage at Frequency Converter (A8) output terminal as follows:</p> <ol style="list-style-type: none"> (1) Set voltage select switch to 120/240 V. (2) Start generator set. (3) Connect multimeter to terminals L1 and N. (4) Check voltage reading, which should be 120 VAC. (5) Connect multimeter to terminals L2 and N. (6) Check voltage reading, which should be 120 VAC. (7) Connect multimeter to terminals L1 and L2. 	<p>Close and latch cover to activate Frequency Converter (A8).</p>

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	(8) Check voltage reading, which should be 240 VAC if in 120/240 V connection configuration or 0 VAC if in 120 V connection configuration.	If voltages are correct, perform Step c. If voltages are not correct, perform Step e.
	c. Check for voltage at VOLTAGE Meter. (1) Measure voltage at VOLTAGE meter.	If voltage is present, remove and replace VOLTAGE meter (WP 0035). If voltage is not present, perform next step.
	d. Check wiring harness. (1) Check continuity between A8 terminal L1 and voltage meter terminal 1, wire #101L18.	If continuity is present, refer to next-higher level maintenance. If continuity is not present, repair wiring harness.
	e. Ensure connectors P15, P16, and P17 are properly installed on Frequency Converter (A8). Check for broken wires and loose crimps.	
	f. Measure PMA output Steps 1-4 (WP 0022).	If voltage is not present, PMA is defective. Refer to next-higher level maintenance. If voltage is present, replace Frequency Converter (A8).

**9. GENERATOR SET
FAILS TO SUPPLY
POWER TO THE LOAD**

NOTE

Start generator set and perform corrective action steps below.

- | | | |
|----|--|--|
| a. | Close AC Circuit Interrupter. Using a multi-meter, check generator set output voltage at output terminals L1, L2, and N (WP 0004, Item 12, Figure 1). | If voltage is present, check cables between load and generator set. |
| b. | Check for proper output voltage readings at Frequency Converter (A8) terminals L1, L2, and N. Reading should be 120/240 VAC +/-6. | If voltages are incorrect, see malfunction 7, Engine Starts, No Voltage Reading. |
| c. | Check load contactor relay (K1) as follows:
(1) Start generator set.
(2) Check for voltage between K1, Terminals A1 and B1 and ground. Voltage should be 120 VAC +/-6.
(3) Close AC Circuit Interrupter.
(4) Check for voltage between K1, Terminals A2 & B2 and ground. Voltage should be 120 VAC +/-6.
(5) Measure voltage between K1, Terminal 2, wire 31B18 and ground, TP31. Voltage should be 24 VDC. | If there is no voltage check wiring between A8 & K1.

If there is voltage, check wires between K1, A2 & B2 and Output Terminals. If there is not voltage go to (5).

If any voltage is not present, remove and replace relay K1 (WP 0043). |
| d. | Check S5. | |

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	(1) Hold S5 in closed position and measure continuity between terminals 2 and 5 and terminals 5 and 4. There should be continuity.	If there is no continuity, replace switch.
	(2) Hold S5 in open position and measure continuity between terminals 4 and 5. There should not be any continuity.	If there is continuity, replace S5. If there is not continuity, replace K1.
10. NO READING ON KILOWATT (LOAD) METER (M2) WHEN LOAD IS APPLIED	Disconnect P17 from A8 and perform the following tests:	
	a. Set multimeter to read resistance. Multimeter should read 100 ohms at LOAD meter terminals on back of meter.	If reading is less than 100 ohms, remove and replace LOAD meter (WP 0036).
	b. If 100 ohms is present at LOAD meter, check wiring between LOAD meter and P17.	Remove and replace damaged wiring, as required.
11. WHILE GENERATOR IS RUNNING, NO POWER AT CONVENIENCE RECEPTACLE	a. Check that CB3 on back of GFCI (inside set) is not tripped.	
	(1) Turn off load.	
	(2) Check that CB# on back of GFCI is not tripped.	Reset CB3 switch.
	(3) Reconnect load, start generator set, and turn on load.	
	(4) Observe CB3. If CB3 trips, determine load and convenience receptacle. Load should be less than 10 amps.	If load is greater than 10 amps, reduce load. Move load to generator set load terminals.
	b. Check Ground Fault Circuit Interrupter (GFCI).	
	(1) Start generator set and press RESET button on GFCI.	
	(2) Measure voltage at convenience receptacle by placing positive probe of multimeter into smaller rectangular output socket of receptacle and negative probe of multimeter into larger rectangular output socket of receptacle. Voltage should be 120 VAC +/-6.	If no voltage is present go to Step c.
	(3) Press TEST button. Voltage should drop to zero.	If voltage is present, replace GFCI.
	c. Check GFCI CB3 at TB4 as follows:	
	(1) Start generator set.	
	(2) Connect positive (+) probe of multimeter to terminal board TB4, pin 1.	
	(3) Connect negative (-) probe to terminal board TB4, pin 3.	

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
12. GENERATOR SET CAUSES RADIO INTERFERENCE	(4) Multimeter should read 120±2 VAC.	If voltage is present, remove and replace GFCI (WP 0046).
	a. Check for proper generator set grounding.	Ground generator set.
	b. Inspect EMI filter for signs of damage.	Remove and replace EMI filter (WP 0047). After replacing EMI filter, if radio interference continues, replace Frequency Converter (A8) (WP 0028). Refer to next-higher level maintenance.
	c. Defective Frequency Converter (A8).	Remove and replace Frequency Converter (A8) (WP 0028).
	d. Visually inspect EMI filter for damage.	Remove and replace EMI filter in accordance with WP 0047.
13. CIRCUIT INTERRUPTER FAILS TO CLOSE	<p>NOTE</p> <p>K8 relay is inside frequency converter (A8). Do not open A8 to access. See FO-1, Sheet 1.</p>	
	a. Check relay K8 (part of Frequency Converter (A8)) as follows:	
	(1) Start generator set.	
	(2) Place BATTLE SHORT switch in ON position. Listen for RPMs to rise in generator set. This indicates K8 relay is operating.	
	(3) Push CIRCUIT INTERRUPTER switch. If green, circuit interrupter is closed.	If CIRCUIT INTERRUPTER switch is not green, remove and replace Frequency Converter (A8) (WP 0028).
	<p>NOTE</p> <p>Before removing Frequency Converter (A8), perform next step, below, to determine if relay K12 is operating.</p>	
	b. Check fault lockout relay (K12) as follows:	
	(1) Connect positive (+) probe of multimeter to K12-12.	
	(2) Connect negative (-) probe to K12-4.	
	(3) Place START/RUN/STOP switch in STOP position.	
	(1) Multimeter should read 0 ohms.	If multimeter does not read 0 ohms, remove and replace relay (WP 0043).

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
14. CIRCUIT INTERRUPTER FAILS TO REMAIN CLOSED WHEN CIRCUIT INTERRUPTER SWITCH IS RELEASED	c. Check CIRCUIT INTERRUPTER switch (S5) as follows: (1) Connect positive (+) probe of multimeter to S5-2. (2) Connect negative (-) probe to S5-5. (3) Place START/RUN/STOP switch in STOP position. (4) Hold CIRCUIT INTERRUPTER switch in CLOSED position. (5) Multimeter reading should be 0 ohms.	If multimeter does not read 0 ohms, remove and replace CIRCUIT INTERRUPTER switch (WP 0041).
	d. Check coil resistance of K1 between K1 X1 and X2. Resistance should be approximately 55 ohms.	If infinity or 0 ohms, replace relay K1 (WP 0043).
	e. Check relays (K1 and K15) as follows: (1) Start generator set. (2) Connect positive (+) probe of multimeter to S5-2. (3) Connect negative (-) probe of multimeter to terminal board (TB3), test point (TP31). (4) Hold CIRCUIT INTERRUPTER switch in CLOSED position. (5) Multimeter reading should be 0 VDC.	If voltage is 0 VDC, remove and replace relay K1. If voltage is 20 to 32 VDC, remove and replace relay K15 (WP 0043).
	a. Check CIRCUIT INTERRUPTER switch (S5) as follows: (1) Connect positive (+) probe of multimeter to S5-2. (2) Connect negative (-) probe to S5-5. (3) Place START/RUN/STOP switch in STOP position. (4) Hold CIRCUIT INTERRUPTER switch in CLOSED position. (5) Multimeter reading should be 0 ohms.	If reading is not 0 ohms, remove and replace CIRCUIT INTERRUPTER switch (WP 0041).
	b. Check relays (K1) as follows: (1) Start generator set. (2) Connect positive (+) probe of multimeter to S5-2. (3) Connect negative (-) probe of multimeter to terminal board (TB3), test point (TP31). (4) Hold CIRCUIT INTERRUPTER switch in CLOSED position. (5) Multimeter reading should be 0 ohms.	If voltage is 0 VDC, remove and replace relay K1 microswitch on old style relay, and complete relay on new style relay (WP 0043).

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
15. AUXILIARY FUEL SYSTEM FAILS TO ENERGIZE WHEN GENERATOR FUEL TANK IS LOW ON FUEL	a. Check AUX FUEL switch (S17) as follows:	
	(1) Connect positive (+) probe of multi-meter to terminal board (TB5), pin 1.	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP31).	
	(3) Place START/RUN/STOP switch in RUN position.	
	(4) Place AUX FUEL switch in ON position.	
	(5) Multimeter should read 20 to 32 VDC.	If 20 to 32 VDC is not present, remove and replace AUX FUEL switch (WP 0038).
	b. Check diode (CR3) as follows:	
	(1) Connect positive (+) probe of multi-meter to terminal board (TB5), pin 3.	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP31).	
	(3) Place START/RUN/STOP switch in RUN position.	
	(4) Place AUX FUEL switch in ON position.	
	(5) Multimeter should read 20 to 32 VDC.	If 20 to 32 VDC is not present, remove and replace diode (WP 0044).
	c. Check fuel level switch (FL2) as follows:	
	(1) Connect positive (+) probe of multi-meter to TB 5-14a.	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP31).	
	(3) Place START/RUN/STOP switch in RUN position.	
	(4) Place AUX FUEL switch in ON position.	
	(5) Multimeter should read 20 to 32 VDC.	If fuel level is low and 20 to 32 VDC is not present, remove and replace fuel level switch (WP 0056).
	<p>NOTE</p> <p>Fuel level must actually be low to obtain 20 to 32 VDC.</p>	
	d. Check auxiliary fuel transfer relay (K14) as follows:	
	(1) Connect positive (+) probe of multi-meter to fuel transfer relay (K14-9).	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP31).	
	(3) Place START/RUN/STOP switch in RUN position.	
	(4) Place AUX FUEL switch in ON position.	

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	(5) Multimeter should read 20 to 32 VDC.	If 20 to 32 VDC is not present, remove and replace relay (WP 0043).
	e. Test auxiliary fuel pump as follows:	
	(1) Disconnect J12 from P12 at primary fuel pump.	
	(2) Disconnect J9 from P9 at auxiliary fuel pump.	
	(3) Feed P12 behind engine and connect J9 to P12 at auxiliary fuel pump.	
	(4) Place START/RUN/STOP switch in RUN position.	
	(5) Listen for click sound at fuel pump.	If no click sound, remove and replace auxiliary fuel pump (WP 0059).
16. BATTLE SHORT INDICATOR FAILS TO ILLUMINATE WHEN BATTLE SHORT SWITCH IS ON	a. Press FAULT RESET/PUSH TEST.	If indicator does not illuminate, replace fault indicator module (WP 0037).
	b. Check BATTLE SHORT switch (S7) as follows:	
	(1) Connect positive (+) probe of multi-meter to switch (S7-3) (wire #12A20).	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP31).	
	(3) Place START/RUN/STOP switch in RUN position.	
	(4) Place S7 in ON position.	
	c. Reading should be zero VDC.	If not zero VDC, remove and replace BATTLE SHORT switch (WP 0038).
17. FAN (B2) FAILS TO OPERATE AT HIGH TEMPERATURE	a. Check temperature switch (S20) as follows (60 Hz model, MEP-831A):	
	(1) Connect positive (+) probe of multi-meter to switch at S20-2.	
NOTE		
	Terminal S20-2 connects to fan.	
	(2) Connect negative (-) probe to terminal board (TB3), test point (TP35).	
	(3) Start generator set. Internal generator set temperature must be above 85 °F.	
	(4) Reading should be 120±6 VAC.	If voltage is not present, remove and replace temperature switch (WP 0052).
		If voltage is present, replace fan B2 (WP 0051).

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
18. FAN (B3) FAILS TO OPERATE AT HIGH TEMPERATURE	b. Check temperature switch (S20) as follows (400 Hz model, MEP-832A): (1) Connect positive (+) probe of multi-meter to switch at S20-2. NOTE Terminal S20-2 connects to fan. (2) Connect negative (-) probe to terminal board (TB3), test point (TP31). (3) Place START/RUN/ STOP switch in RUN position. Internal generator set temperature must be above 85 °F. (4) Reading should be 20 to 32 VDC.	If voltage is not present, remove and replace temperature switch (WP 0052). If voltage is present, replace fan B2 (WP 0051).
	a. Check temperature switch (S21) as follows (60 Hz model, MEP-831A): (1) Connect positive (+) probe of multi-meter to switch at S21-2. NOTE Terminal S21-2 connects to fan. (2) Connect negative (-) probe to terminal board (TB3), test point (TP35). (3) Start generator set. Internal generator set temperature must be above 110 °F. (4) Reading should be 120±6 VAC.	If voltage is not present, remove and replace temperature switch (WP 0052). If voltage is present, replace fan B3 (WP 0051).
	b. Check temperature switch (S21) as follows (400 Hz model, MEP-832A): (1) Connect positive (+) probe of multi-meter to switch S21-2. NOTE Terminal S21-2 connects to fan. (2) Connect negative (-) probe to terminal board (TB3), test point (TP31). (3) Place START/RUN/STOP switch in RUN position. Internal generator set temperature must be above 110 °F.	

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
	(4) Reading should be 20 to 32 VDC.	If voltage is not present, remove and replace temperature switch (WP 0052).
		If voltage is present, replace fan B2 (WP 0051).
19. ENGINE EMITS WHITE SMOKE	a. Check for clogged fuel filter/water separator element.	If clogged, remove and replace fuel filter/water separator element (WP 0060).
	b. Refer to TM 9-2815-257-24.	
	c. Adjust engine valve clearance.	Adjust in accordance with TM 9-2815-257-24.
	d. Check fuel injection timing.	Adjust in accordance with TM 9-2815-257-24.
20. ENGINE EMITS BLACK SMOKE	a. Black smoke is emitted from exhaust pipe.	Troubleshoot in accordance with TM 9-2815-257-24.
	b. Check for clogged, sticking, or worn fuel injector nozzle.	Adjust in accordance with TM 9-2815-257-24.
	c. Check fuel injection timing.	
21. MALFUNCTION INDICATORS FAIL TO ILLUMINATE WHEN PUSH TEST SWITCH IS PRESSED	Check for 20 to 32 DC voltage at fault indicator module A2 at pin 1 on J4 and TB3 TP31.	If voltage is not present, remove and replace fault indicator module (WP 0037).
22. ENGINE HIGH TEMP INDICATOR ILLUMINATES	a. Check engine cylinder fins for accumulated dirt and grime. Check for blockages.	Remove blockages. Clean dirty fins in accordance with TM 9-2815-257-24.
	b. Check for operation of fans.	Troubleshoot fans.
	c. Check valves and adjust as required.	Adjust in accordance with TM 9-2815-257-24.
23. LOW OIL PRESSURE INDICATOR ILLUMINATES	a. Check for engine oil level and leaks.	See TM 9-2815-257-24.
	b. Check engine oil pressure switch (OP) as follows:	
	(1) Disconnect two wires from oil pressure switch.	
	(2) Check for continuity between switch terminals.	
	(3) With generator set shut down, switch should be closed.	
	(4) With generator set running, switch should be open.	
	(5) Check to see if switch operates properly.	Remove and replace engine oil pressure switch (OP) in accordance with TM 9-2815-257-24.
	c. Check to see if engine oil filter is clogged or defective.	Remove and replace engine oil filter in accordance with TM 9-2815-257-24.

Table 1. Field Level Troubleshooting. - Continued

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
24. NO FUEL INDICATOR ILLUMINATES	a. Conduct visual check to verify that fuel is in tank.	Service fuel as required.
	b. Check fuel level switch (FL1) as follows: (1) Connect positive (+) probe of multi-meter to P4-10. (2) Connect negative (-) probe to terminal board (TB3), test point (TP31). (3) Place START/RUN/STOP switch in RUN position. (4) Multimeter reading should be 20 to 32 VDC.	If voltage is not present, remove and replace fuel level switch (WP 0056).
25. ENGINE FAILS TO DEVELOP FULL POWER	a. Test fuel injector nozzle.	See TM 9-2815-257-24. Replace fuel injector nozzle if bad.
	b. Test governor control module (A5).	See WP 0019. Replace governor control module if bad.
	c. Test governor actuator (A6).	See WP 0020. Replace governor actuator (A6) if bad.
26. ABNORMAL ENGINE NOISE/EXCESSIVE VIBRATION	a. Check engine valve adjustment.	Adjust valves as required. See TM 9-2815-257-24.
	b. Check tightness of muffler nuts on exhaust manifold and bracket mounting bolts under muffler.	Tighten muffler nuts and bracket mounting bolts as required.
	c. Check for water in fuel.	Drain fuel filter/water separator and clean fuel tank.
	d. Visually check for split or cracked rubber on engine mounts.	Repair, as required, in accordance with TM 9-2815-257-24.
27. GENERATOR FAILS TO GENERATE SUFFICIENT VOLTAGE/OUTPUT FLUCTUATES	a. Test governor control module (A5).	Replace governor control module (A5) as required. See WP 0019.
	b. Test governor actuator (A6).	Replace governor actuator (A6) as required. See WP 0020.
	c. Check for output of Permanent Magnet Alternator (PMA).	Repair/replace PMA as required.
28. GENERATOR NOISY WHEN RUNNING	a. Check engine valve adjustment.	Adjust valves as required. See TM 9-2815-257-24.
	b. Check tightness of muffler nuts on exhaust manifold and bracket mounting bolts under muffler.	Tighten muffler nuts and bracket mounting bolts as required.
	c. Check for loose nuts, bolts, brackets, and hardware.	Tighten loose nuts, bolts, brackets, and hardware as required.

END OF WORK PACKAGE

CHAPTER 6

FIELD MAINTENANCE INSTRUCTIONS

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 6
FIELD MAINTENANCE INSTRUCTIONS

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FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****SERVICE UPON RECEIPT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1,
Item 6)
Ground (GND) Cable (WP 0124, Figure 32, Item 5)
GND Output Terminal (WP 0124, Figure 32, Item 5)
Coupling (WP 0124, Figure 32, Item 5)
Grounding Rod (WP 0124, Figure 32, Item 5)
Driving Stud (WP 0124, Figure 32, Item 5)
Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

References

WP 0005, Operation Under Usual Conditions

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

GENERAL

See WP 0005, for instructions on unpacking, assembling, and servicing generator set components.

END OF WORK PACKAGE

FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PMCS INTRODUCTION

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Personnel Required

(1)

References

WP 0016, Field PMCS, Including Lubrication
Instructions
WP 0143, Expendable Items and Durable
Items List

Equipment Condition

Generator set shut down, and properly grounded
(WP 0005)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Engine cool

Drawings Required

FO-1

INTRODUCTION TO FIELD PMCS TABLE

Field Preventive Maintenance Checks and Services (PMCS) means systematic caring for, inspection of, and servicing of equipment to keep it in good condition. It prevents breakdowns and ensures the generator set is ready for operation at all times. The generator set must be inspected so that defects can be discovered and corrected before they result in damage or failure. This section lists PMCS authorized for field maintenance level

1. Be sure to perform your PMCS in the same order, so it gets to be a habit. Once you have had some practice, you will quickly spot anything wrong.
2. Pay attention to WARNINGS, CAUTIONS, and NOTES.
3. Perform PMCS tasks at the intervals noted in WP 0016, Table 1. Do not skip PMCS intervals.
4. Use DA Form 2404 (Equipment Inspection and Maintenance Worksheet) to record any faults you discover, unless you can fix them. You DO NOT need to record faults that you fix.

Explanation of Table Entries

Your PMCS (see WP 0016, Table 1) lists inspections and care required to keep your generator set in good operating condition. It is set up so you can make your BEFORE OPERATION checks as you walk around the generator set.

Item No. Column. The Item No. column lists each check or service in chronological order.

Interval Column. The Interval column tells you when to do a certain check or service. Intervals are based on operating hours, unless otherwise noted.

Item to be Checked or Serviced Column. The Item to be Checked or Serviced column directs maintenance personnel to the general area on the generator set where the check or service is to be performed.

Procedure Column. The Procedure column tells you how to do required checks and services. Tolerances, adjustment limits, and instrument readings are included as applicable. When replacement or repair of a component is required, the procedures column will direct you to the appropriate task.

NOTE

The terms ready/available and mission capable refer to same status: Equipment is on hand and ready to perform its combat missions. (See DA PAM 750-8).

Equipment Not Ready/Available if: Column. This column tells you when your generator set is not mission capable and why the engine assembly cannot be used.

If the generator set does not perform as required, see Chapter 5, Field Troubleshooting Procedures.

If anything looks wrong and you cannot fix it, write it on your DA Form 2404. IMMEDIATELY report it to your supervisor.

When you perform PMCS, always keep a rag or two handy. Following are checks common to the entire generator set:

1. Keep It Clean. Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use approved cleaning solvents (see WP 0143) on all metal surfaces. Use soap and water when you clean rubber or plastic material.
2. Rust and Corrosion. Check components for rust and corrosion. If any bare metal or corrosion exists, clean and apply a thin coat of oil. Report it to your supervisor.
3. Bolts, Nuts, and Screws. Check bolts, nuts, and screws for obvious looseness or to see if they are missing, bent, or broken. You cannot inspect them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find a bolt, nut, or screw you think is loose, tighten it or report it to your supervisor.
4. Welds. Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to your supervisor.
5. Electric Wires and Connectors. Look for cracked, frayed, or broken insulation. Look for bare wires, and loose or broken connectors. Tighten loose connectors. Report any damaged wires to your supervisor.
6. Hoses and Fluid Lines. Look for wear, damage, and leaks, and make sure clamps and fittings are tight. Wet spots show leaks, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to your supervisor.

CLEANING AGENTS

WARNING

Compressed air is dangerous and could cause serious bodily harm, if protective means or methods are not observed to prevent a chip or particle (of whatever size) from being blown into the eyes or to prevent unbroken skin of the operator or other personnel. Compressed air shall not be used for cleaning purposes except where reduced to less than 30 pounds per square inch gauge (psig). Use it only with effective chip-guarding and personnel protective equipment (industrial safety glasses and full face shield). DO NOT use compressed air to dry parts when solvent cleaners have been used. Failure to observe this warning could result in severe personal injury.

WARNING

Do not use TRICHLOROTRIFLUOROETHANE, TRICHLOROETHANE, and similar chemical solvents for ordinary cleaning of equipment. These substances threaten public health and the environment by destroying ozone in the Earth's upper atmosphere. Use suitable non-hazardous cleaning materials (see WP 0143) such as a clean cloth, water, and mild detergent or an approved substitute solvent, such as isopropyl alcohol. Failure to observe this warning could result in personal injury.

WARNING

Handle solvents as combustible liquids. Do not use near heat, sparks, or flame. Use solvents in well-ventilated areas only. Avoid prolonged breathing of vapor. Avoid bodily contact. Use chemical (solvent-resistant) gloves and chemical splash goggles when using solvent materials. Solvents may be reactive with acids and oxidizers; do not mix or cross-apply with other cleaners or chemicals. An organic vapor respirator with dust and mist filter is recommended when solvent is applied as a spray. Keep containers closed between applications. Provide mechanical ventilation if used in confined spaces. Store cleaning materials in a well-ventilated area away from food or drink. To avoid the possibility of spontaneous combustion, place solvent-saturated waste rags in a sealed metal container after use. Coordinate the use of this material with your supporting Industrial Hygiene and Safety Offices. Ensure you read and understand the Material Safety Data Sheet (MSDS) for the solvent before use. Failure to observe this warning could result in severe personal injury or death.

CAUTION

When cleaning inside generator set, engine must be COLD (same temperature as outside air). DO NOT point water stream directly at any electrical connection. DO NOT use high-pressure water supply system. Damage to engine, electrical system, and other components may result.

NOTE

Use only those authorized cleaning solvents or agents listed in WP 0143, Expendable and Durable Items List.

POWER WASHING

CAUTION

After power washing generator set, allow it to dry out thoroughly. DO NOT START GENERATOR SET UNLESS IT HAS COMPLETELY DRIED AFTER WASHING.

1. When using a power washer to clean the exterior generator set enclosure, always cover all air ducts and exhaust ports, using waterproof material to prevent damage to components. Cover control box, output panel components, and Frequency Converter (A8). Make sure end of power washing wand is no closer than three feet from generator set. Failure to follow these directions may result in damage to generator set. Use water pressure and volume similar to a standard household water supply (50 psi maximum, 3 gallons per minute). After cleaning, allow generator set to air dry. Do not use compressed air to dry unit. Do not run engine to decrease drying time.
2. Remove all waterproof material from ducts and other components before starting generator set.

NOTE

Keep cleaning solvents, gasoline, and lubricants away from rubber or soft plastic parts. They will deteriorate material.

3. When cleaning grease buildup or rusty places, use an approved cleaning solvent (see WP 0143). Then apply a thin coat of light oil to affected area.

CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking. Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), solvation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. SF Form 368, Product Quality Deficiency Report should be submitted to the address specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) Users Manual.

END OF WORK PACKAGE

FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
PMCS, INCLUDING LUBRICATION INSTRUCTIONS

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
 Standard Automotive Tool Set
 (WP 0140, Table 2, Item 5)
 Multimeter (WP 0140, Table 2, Item 1)

Materials/Parts

Washer, lock (WP 0088, Repair Parts List, Figure 1,
 Item 6)
 Ground (GND) Cable (WP 0124, Figure 32, Item 5)
 GND Output Terminal (WP 0124, Figure 32, Item 5)
 Coupling (WP 0124, Figure 32, Item 5)
 Grounding Rod (WP 0124, Figure 32, Item 5)
 Driving Stud (WP 0124, Figure 32, Item 5)
 Clamp (WP 0124, Figure 32, Item 5)

Personnel Required

(1)

References

WP 0011, Operator Maintenance Procedures
 WP 0025, Battery
 WP 0060, Fuel Filter/Water Separator
 WP 0063, Main Access Cover

Equipment Condition

Generator set shut down, and properly grounded
 (WP 0005)
 Battery cables disconnected (WP 0026)
 Cable disconnected for NATO Slave Receptacle
 (WP 0066)
 Engine cool

Drawings Required

FO-1

Table 1. Field PMCS for MEP-831A/MEP-832A.

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
1	100 Hours/ Semi- annually	Engine lubricating oil system	<p>NOTE</p> <p>Change oil and filter after 20 hours of engine operation. Follow 100-hour intervals there- after, unless in dusty and sandy conditions.</p> <p>See Lubrication Instructions below.</p>	Engine oil has not been changed or filter has not been cleaned.

Table 1. Field PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
2	100 hours/ Weekly	Engine air filter	a. Open main access cover to gain access to engine air filter case. b. Remove air filter (WP 0011, Air Filter). c. Inspect air filter for dirt, clogging, or obstruction. Replace as required. Check air filter rubber gasket to ensure it is secure. d. Replace air filter (WP 0011, Air Filter). Replace cover on housing, using wing nut and washer. e. Close main access cover and lock, using latches.	Air filter is clogged, dirty, or damaged.
3	100 Hours/ Monthly	Battery electrolyte level	Check battery electrolyte and gravity level (wet cell battery only). Service as required (WP 0025).	Battery electrolyte level is low.
4	1-2 Months	Battery, maintenance-free	Charge battery and verify condition monthly.	Battery is not serviceable.
5	300 Hours/ Weekly if not being used; daily if it is being used	Fuel filter/water separator	Visually inspect, and drain water. Remove and replace fuel filter/water separator element (WP 0060).	If filter system is missing.
6	300 Hours/ Weekly	Electrical system	Inspect receptacle, terminal lugs, and wires for damage, corrosion, or evidence of electrical short. Check for bent, broken, or missing terminal lugs. Clean deposits from receptacle and terminal lugs.	Terminal lugs are damaged, missing, or broken.
7	500 Hours/ Semi-annually	Frequency Converter (A8)	a. Check area around Frequency Converter (A8) for water. Test gaskets for water seepage. b. WP 0063 to replace gaskets.	Gaskets are loose or not sealing properly.
8	500 Hours/ Semi-annually	Engine air filter	Remove and replace engine air filter (WP 0011, Air Filter).	Engine air filter has not been replaced.
9	500 Hours/ Annually	Engine fuel injection pump	a. Inspect fuel injection pump for damage and evidence of leakage. Check area around pump sealing gasket for leaks. b. TM 9-2815-257-24 for pump and gasket replacement.	Fuel injection pump is damaged or leaking, or pump sealing gasket is leaking.
10	Initially @ 20 hours, then every 200 hours	Engine valves	Adjust engine valve clearance in accordance with TM 9-2815-257-24.	Engine valves are not properly adjusted.

Table 1. Field PMCS for MEP-831A/MEP-832A. - Continued

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/AVAILABLE IF:
11	1000 Hours	Engine fuel injector nozzle	Remove and replace fuel injector nozzle in accordance with TM 9-2815-257-24.	Fuel injector nozzle has not been replaced.
12	Weekly	Muffler	a. Check mounting bolts to ensure they are tight. If loose, tighten. If thread damage, replace. b. Check for corrosion, rust, cracks, etc.	Mounting bolts are working loose, exhaust leaks, holes are in muffler, or muffler blanket is torn.
13	500 Hours	Main access cover gaskets	Check gaskets to ensure they fit properly. Check for cracks and if they are frayed, torn, or missing.	Gaskets are cracked, frayed, torn, or missing.

Mandatory Replacement Parts List

There are no replacement parts required for these PMCS procedures.

LUBRICATION INSTRUCTIONS**NOTE**

In dusty and dry environments, change oil and air filter ahead of schedule to reduce generator set problems.

- These lubrication instructions are for field level maintenance personnel. Lube intervals (on-condition or hard time) are based on normal operation. Lube more during constant use and less during inactive periods. Use correct grade of lubricant for seasonal temperature expected. See Table 2.

CAUTION

Always wipe clean all oil filler components before starting your lube service. Use correct type or grade of oil. Overfilling will cause spillage and harm engine components.

- Change engine oil filter, as applicable, when
 - It is known to be contaminated or clogged.
 - The prescribed hard-time services interval has arrived.
- This generator set is not enrolled in the Army Oil Analysis Program (AOAP). Hard-time service intervals apply.
- For equipment under manufacturer's warranty, hard-time oil service intervals must be followed. Intervals must be shortened if lubricants are known to be contaminated or if operation is under adverse conditions such as longer-than-usual operating hours, extended idling periods, or extreme dust. CHANGE OIL AT 50-HOUR INTERVALS IN EXTREMELY DUSTY ENVIRONMENTS.

Table 2. Lubricant Table for Generator Set MEP-831A/MEP-832A.

LUBRICATION MIL SYMBOL SPECIFICATION	TEMPERATURE RANGE	SYSTEM CAPACITY	INTERVAL (HOURS)	MAN-HOURS
MIL-L-46167, OEA	-25 to +40 °F (-31 to +5 °C)	1.2 qt (1.1 liters)	100	0.25
MIL-L-2104, OE/HDO-15/40	+5 to +120 °F (-15 to +49 °C)	1.2 qt (1.1 liters)	100	0.25
MIL-L-2104, OE/HDO-10	-15 to +40 °F (-26 to +5 °C)	1.2 qt (1.1 liters)	100	0.25
MIL-L-2104, OE/HDO-30	+15 to +90 °F (-9 to +32 °C)	1.2 qt (1.1 liters)	100	0.25

Table 2. Lubricant Table for Generator Set MEP-831A/MEP-832A. - Continued

LUBRICATION MIL SYMBOL SPECIFICATION	TEMPERATURE RANGE	SYSTEM CAPACITY	INTERVAL (HOURS)	MAN- HOURS
MIL-L-2104, OE/HDO-40	+30 to +120 °F (-1 to +49 °C)	1.2 qt (1.1 liters)	100	0.25

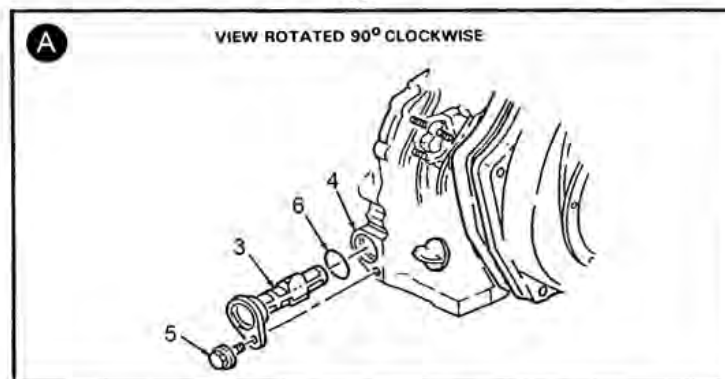
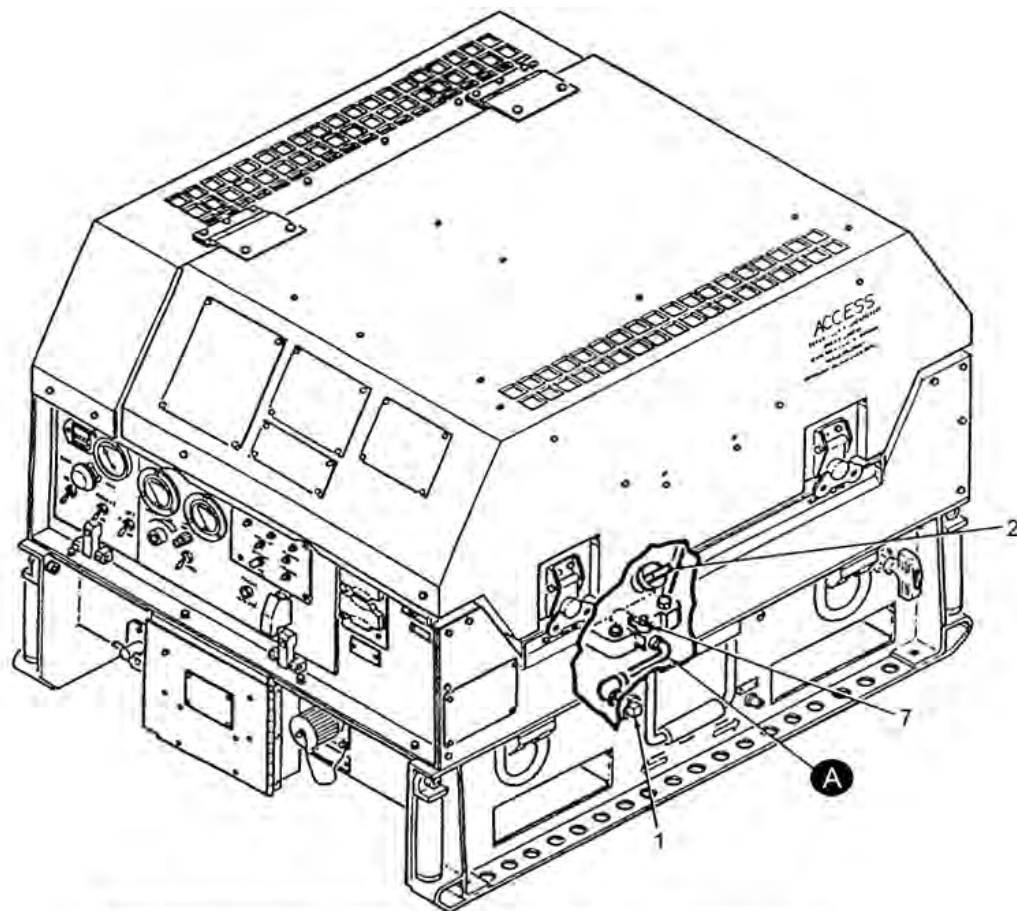
5. Drain and service engine oil and filter as follows:

- a. Unlock main access cover latches and lift cover to open.
- b. Place oil catch pan under oil drain plug (Figure 1, Item 1).
- c. Remove engine oil fill cap (2) to vent engine crankcase while draining.
- d. Remove oil drain plug (1). Move oil drain valve (7) to OPEN position and drain oil from crankcase.
- e. Once oil is drained, replace drain plug (1) and move valve (7) to CLOSE position. Remove oil catch pan. Dispose of oil in accordance with local ordinance.
- f. Remove oil filter (3) from crankcase cover (4) by removing bolt (5). Remove and discard O-ring (6).
- g. Inspect oil filter (3) for obvious damage. Check filter's mesh material for damage. Clean out clogging dirt and residue. Replace, as required, and dispose of in accordance with local ordinance.
- h. Using a clean rag, inspect area around oil filter port for evidence of leakage. Clean area of dirt and accumulated grime.
- i. Apply a light coat of lubricating oil to new O-ring (6) and place on oil filter.

CAUTION

Do not over tighten bolt (5). Damage to filter will occur.

- j. Slide oil filter (3) into crankcase cover (4) and secure using bolt (5).
- k. Fill engine with required oil until level reaches threaded opening of oil fill cap (2) (up to 1.2 quarts (1.1 liters)). See Table 2 for recommended oils. There should be at least two threads visible in the oil fill opening of the engine block when the engine is full of oil.
- l. Replace oil fill cap (2) and tighten.
- m. Close main access cover and secure, using latches.

**LEGEND**

- 1 Oil Drain Plug
- 2 Oil Fill Cap
- 3 Oil Filter
- 4 Crankcase Cover
- 5 Bolt
- 6 O-ring
- 7 Oil Drain Valve

Figure 1. Engine Oil Servicing.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****GENERATOR SET: INSPECTION, SERVICING**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Paint, CARC, Green (WP 0143, Item 15).
Paint, CARC, Black (WP 0143, Item 16).

Equipment Condition

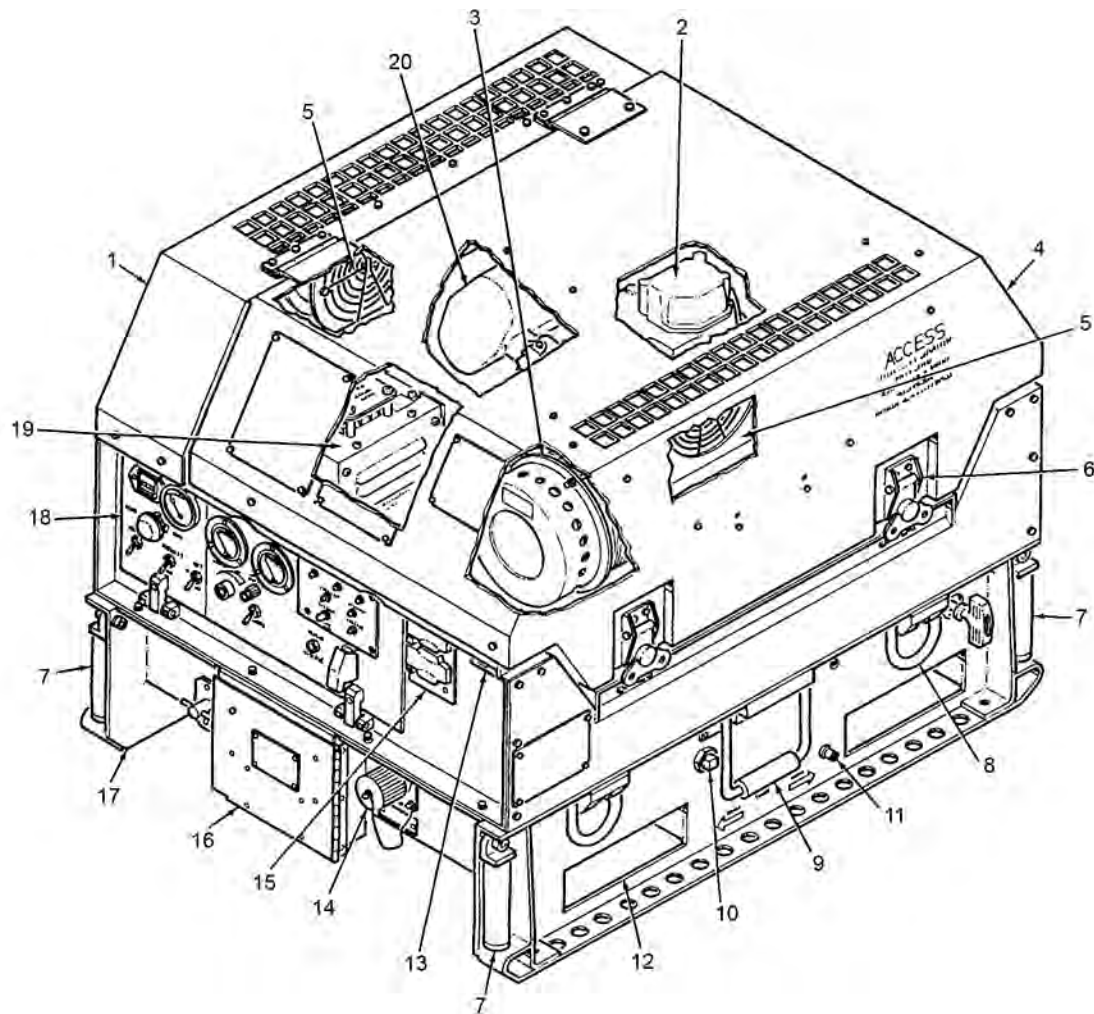
Generator set shut down (WP 0005, Generator Set
Shutdown)

INSPECTION OF INSTALLED ITEMS

1. Inspect generator set main access cover and housing for dents, cracks, warping, or other damage. Check all covers, ducts, and panels for damage and ensure they are securely attached (Figure 1).
2. Inspect painted surfaces for chips, scratches, bare metal, roughness, or corrosion.
3. Inspect main access cover and panel latches for proper operation. Latches should operate smoothly, free of binding.
4. Open main access cover and inspect insulation material for damage. Ensure insulation is securely attached to component.
5. Inspect generator set lifting handles (Figure 1, Items 7 and 9) and tie-down rings (8). Ensure they are securely attached.

END OF TASK**SERVICING**

Service in accordance with established preventive and scheduled maintenance procedures and limits.



LEGEND

- | | | | |
|----|-----------------------------------|----|-------------------------------------|
| 1 | Enclosure Assembly | 11 | Fuel Drain Plug |
| 2 | Diesel Engine | 12 | Forklift Opening |
| 3 | Permanent Magnet Alternator (PMA) | 13 | GFCI (60 Hz only) |
| 4 | Enclosure Cover | 14 | NATO Slave Receptacle |
| 5 | Cooling Fan | 15 | Convenience Receptacle (60 Hz only) |
| 6 | Cover Latch | 16 | Output/Load Terminal Cover |
| 7 | Lifting Handle | 17 | Skid Base |
| 8 | Tie-Down Ring | 18 | Control panel |
| 9 | Lifting Handle | 19 | Frequency Converter (A8) |
| 10 | Oil Drain Plug | 20 | Exhaust System |

Figure 1. Generator Set.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ENGINE ASSEMBLY, DIESEL: INSPECTION, SERVICING**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

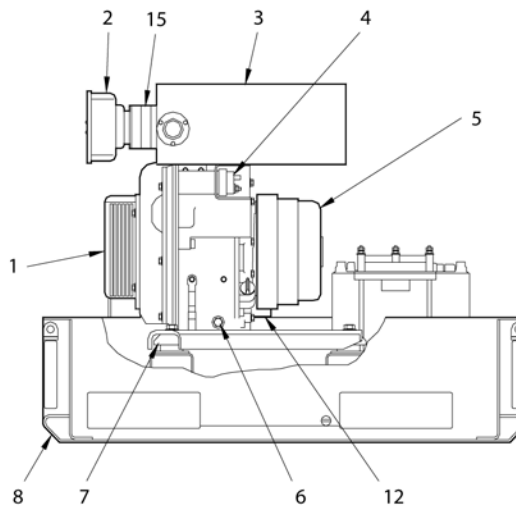
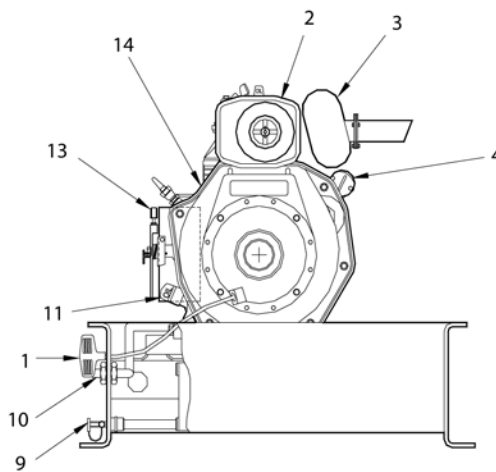
Generator set shut down (WP 0005, Generator Set
Shutdown)

INSPECTION OF INSTALLED ITEMS

1. Inspect engine (Figure 1) for obvious damage. Clean, as required, to view all components carefully. Look for signs of fluid leakage. Check all sealing areas and surfaces.
2. Inspect engine fuel and oil lines for cracks, cuts, abrasions, evidence of leakage, and obvious damage. Check fluid fittings and connectors, and ensure they are securely attached.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage. Ensure all connectors and terminal lugs are securely attached.
4. Conduct a detailed inspection of suspect components in accordance with appropriate maintenance paragraph.
5. Replace any component damaged to the extent it will affect safe operation of generator set.

END OF TASK**SERVICING**

Service in accordance with established preventive and scheduled maintenance procedures established in TM 9-2815-257-24.

LEFT SIDE VIEW**REAR VIEW****LEGEND**

- | | |
|----------------------|------------------------|
| 1 Recoil System | 9 Fuel Drain Plug |
| 2 Air Filter | 10 Oil Drain Plug |
| 3 Muffler | 11 Oil Fill Cap/Gauge |
| 4 Starter Motor | 12 Oil Pressure Switch |
| 5 Generator | 13 Governor Actuator |
| 6 Temperature Switch | 14 Diesel Engine |
| 7 Vibration Mount | 15 Manifold Heater |
| 8 Skid Base | |

Figure 1. Engine Assembly.**END OF TASK****END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GOVERNOR CONTROL MODULE: INSPECTION, TESTING, REMOVAL, REPLACEMENT****INITIAL SETUP:****Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0005, Generator Set Shutdown
WP 0020, Governor Actuator Assembly

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Turn quarter-turn fasteners (Figure 1, Item 1) to unlock, and swing open control panel.
2. Locate and inspect governor control module for corrosion, evidence of electrical short, and obvious damage.
3. Locate and inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

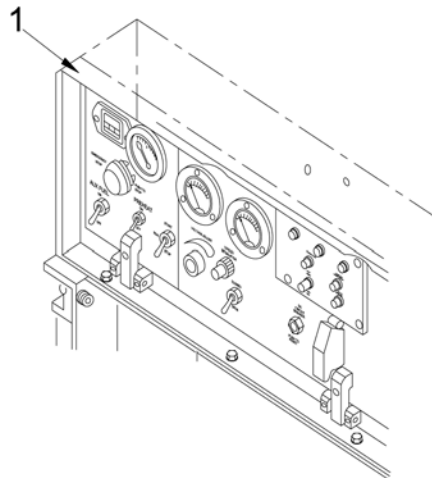


Figure 1. Control Panel.

END OF TASK**TESTING**

1. Install governor control module (Figure 2) in generator set and perform governor actuator adjustment in accordance with WP 0020.

2. Start generator set and operate at no load. Open control panel to allow access to governor control module. Voltage between terminals F and G should be 24 VDC. Voltage between terminals J and H should be 5.3 VDC. Voltage between terminals D and E should be 0 VDC. Voltage between terminals A and B, B and C, and C and A should be 178+/-2 VAC.
3. Close circuit interrupter and apply full load to generator set. Voltage between terminals F and G should be 24 VDC. Voltage between terminals J and H should be 11 VDC. Voltage between terminals D and E should be 0 VDC. Voltage between terminals A and B, B and C, and C and A should be 193+/-2 VAC.
4. Open circuit interrupter and shut down generator set (WP 0005, Generator Set Shutdown).

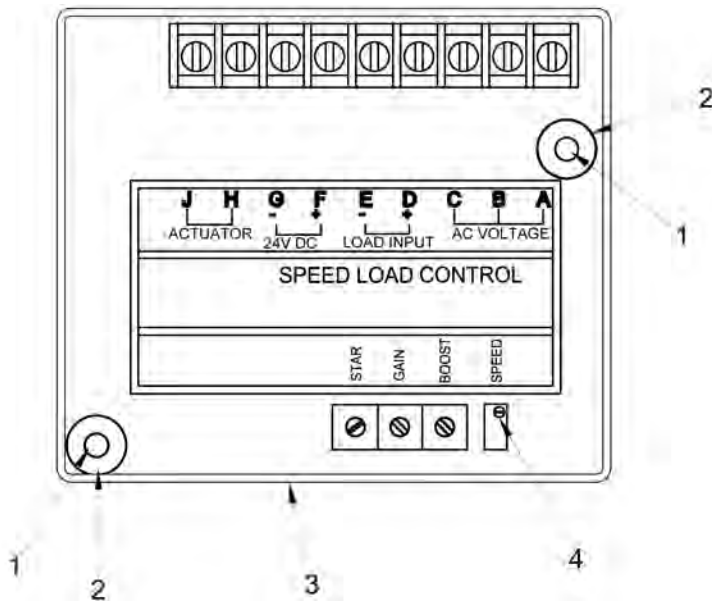


Figure 2. Governor Control Module.

END OF TASK

REMOVAL

1. Tag and disconnect electrical wiring from governor control module (3).
2. Remove governor control module (3) from inside wall of control box by removing screw (1) and captive washer assemblies (2).

END OF TASK

REPAIR OR REPLACEMENT

1. Install governor control module (Figure 2, Item 3) to inside wall of control box. Secure using screws (1) and captive washer assemblies (2).
2. Connect electrical wiring to governor control module (3).
3. Close control panel and lock in place using quarter-turn fasteners.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****GOVERNOR ACTUATOR ASSEMBLY: INSPECTION, TESTING, ADJUSTMENT, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Open main access cover.
2. Inspect governor actuator assembly (Figure 1, Item 11) for obvious damage. Inspect for corrosion and evidence of electrical short. Inspect linkage components for obvious damage or defects.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connector plug (12) is securely attached.

END OF TASK**TESTING**

Measure resistance at J10. Resistance should be a minimum of 10 ohms.

END OF TASK**ADJUSTMENT**

1. Loosen locknut (Figure 2, Item 5) on bottom of actuator linkage rod (3). Adjust spherical nut (4) so one thread shows on bottom of spherical nut (4). Tighten lock nut (5) against spherical nut (4).
2. Make sure governor actuator lever (2) reaches its stop just prior to engine fuel lever (6) reaching its stop. Adjust length by loosening locknut (7) on top of actuator linkage rod (3). Turn actuator linkage rod in or out of ball joint (1). Tighten locknut (7).

NOTE

If governor actuator linkage adjustment (Steps 1 and 2, above) results in satisfactory operation, Steps 3 through 13 (below) are not required. Perform these procedures only if further adjustment is necessary.

3. Open control box panel to gain access to governor control module (Figure 3).
4. Connect multimeter between control module terminals A and B.
5. Start generator set and run in no load condition. Adjust governor control module SPEED pot (4) to obtain a PMA frequency of 254 Hz (3,050 RPM) or a voltage of 178+/-2 VAC. Clockwise rotation of SPEED pot increases frequency and voltage. Counterclockwise rotation of SPEED pot decreases frequency and voltage.

CAUTION

DO NOT loosen or adjust governor actuator lever (Figure 2, Item 2). Magnet position is factory set.

6. With engine running, check gap between lever plate (Figure 1, Item A) and governor actuator lever (Figure 2, Item 2).
7. Gap should be 5/16 inch. Adjust gap by loosening locknut (Figure 4, Item 23) and screwing actuator linkage rod (22) in or out of ball joint (3).
8. Check gap and tighten locknut (23). Turn STABILITY rod (22) and GAIN rod to full counterclockwise position.
9. Rotate control module STABILITY rod (Figure 3, Item 1) clockwise until engine becomes unstable, then counterclockwise until it stabilizes, and then a little further counterclockwise.
10. Rotate control module GAIN rod (2) clockwise until engine becomes unstable, then counterclockwise until it stabilizes, and then a little further counterclockwise. Close load contactor and apply full rated load.
11. Adjust control module BOOST pot (3) to obtain a PMA frequency of 288 Hz (3,450 RPM) or a voltage of 193+/-2 VAC. Clockwise rotation of BOOST rod decreases frequency and voltage. Counterclockwise rotation of BOOST rod increases frequency and voltage.
12. Check no load to rated load operation by opening and closing CIRCUIT INTERRUPTER switch and observing actuator lever and plate (Figure 4, Item 19). If governor actuator lever (2) makes contact with plate during ON/OFF load operation, reduce gain slightly by rotating GAIN rod (Figure 3, Item 2) clockwise.

NOTE

When applying rated load, engine speed should increase without a large initial drop in engine speed. When removing load, engine speed should decrease without a large initial surge in speed.

13. At no load, lift governor actuator lever (Figure 4, Item 17) and lock in manual start position. PMA frequency should be 317 Hz (3,800 RPM) or voltage should be 219+/-2 VAC.
14. Shut down generator set and disconnect multimeter. Close and lock control panel.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.
2. Disconnect electrical plug (Figure 1, Item 1) from governor actuator assembly (Figure 4, Item 2).
3. Disconnect ball joint (3) on engine linkage from lever (4) on governor actuator assembly by removing screw (5), washer (6), and locknut (7).
4. Remove governor actuator assembly (2) by removing screws (8), lockwashers (9), and washers (10).
5. Remove lever (17) from lever (4) by removing screw (11), washer (12), and nut (13).
6. Release lever (4) from governor actuator assembly (2) by loosening screw (14), washer (15), and nut (16).
7. Remove screw (18), plate (19), washer (20), and nut (21) from lever (17).
8. Remove ball joint (3) from actuator linkage rod (22). Remove nuts (23, 26, and 27) and spherical washer (24).
9. Remove link bracket (25) from engine, only if replacement is required.

END OF TASK

REPAIR OR REPLACEMENT

1. Replace nuts (Figure 4, Items 23, 26, and 27), spherical washer (24), and ball joint (3) onto linkage rod (22). Attach link bracket (25) to engine.
2. Replace screw (18), plate (19), washer (20), and nut (21). Screw onto lever (17).
3. Install levers (4) to governor actuator assembly (2). Secure by tightening screw (14), washer (15), and nut (16).
4. Install lever (17) to lever (4). Secure using screw (11), washer (12), and nut (13).
5. Replace governor actuator assembly (2) using two screws (8), lockwashers (9), and washers (10).
6. Adjust actuator/governor linkage, as required, in accordance with ADJUST procedures, above.
7. Connect ball joint (3) on engine linkage with lever (4) using screw (5), washer (6), and locknut (7). Ensure linkage and actuator lever are in same plane (vertical when viewed from control box end of generator set).
8. Connect electrical plug (1) to actuator (2).
9. Close main access cover and lock in place using latches.

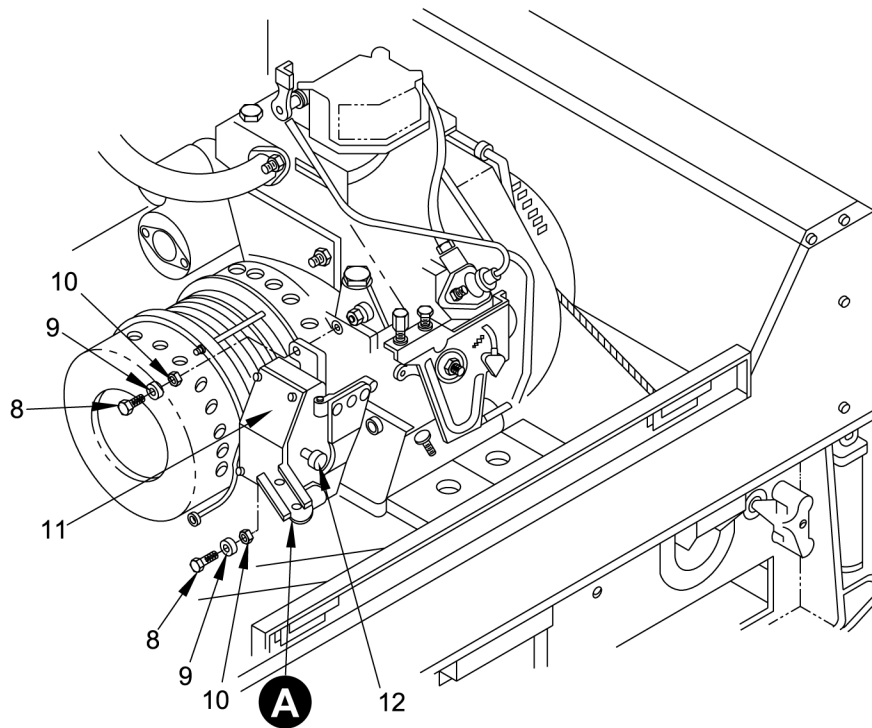


Figure 1. Governor Actuator Assembly.

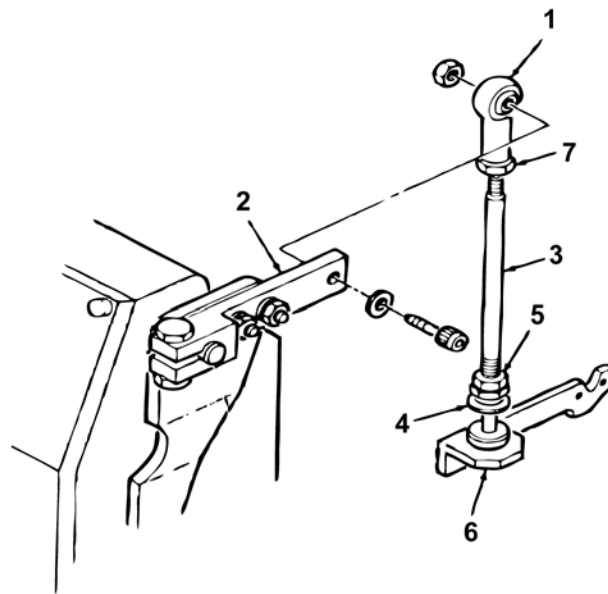


Figure 2. Governor Adjustment.

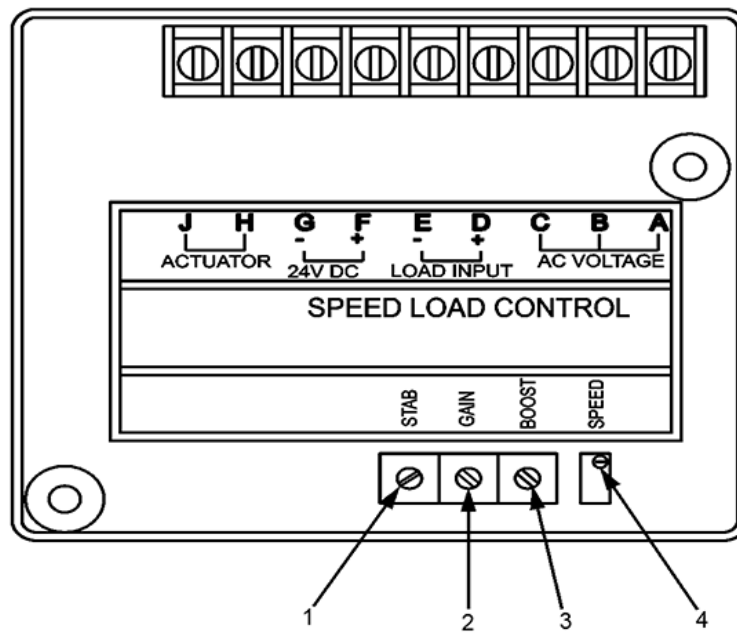


Figure 3. Governor Control Module.

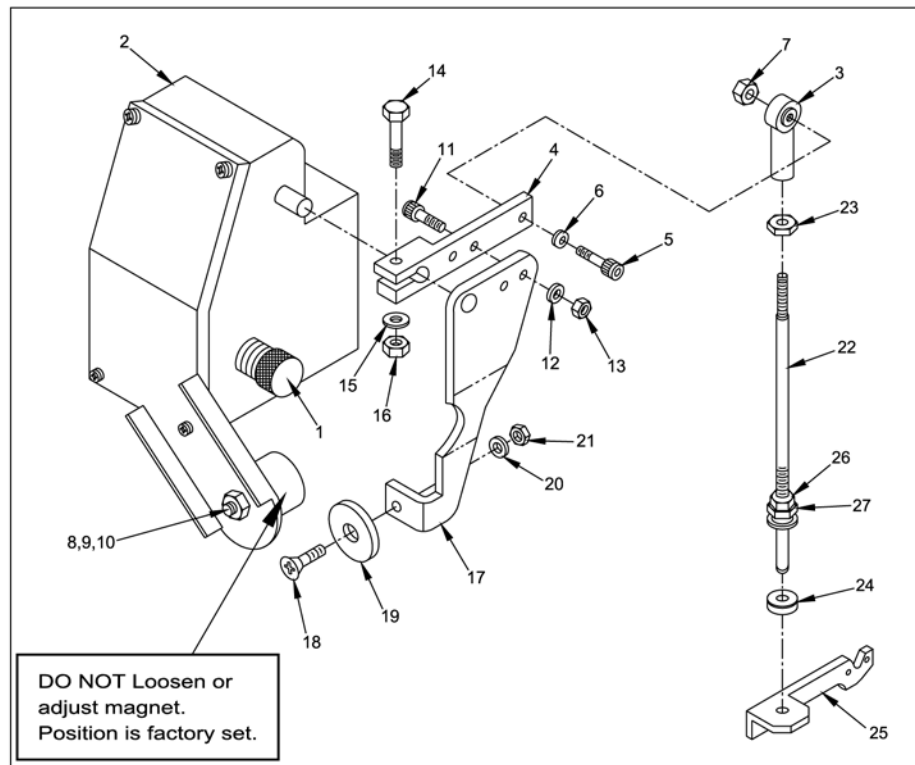


Figure 4. Governor Actuator.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)**
ENGINE WIRING HARNESS: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage (See FO-3).
2. Inspect connectors and terminal lugs. Ensure they are securely attached and free from corrosion and that there aren't any broken connector ends.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open. Disconnect generator set wiring harness plug (P7) from control box harness connector J7 (Figure 1, Item 1), located on rear of control box assembly.
2. Unlock and open control panel (2) by turning quarter-turn fasteners (3).
3. Tag and disconnect control box harness wires from control box components. See FO-3, 60 Hz Control Box Wiring Harness, and FO-4, 400 Hz Control Box Wiring Harness.
4. Release harness connector J7 (1) from inside wall of control box by removing four screws with captive washers (5).
5. Remove clamp (6) by removing screw and captive washer assembly (7) and washer (8). Screw (7) secures panel cable to control box wall.
6. Remove clamp (9) from rear of control panel (2) by removing nut (10) and lockwasher (11).
7. Remove control box wiring harness (4) from control box.

END OF TASK

REPAIR OR REPLACEMENT

1. Install control box harness connector J7 (Figure 1, Item 1) to inside wall of control box. Secure using four screws with captive washers (5).
2. Connect control box harness wires to control box components. See FO-3, 60 Hz Control Box Wiring Harness, and FO-4, 400 Hz Control Box Wiring Harness.
3. Install clamp (6) using screw and captive washer assembly (7) and washer (8).
4. Install clamp (9) using nut (10) and lockwasher (11). Close control panel (2) and lock in place using quarter-turn fasteners (3).
5. Connect generator set wiring harness plug (P7) to control box harness connector J7 (1).
6. Close main access cover and lock in place using latches.

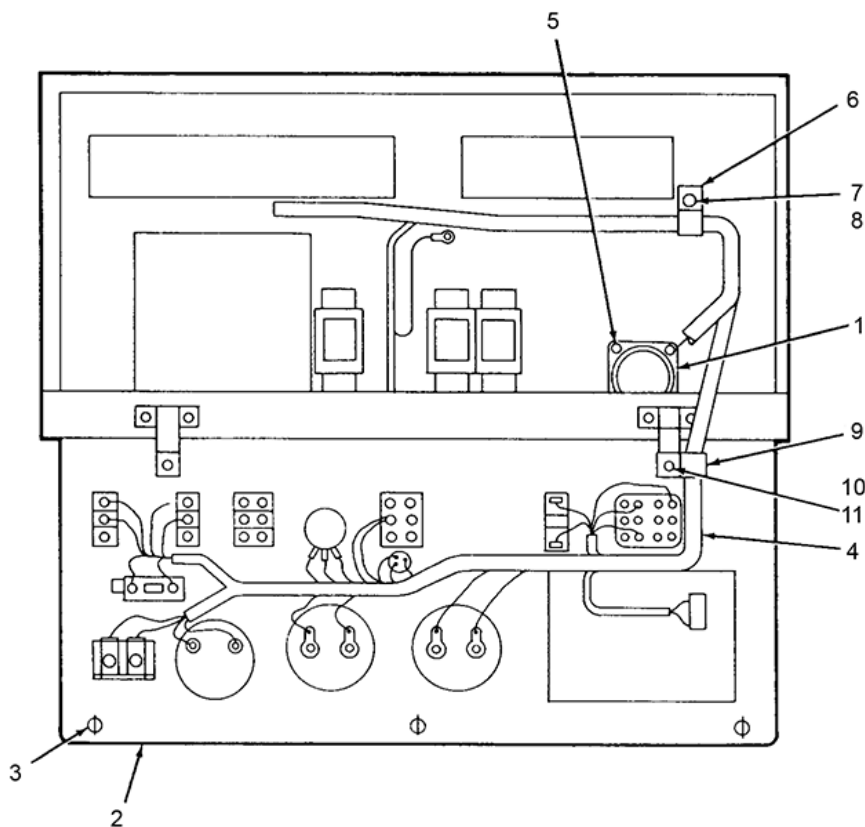


Figure 1. Engine Wiring Harness.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PERMANENT MAGNET ALTERNATOR (PMA): INSPECTION, TESTING

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)

INSPECTION OF INSTALLED ITEMS

1. Inspect Permanent Magnet Alternator (PMA) components for damage. To view all components, clean as required.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage. Ensure all connectors and terminal lugs are securely attached.
3. Inspect all components (Figure 2) for corrosion. Check attaching parts for crossed, stripped, or damaged threads.
4. Inspect edge gasket (2) for damage. Inspect label (1) for legibility.

END OF TASK

TESTING

1. Remove J15 and J16 from the inverter, with an Ohmmeter, on a low range (less than 400 ohms) ensure that there is less than 1.2 ohms between the same numbered windings. Also ensure that the three pins on each side of the plug are the same numbered winding as indicated in Figure 1 below.

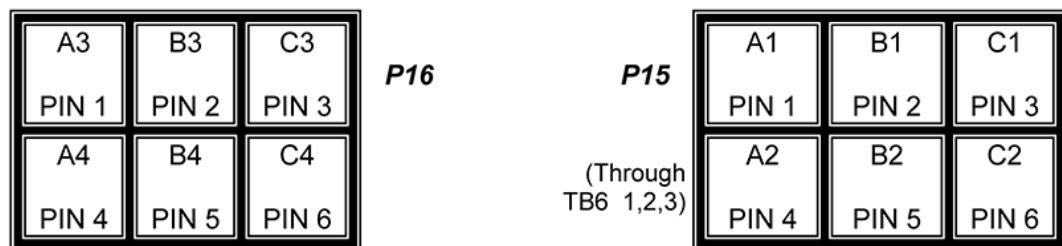


Figure 1. Pin Winding.

2. Now select an ohmmeter range of high resistance (higher than 1 megohm), and ensure that there is no connection between any different numbered windings. (A1 winding does not connect to any 2 winding or 3 winding or 4 winding, then the A2 winding does not connect to any 3 winding or 4 winding, then the A3 winding does not connect to any 4 winding.) There should be no steady reading under 200,000 ohms.
3. Open the Voltage Selector Switch door on top of the Inverter. This is a safety function to disable the Inverter output. Start the set in accordance with the operating instructions.
4. Connect a voltmeter to A1 and C1 (pins 1 and 3) of P15. Set it to read over 200 VAC.
5. Measure the voltages of all windings in J15 and J16. They should all be balanced to within 2 V of each other.

6. Measure the battery charging winding output. (TB4 terminal 9 and FU1 terminal 2) You should read approximately 28 and 40 VAC.
7. Shut the unit down and install J15 and J16 on the Inverter.
8. Start the unit and let it run for 1 to 2 minutes. (Leave the Selector Switch door OPEN!) This checks the input side of the Inverter.
9. Shut the unit down and place the Voltage Selector Switch to desired connection and close the Selector Switch Door.

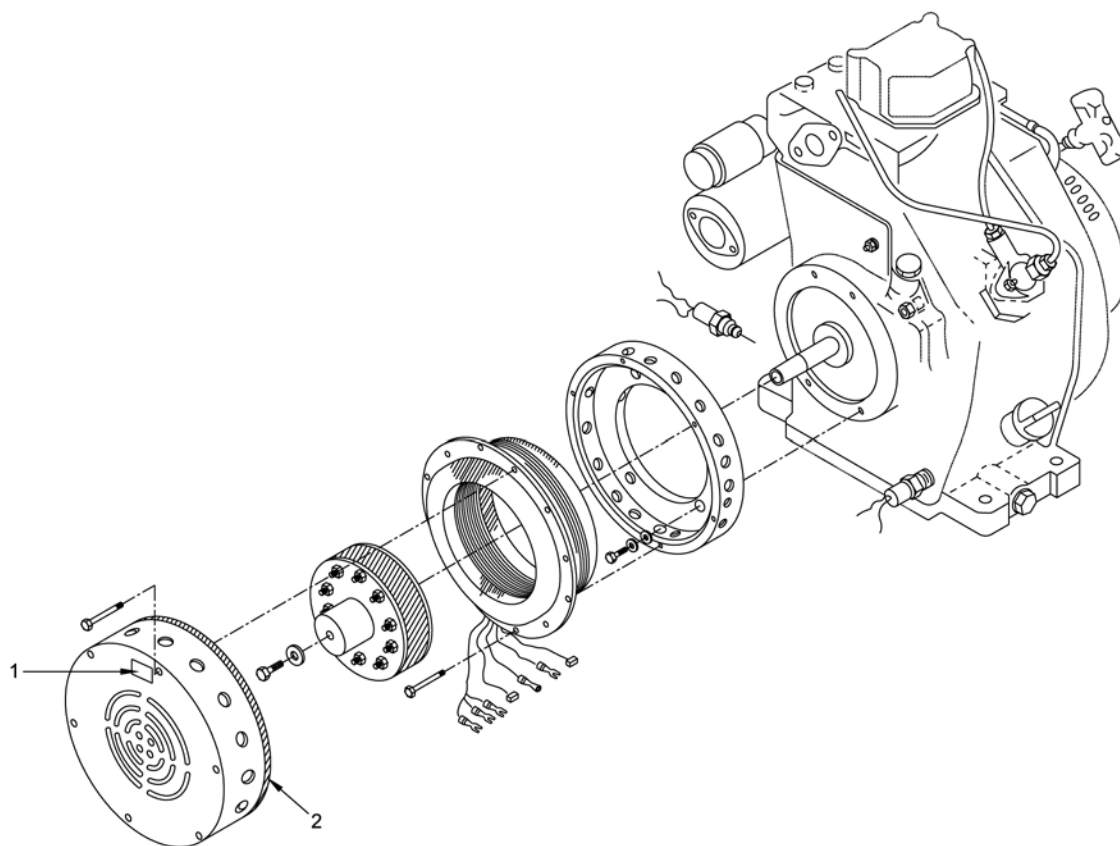


Figure 2. Permanent Magnet Alternator (PMA).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ELECTRICAL SYSTEM ASSEMBLY: INSPECTION, TESTING**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage (See FO-2).
2. Inspect connectors and terminal lugs. Ensure they are securely attached and free from corrosion and that there are no broken connector ends.

END OF TASK**TESTING**

Test is limited to ensuring all wiring is securely attached and gauges, meters, etc., operate in normal condition.

END OF TASK**END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****BATTERY CHARGING REGULATOR: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Open main access cover.
2. Inspect battery-charging regulator for corrosion, evidence of electrical short, and obvious damage (Figure 1).
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**REMOVAL**

1. At control panel (6) turn quarter-turn fasteners to unlock and open control panel.
2. Unlock main access cover latches and lift cover to open.
3. Disconnect electrical plug (5) from battery charging regulator (1).
4. Remove battery-charging regulator (1) from top of control box (6) by removing screws (2), washers (3), and locknuts (4).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install battery-charging regulator (1) to top of control box (6). Secure using screws (2), washers (3), and locknuts (4).
2. Connect electrical plug (5) to battery charging regulator (1).
3. Close main access cover and lock in place using latches.
4. Close control panel (6) and lock in place using quarter-turn fasteners.

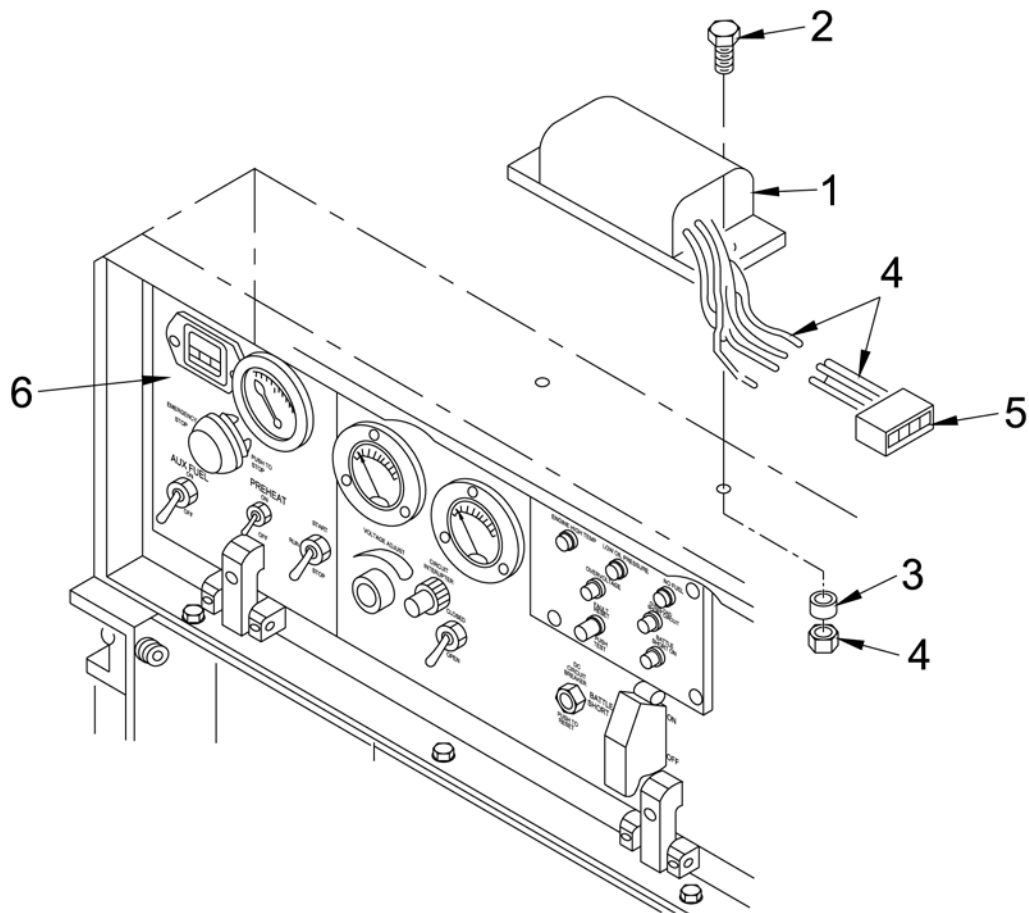


Figure 1. Battery Charging Regulator.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****BATTERY: INSPECTION, TESTING, SERVICING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0026, Battery Cables

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

Water, Distilled (WP 0143, Item 24)
Tester, Battery Electrolyte Solution (WP 0140, Table
2, Item 4)

WARNING

Battery acid can cause burns to unprotected skin. Wear safety goggles and chemical gloves and avoid acid splash while working on the batteries. Failure to comply with this warning can cause severe personal injury.

WARNING

Batteries give off flammable gas. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

INSPECTION OF INSTALLED ITEMS

1. Open main access cover.
2. Inspect battery cables (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Check for cuts, tears, or exposed wires.
3. Inspect for damaged battery case and for cracks, corrosion, or evidence of leakage. Inspect battery posts for corrosion.
4. Inspect for damaged and loose connections on terminal cables, and damaged or missing battery caps.

END OF TASK

TESTING

1. Ensure proper charge using electrolyte solution tester. Specific gravity reading should be between 1.2767 and 1.2853.
2. Replace caps on battery.

END OF TASK**SERVICING****NOTE**

The generator set is designed to accept and operate with either a standard wet cell battery or a sealed maintenance-free battery. If a standard wet cell battery is used, check the electrolyte level and service as follows:

1. Disconnect battery (Figure 1, Item 7).
2. See WP 0026 for detailed inspection, cleaning, and repair of battery cables (Figure 1, Item 1).
3. Remove corrosion from cable terminals (1) and battery posts (2) using wire terminal brush.
4. Remove caps from battery (7) and check electrolyte level of cells. Electrolyte level should be at bottom of each cap cylinder.
5. Add distilled water to each battery cell as required.
6. Replace battery caps.
7. Charge battery (7) using battery charger (see procedure below).
8. If necessary contact next-higher level of maintenance to clean or replace batteries or battery terminals.

END OF TASK**Procedure for Charging Electrolyte Battery**

1. Use a constant voltage charger with a rating of at least 15 Amps. The electrolyte battery has a rated capacity of 13.6 Amp-hours, so the battery charger should have a current rating greater than or equal to the battery's rated amp-hour capacity.

NOTE

The constant voltage charger should have a rating no less than the battery's amp-hour rating.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

2. Follow all the safety instructions provided with battery charger, and wear safety goggles to protect your eyes from battery acid.

NOTE

Connect battery to charger and follow charging instructions.

3. How long to fully charge battery depends on its state of charge. A fully discharged battery requires 4 hours to recharge.

4. If state of discharge is unknown, charge battery until current stabilizes. Then continue to charge battery for another hour.

NOTE

If battery cannot be charged using the above procedure, use the procedure below.

END OF TASK

Procedure for Conditioning Charge of Electrolyte Battery

To condition charge you need a constant current (CI) charger with at least twice the potential (50 V) of the battery being charged. The electrolyte battery is a 24 V battery, so the charge requires an output voltage of at least 50 V.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

Follow all safety instructions provided with battery charger, and wear safety goggles to protect your eyes from battery acid.

1. Set conditioning charger to 50 V and 1.3 Amps.

NOTE

Connect battery to charger and follow charging instructions.

2. Charge battery for 18 to 24 hours.
3. Battery voltage should increase to 30+ V at end of conditioning charge. This is normal.
4. If battery voltage does not measure 30+ V, then replace battery.

END OF TASK

REMOVAL

WARNING

Battery acid can cause burns to unprotected skin. Wear safety goggles and chemical gloves and avoid acid splash while working on the batteries. Failure to comply with this warning can cause severe personal injury.

WARNING

Batteries give off flammable gas. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

WARNING

When disconnecting battery cables, always remove negative cable first and positive cable last. Connect cable ends to enclosure ground lugs to prevent contact. Failure to observe this warning could result in severe personal injury or death.

1. Unlock main access cover latches and lift cover to open.
2. Disconnect negative battery cable (Figure 1, Item 1) from negative (-) battery post (2). Connect cable end to enclosure ground lug.
3. Disconnect positive battery cable (1) from positive (+) battery post (2). Connect cable end to enclosure ground lug.
4. Remove battery tie-down (3) from hold-down rods (4) by removing nuts (5) and washers (6).
5. Carefully remove battery (7) from battery tray (8). Remove battery tray.

END OF TASK**REPAIR OR REPLACEMENT****WARNING**

Battery acid can cause burns to unprotected skin. Wear safety goggles and chemical gloves and avoid acid splash while working on the batteries. Failure to comply with this warning can cause severe personal injury.

WARNING

Batteries give off flammable gas. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

WARNING

When disconnecting battery cables, always remove negative cable first and positive cable last. Connect cable ends to enclosure ground lugs to prevent contact. Failure to observe this warning could result in severe personal injury or death.

1. Replace battery tray (Figure 1, Item 8) and battery (7).
2. Replace battery tie-down (3) and secure to hold-down rods (4) using nuts (5) and washers (6).

WARNING

When connecting battery cables, always connect positive cable first and negative cable last. Failure to observe this warning could result in severe personal injury or death.

3. Connect positive battery cable (1) to positive (+) battery post (2).
4. Connect negative battery cable (1) to negative (-) battery post (2).
5. Close main access cover and lock in place using latches.

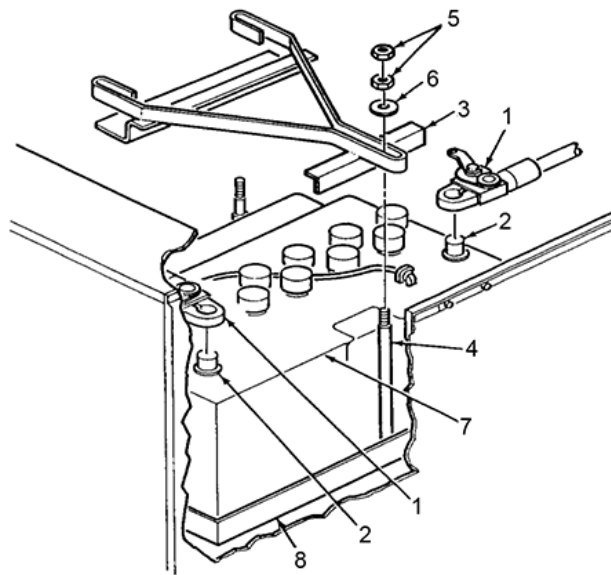


Figure 1. Battery System.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****BATTERY CABLES: INSPECTION, REMOVAL, SERVICING, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0025, Battery

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

Wire Brush
Battery Lube

INSPECTION OF INSTALLED ITEMS

1. Inspect battery cables (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Check for cuts, tears, or exposed wires.
2. Inspect battery posts (2) and crimp lugs (6) for corrosion or damage. Check to see they are securely fastened. Inspect insulation sleeving for deterioration.
3. Inspect battery (WP 0025, Figure 1, Item 7) for cracks, corrosion, or evidence of leakage. Inspect battery posts (Figure 1, Item 2) for corrosion. Using a wire brush remove corrosion from cable terminals and battery posts (2).

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.

WARNING

Batteries give off flammable gas. Do not smoke or use open flame when performing maintenance. Flames and explosion could result in severe personal injury or death. Failure to observe this warning could result in severe personal injury or death.

WARNING

Do not allow battery acid to contact skin or clothing. Contact of skin with battery acid liquid or inhalation of battery acid mist can cause severe burns, respiratory tract infection, and chronic bronchitis. If any battery acid liquid or mist contacts skin or eyes, immediately flush affected areas thoroughly with water. If vapors are inhaled, go to fresh air. Seek medical help immediately. Failure to observe this warning could result in severe personal injury or death.

WARNING

When disconnecting battery cables, always remove negative cable first and positive cable last. Connect cable ends to enclosure ground lugs to prevent contact. Failure to observe this warning could result in severe personal injury or death.

2. Disconnect negative battery cable (Figure 1, Item 6) from negative (-) battery post (7). Disconnect opposite end of cable from engine ground lug by removing screw (9), lockwasher (10), and washer (11). Leave electrical cable (8) in place on ground lug.

3. Disconnect positive battery cable (1) from positive (+) battery post (2). Disconnect opposite end of cable from starter's positive terminal (3) by removing nut (4) and washer (5).

END OF TASK

SERVICING

1. Once battery cables are disconnected, clean them. Using a wire brush or a tool specifically designed for cleaning battery lug terminals, thoroughly clean cables to remove corrosion.
2. Clean battery (+) and (-) terminals so they are free of corrosion.

NOTE

Prior to replacing battery cables, coat them with general-purpose grease to prevent buildup of corrosion.

END OF TASK

REPAIR OR REPLACEMENT

1. Ensure battery is secure in battery tray. Tighten hold-down rods, as required.

WARNING

When connecting battery cables, always connect positive cable first and negative cable last. Failure to observe this warning could result in severe personal injury or death.

CAUTION

After the following step is performed be sure to cover the connection point of the positive terminal of the starter with NSN: 8040-00-117-8510. Failure to comply may cause damage to the generator set and/or injury to soldiers.

2. Connect positive battery cable (1) to positive terminal of the starter (3) using nut (4) and washer (5). Connect opposite end of cable to positive (+) battery post (2).
3. Connect negative battery cable (6) and cable (8) to engine ground lug using screw (9), lockwasher (10), and washer (11). Connect opposite end of cable (6) to negative (-) post (7) of battery.
4. Close main access cover and lock in place using latches.

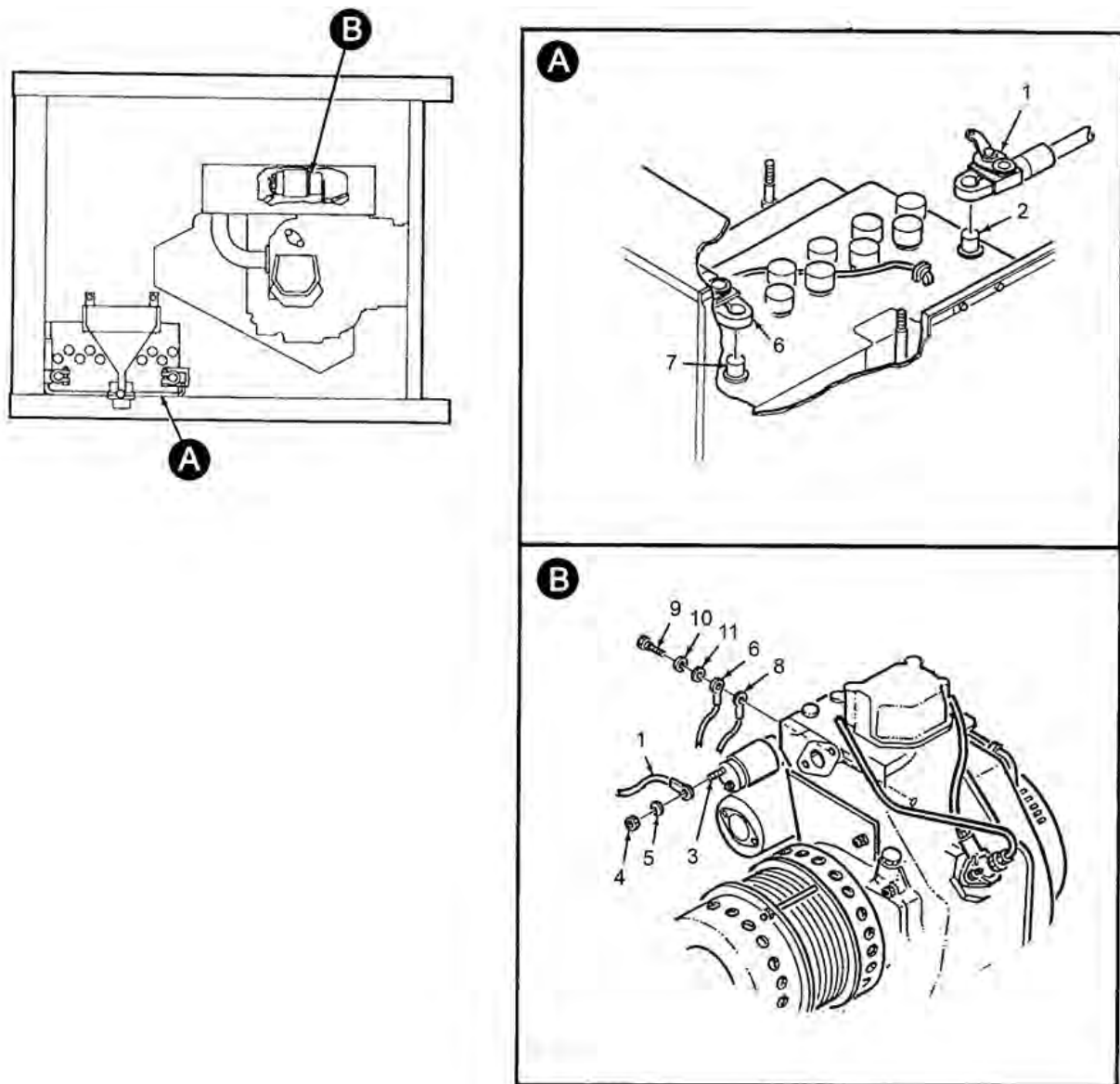


Figure 1. Battery Cable Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****CONTACTOR ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

NOTE

There are two different contactor configurations. If you remove and replace the old contactor with the new contactor, follow the Configuration A procedures shown below, making sure you keep the old bracket and top cover. If you install a new contactor, follow the Configuration B procedures shown below.

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect contactor (Figure 1, Item 4) for corrosion, evidence of electrical short, and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

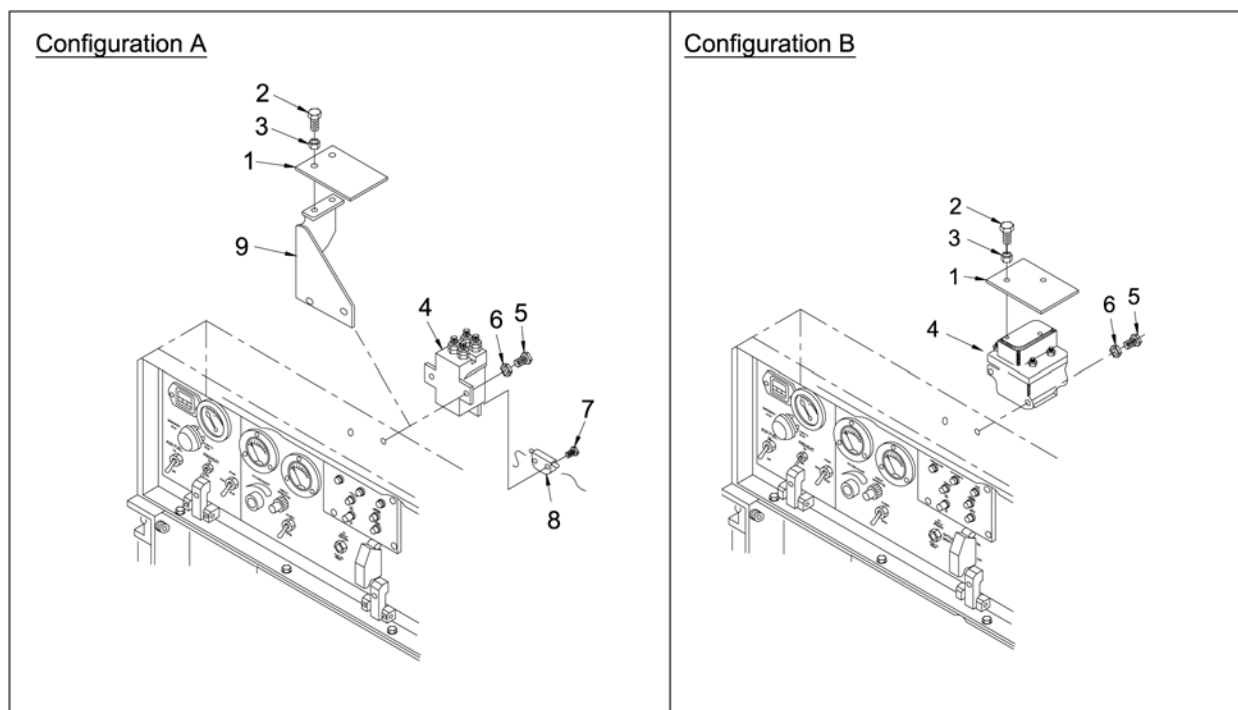
END OF TASK**REMOVAL**

1. Configuration A: Remove protective plate (1) from bracket (9) by removing screws (2) and lockwashers (3).
Configuration B: Remove protective plate (1) by removing screws (2) and lockwashers (3).
2. Tag and disconnect electrical wiring from AC circuit interrupter contactor K1 (4).
3. Configuration A: Remove contactor K1 (4) and bracket (9) from back of control box by removing screw and captive washer assemblies (5) and washers (6).
Configuration B: Remove contactor K1 (4) from back of control box by removing screw and captive washer assemblies (5) and washers (6).
4. Configuration A: Remove microswitch (8) from contactor K1 (4) by removing screw and captive washer assemblies (7).

END OF TASK

REPAIR OR REPLACEMENT

1. Configuration A: Replace microswitch (8) onto AC circuit interrupter contactor K1 (4) using screw and captive washer assemblies (7).
2. Configuration A: Install contactor K1 (4) and bracket (9) to back of control box. Secure using screw and captive washer assemblies (5) and washers (6).
Configuration B: Install contactor K1 (4) to back of control box. Secure using screw and captive washer assemblies (5) and washers (6).
3. Connect electrical wiring to contactor K1 (4).
4. Configuration A: Replace protective plate (1) onto bracket (9) using screws (2) and lockwashers (3).
Configuration B: Replace protective plate (1) onto contactor K1 (4) using screws (2) and lockwashers (3).
5. Close main access cover and lock in place using latches.

**Figure 1. Contactor Assembly.****END OF TASK****END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
FREQUENCY CONVERTER (A8): INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
AC circuit interrupter contactor removed (WP 0027).

References

WP 0022, Permanent Magnet Alternator (PMA)
WP 0027, Contactor Assembly

Materials/Parts

As required

CAUTION

After power washing generator set, allow it to dry out thoroughly. DO NOT START GENERATOR SET UNLESS IT HAS COMPLETELY DRIED AFTER WASHING.

INSPECTION OF INSTALLED ITEMS

1. Open main access cover.
2. Inspect Frequency Converter (A8) (Figure 1, Item 5) for obvious damage. Inspect for corrosion and evidence of electrical short. Check air ducts for clogs or obstructions. Clear obstructions.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**TESTING**

1. Test output of Permanent Magnet Alternator (PMA) at P15 and P16 in accordance with TEST section in WP 0022.
2. Measure voltage at Frequency Converter (A8) output terminal as follows:
 - a. Set VOLTAGE SELECTION switch (on top of A8) to 120/240 V.
 - b. Start generator set.
 - c. Connect multimeter to load terminal L1-N.
 - d. Check voltage reading. Reading should be 120 VAC.
 - e. Connect multimeter to load terminal L2-N.
 - f. Check voltage reading. Reading should be 120 VAC.
 - g. Connect multimeter to terminal L1-L2.
 - h. Check voltage reading. Reading should be 240 VAC if in 120/120 V connection configuration or 0 VAC if in 120 V connection configuration.
 - i. Reconnect J15 and J16 (See FO-1) to Frequency Converter (A8). Start generator set. Let it run for 1 minute. Leave SELECTOR switch door open. This checks the input side of the Frequency Converter (A8).
 - j. Shut down generator set and set VOLTAGE SELECTOR switch to 120/240. Close VOLTAGE SELECTOR switch door.
 - k. Start generator set. Adjust voltage reading on set meter to 240 V.

- l. Measure voltage output at Frequency Converter (A8) output terminals.
- m. Fine-tune voltage adjustment so reading between load terminals L1 and L2 is between 240 and 241 VAC. L1-N and L2-N should be balanced at 120 VAC within .7 VAC of each other.

END OF TASK**REMOVAL**

1. Tag and disconnect three electrical connectors from Frequency Converter (A8) (5). Remove two wire clamps (24) by removing screws (25).
2. Remove wire cover plate (1) from Frequency Converter (A8) (5) by removing four screw and captive washer assemblies (2). Tag and disconnect electrical wires (4) by loosening screws (3). Reinstall screws and cover plate to prevent loss.
3. To prevent damage, tag and disconnect electrical harness connector J7 from rear of control box.
4. Remove two screws holding K1 relay and bracket in place to allow easy access to Frequency Converter (A8) for removal.
5. Detach Frequency Converter (A8) (5) from bracket (9) by removing two screws (10), lockwashers (11), and washers (12).
6. Release Frequency Converter (A8) (5) from rear wall of enclosure (13) by removing six screws (14), lockwashers (15), and washers (16).
7. Remove bracket (17) from skid base by removing four screws (18), lockwashers (19), and washers (20).
8. Remove bracket (17) from Frequency Converter (A8) (5) by removing two screws (21), lockwashers (22), and washers (23).
9. Carefully lift Frequency Converter (A8) (5) up and out of generator set enclosure.

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace bracket (17) onto Frequency Converter (A8) (5) using two screws (21), lockwashers (22), and washers (23). Carefully replace Frequency Converter (A8) (5) into generator set.
2. Secure bracket to skid base using four screws (18), lockwashers (19), and washers (20).
3. Install Frequency Converter (A8) (5) to rear wall of enclosure (13). Secure using six screws (14), lockwashers (15), and washers (16).
4. Attach Frequency Converter (A8) (5) to bracket (9) using two screws (10), lockwashers (11), and washers (12).
5. Secure control box to bracket (9) using two screws (6), lockwashers (7), and washers (8).
6. Connect electrical harness connector J7 to rear of control box. Connect three electrical connectors to Frequency Converter (A8) (5).
7. Connect electrical wires (4) using screws (3). Replace cover plate (1) using four screw and captive washer assemblies (2).
8. Secure two wire clamps (24) to Frequency Converter (A8) (5) using screws (25).
9. Replace AC circuit interrupter contactors (WP 0027).
10. Close main access cover and lock in place using latches.

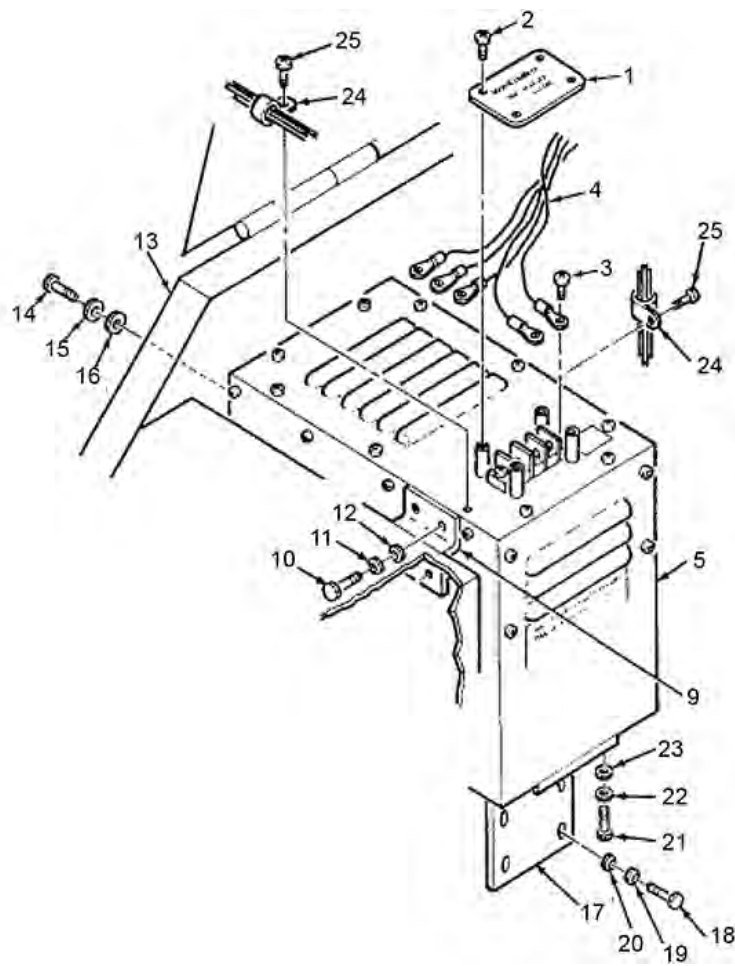


Figure 1. Frequency Converter (A8) Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****RELAYS, ELECTROMAGNETIC: INSPECTION, REMOVAL REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect DC magnetic contactors (Figure 1, Item 7) for obvious damage. Inspect for corrosion and evidence of electrical short.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.
2. Remove two DC magnetic contactors (7) from wall of enclosure (8) by removing screws (9), washers (10), and locknuts (11).
3. Tag and disconnect electrical wires (1, 2) from DC magnetic contactors (7) by removing nuts (3, 5) and washers (4, 6). Remove voltage suppressors (12).

END OF TASK**REPAIR OR REPLACEMENT**

1. Connect electrical wires (1, 2) and voltage suppressors (12) to DC magnetic contactors (7) using nuts (3, 5) and washers (4, 6).
2. Install two DC magnetic contactors (7) to rear wall of enclosure (8). Secure using screws (9), washers (10), and locknuts (11).
3. Close main access cover and lock in place using latches.

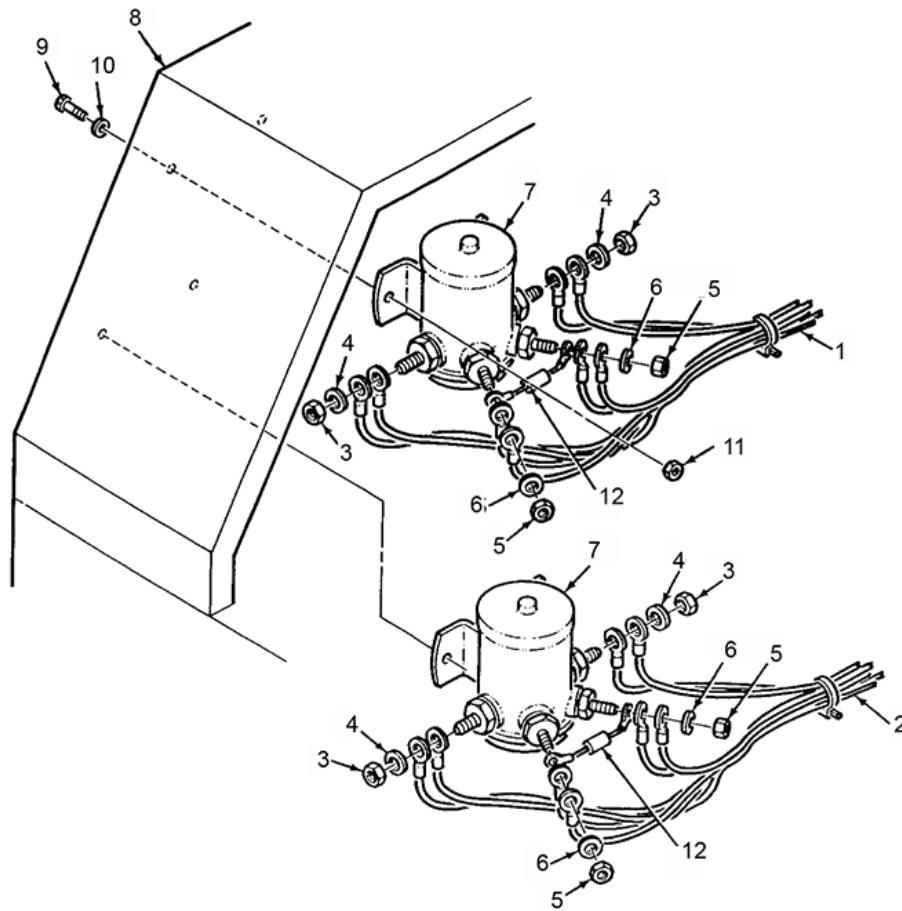


Figure 1. Relays, Electromagnetic.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
CONTROL BOX ASSEMBLY: INSPECTION, TESTING, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
 Standard Automotive Tool Set
 (WP 0140, Table 2, Item 5)
 Multimeter (WP 0140, Table 2, Item 1)

References

WP 0024, Battery Charging Regulator
 WP 0030, Figure 1, Item 24
 WP 0045, Receptacle, Filters, Terminals, and
 Voltage Resistor
 WP 0046, Ground Fault Circuit Interrupter (GFCI)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
 Shutdown)
 Battery cables disconnected (WP 0026)
 Cable disconnected for NATO Slave Receptacle
 (WP 0066)
 Battery charging regulator removed (WP 0024)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Inspect controls and indicators for corrosion and obvious damage (Figure 1). Inspect meters for broken glass.
2. Turn quarter-turn fasteners to unlock and open control panel.
3. Inspect external relays and terminal boards for evidence of electrical short. Check for loose wires and connectors. Inspect for electrical burn marks, corrosion, and damage.
4. Inspect connector J7 (37) for damaged pin receptacles. Check for corrosion. Ensure connector is securely attached to rear of control panel.
5. Inspect control panel gaskets for cuts, tears, deterioration, or other damage. Inspect gasket on rear of housing where left-side panel mounts. Ensure gaskets are securely attached. Replace as required.

END OF TASK**TESTING**

Using multimeter perform continuity test between J7 and P7.

END OF TASK**REMOVAL**

1. Remove rear panel (1) by removing screws (2), lockwashers (3), and washers (4).
2. Remove left-side panel (5) by removing screws (6), washers (7), and locknuts (8).
3. Remove screws (9), screws (12), washers (10), and locknuts (11).
4. Remove screws (13), washers (14), locknuts (15), and spacer (16) from left-side cover-support mounting bracket (17). Fold support up to gain clearance for control box.
5. Remove convenience receptacle (WP 0045).
6. Remove Ground Fault Circuit Interrupter (GFCI) (WP 0046).
7. Disconnect and tag wires from terminal boards (TB4) and (TB6), contactor (K1), and fuse (FU1) located on rear of control box (24). Disconnect J7 connector.
8. Remove screws (18), washers (19), and locknuts (20) from right-side panel (21).
9. Remove screws (22), washers (23), and locknuts (20) from control box (24).

10. Remove screws (25), lockwashers (26), and washers (27) from bracket (28).
11. Remove screws (29), washers (30), locknuts (31), and load wrench (32).
12. Remove screw (33), washer (34), and locknut (35).
13. Slide control box (24) out of enclosure. Remove shim (36).

END OF TASK

REPAIR OR REPLACEMENT

NOTE

Replace control box attaching parts. Tighten once control box is properly aligned and all components are attached.

1. Replace control box (WP 0030, Figure 1, Item 24) and shim (36) into enclosure.
2. Replace screw (33), washer (34), and locknut (35).
3. Replace screws (29), washers (30), locknuts (31), and load wrench (32).
4. Replace screws (25), lockwashers (26), and washers (27) onto bracket (28).
5. Replace screws (22), washers (23), and locknuts (20).
6. Replace screws (18), washers (19), and locknuts (20) into right side panel (21).
7. Connect electrical wires to terminal boards TB4 (38) and TB6 (39), contactor (K1), and fuse (FU1) located on rear of control box (24). Connect connector J7 (37).
8. Replace GFCI (WP 0046).
9. Replace convenience receptacle (WP 0045).
10. Replace screws (13), washers (14), locknuts (15), and spacer (16) on left-side cover-support mounting bracket (17).
11. Replace left-side panel (5) using screws (6), washers (7), and locknuts (8). Replace screws (9), screws (12), washers (10), and locknuts.
12. Replace rear panel (1) using screws (2), washers (3), and lockwashers (4).
13. Replace battery-charging regulator (WP 0024).
14. Close main access cover.

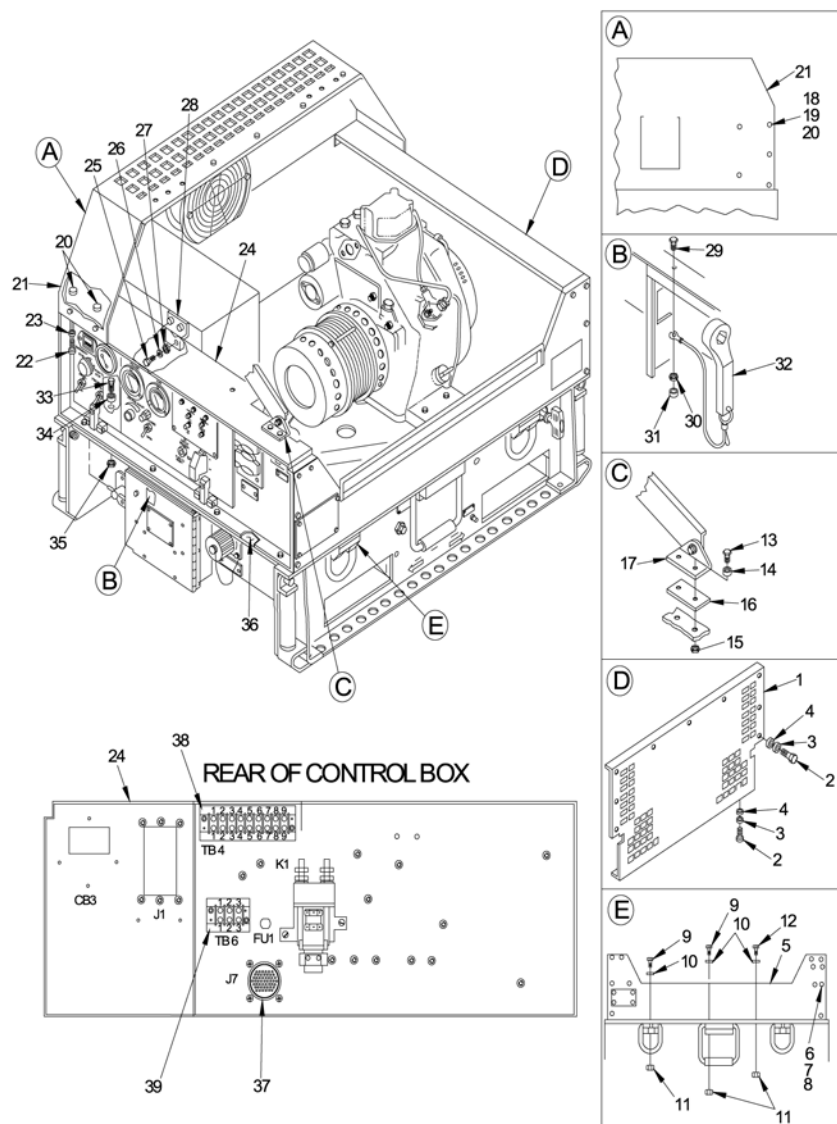


Figure 1. Control Box Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****CONTROL PANEL ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0043, Relay

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Inspect controls and indicators for corrosion and obvious damage. Inspect meters for broken glass. (Figure 1 to WP 0043, Figure 1)
2. Inspect for evidence of electrical short, electrical burn marks, corrosion, and damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached. Check for bent, broken, or missing pins.
4. Inspect control panel gaskets for cuts, tears, deterioration, or other damage. Inspect gasket on rear housing where left-side panel mounts. Ensure gasket is securely attached. Replace as required.

END OF TASK**REMOVAL****NOTE**

It is not necessary to remove the control panel to remove control panel components. See specific tasks to remove control panel components.

1. Turn quarter-turn fasteners (Figure 1, Item 1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of control panel components.
3. Release cable lanyard (3) from control panel (1) by removing attaching screw (4), washer (5), and locknut (6).
4. Remove control panel hinges (7) and hinge spacers (8) from control box by removing four nuts (9).
5. Remove hinges (7) from control panel (2) by removing two nuts (9).

END OF TASK**REPAIR OR REPLACEMENT**

1. Attach two hinges (7) to control panel (2) using two nuts (9).
2. Replace hinge spacers (8) onto hinges (7). Install hinges to control box and secure using four nuts (9).
3. Connect cable lanyard (3) to control panel (2) using attaching screw (4), washer (5), and locknut (6).
4. Connect electrical wires to rear of control panel components.
5. Close control panel (2) and lock in place using quarter-turn fasteners (1).

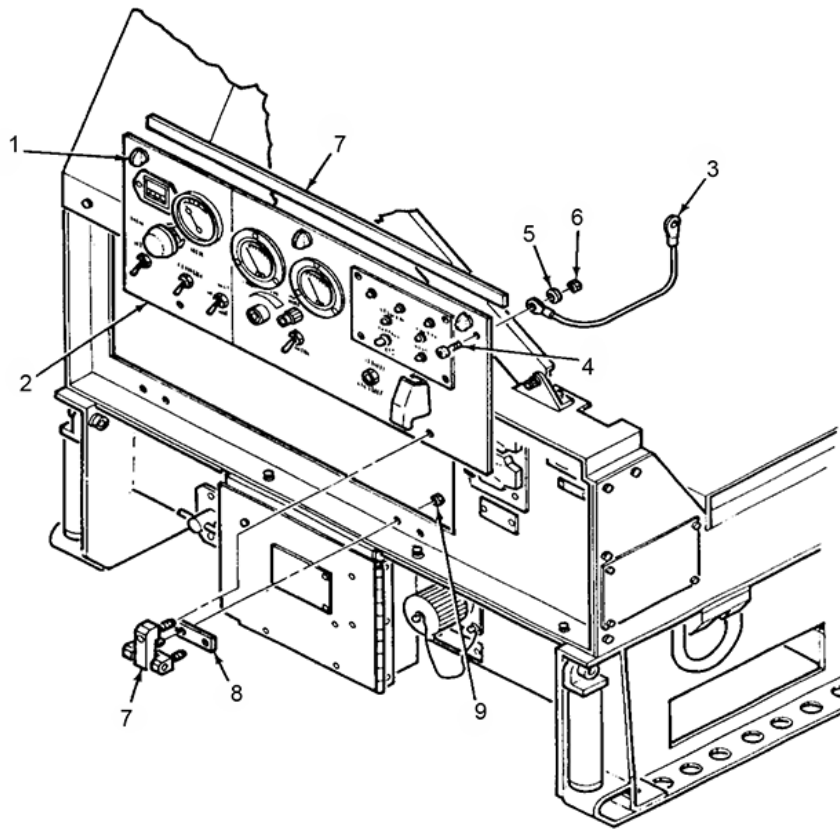


Figure 1. Control Panel Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PANEL, METERS, GAUGES, AND SWITCHES: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. In addition to scheduled inspections, panel meters, gauges, and switches and their components must be inspected. Inspection results must be documented on the Equipment Inspection and Maintenance Worksheet, DA Form 2404, and/or DD Form 5988-E, in accordance with DA PAM 750-8. Be sure to describe damage in detail.

WARNING

Do not replace components or make adjustments with the voltage supply turned on. Dangerous potentials may exist under certain conditions when the power control is off. Avoid casualties by always removing power and by discharging and grounding a circuit before touching it. Failure to observe this warning could result in severe personal injury or death.

2. Inspect grounding system to see that ground rods make secure contact with the earth; wet area around each ground rod, if necessary.
3. Inspect ground binding. Ensure good electrical contact is made at ground rod.
4. Check for loose, damaged, corroded, or missing mounting hardware. Ensure all electronic mounted components are securely attached.
5. Inspect complete assembly for dirt, grease, rust, fungus, and corrosion.

END OF TASK

REMOVAL

Removal is limited to the following components:

- HOURS meter (see WP 0033).
- FUEL-LEVEL gauge (see WP 0034).
- VOLTAGE meter (see WP 0035).
- LOAD meter (see WP 0036).
- Fault Indicator module (see WP 0037).
- Operator switches (see WP 0038).
- EMERGENCY STOP button (see WP 0039).
- DC CIRCUIT BREAKER switch (see WP 0040).
- CIRCUIT INTERRUPTER indicator light (see WP 0041).

- VOLTAGE ADJUST rheostat (see WP 0042).
- Relays (see WP 0043).
- Fuses, diodes, and terminal block (see WP 0044).

END OF TASK**REPLACEMENT**

Replacement is limited to the following components:

- HOURS meter (see WP 0033).
- FUEL-LEVEL gauge (see WP 0034).
- VOLTAGE meter (see WP 0035).
- LOAD meter (see WP 0036).
- Fault Indicator module (see WP 0037).
- Operator switches (see WP 0038).
- EMERGENCY STOP button (see WP 0039).
- DC CIRCUIT BREAKER switch (see WP 0040).
- CIRCUIT INTERRUPTER indicator light (see WP 0041).
- VOLTAGE ADJUST rheostat (see WP 0042).
- Relays (see WP 0043).
- Fuses, diodes, and terminal block (see WP 0044).

END OF TASK**END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****HOURS METER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. Inspect HOURS meter (Figure 1, Item 3) for corrosion and obvious damage. Inspect for broken glass
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners (1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of HOURS meter (3).
3. Remove HOURS meter (3) from control panel (2) by removing screws (4), lockwashers (5), and nuts (6).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install HOURS meter (3) to control panel (2). Secure using two screws (4), lockwashers (5), and nuts (6).
2. Connect electrical wiring to rear of HOURS meter (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

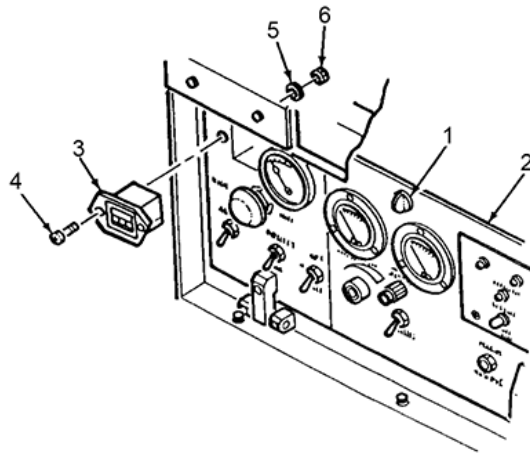


Figure 1. HOURS Meter.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL-LEVEL GAUGE METER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. Inspect FUEL LEVEL gauge (Figure 1, Item 3) for corrosion and obvious damage. Inspect for broken glass.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners (1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of FUEL LEVEL gauge (3).
3. Remove FUEL LEVEL gauge (3) from control panel (2) by removing nuts (4), lockwashers (5), and bracket (6).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace FUEL LEVEL gauge (3) onto control panel (2) using nuts (4), lockwashers (5), and bracket (6).
2. Connect electrical wiring to rear of FUEL LEVEL gauge (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

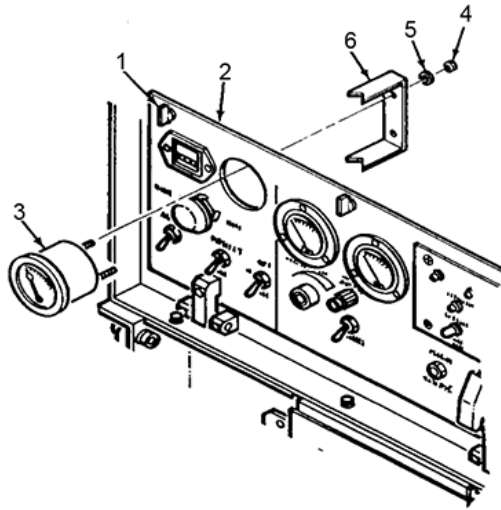


Figure 1. FUEL LEVEL Gauge.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****VOLTAGE METER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. Inspect VOLTAGE meter (Figure 1, Item 3) for corrosion and obvious damage. Inspect for broken glass.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners (1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of VOLTAGE meter (3).
3. Remove VOLTAGE meter (3) from control panel (2) by removing screws (4), lockwashers (5), and nuts (6).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install VOLTAGE meter (3) to control panel (2). Secure using screws (4), lockwashers (5), and nuts (6).
2. Connect electrical wiring to rear of VOLTAGE meter (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

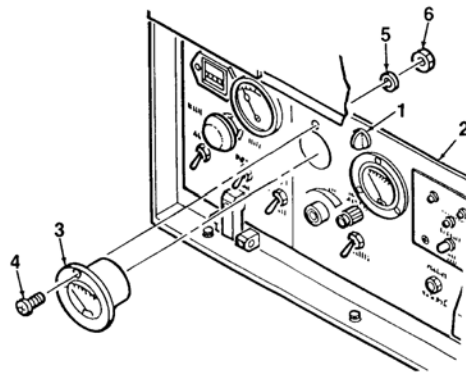


Figure 1. VOLTAGE Meter.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****LOAD METER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. Inspect LOAD meter (Figure 1, Item 3) for corrosion and obvious damage. Inspect for broken glass.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners (1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from the rear of LOAD meter (3).
3. Remove LOAD meter (3) from control panel (2) by removing screws (4), lockwashers (5), and nuts (6).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install LOAD meter (3) to control panel (2). Secure using screws (4), lockwashers (5), and nuts (6).
2. Connect electrical wiring to rear of LOAD meter (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

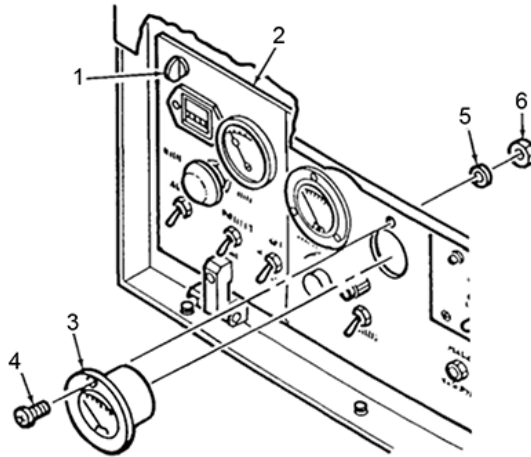


Figure 1. LOAD Meter.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

FAULT INDICATOR MODULE: INSPECTION, TESTING, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Materials/Parts

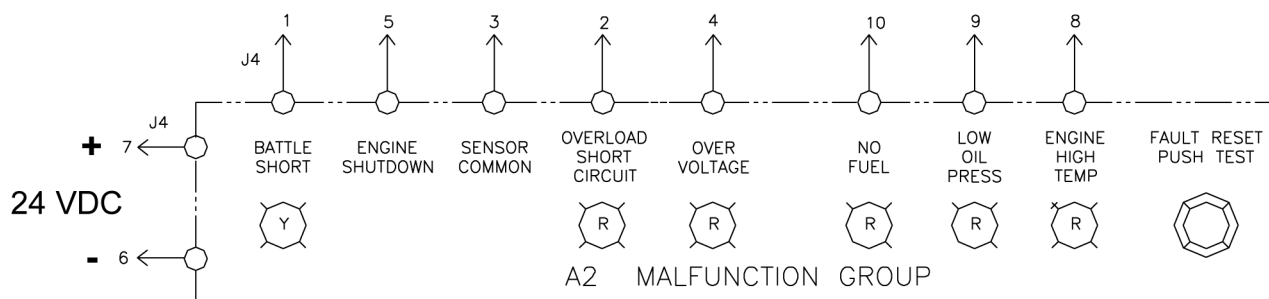
As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery charging regulator removed (WP 0024)

INSPECTION OF INSTALLED ITEMS

1. Inspect fault indicator module (Figure 1, Item 3) for corrosion and obvious damage. Inspect for broken indicator lights.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**TESTING**

1. Apply 24 VDC to pins 7(+) and 6(-) of fault indicator module.
2. Press FAULT RESET button on fault indicator module. All indicators should illuminate.
3. Connect jumper between pins 1 and 6 of fault indicator module. BATTLE SHORT indicator should illuminate. Remove jumper. Press RESET button on fault indicator module to turn off indicator.
4. Connect jumper between pins 7 and 10 of fault indicator module. NO FUEL indicator should illuminate. Voltage between pins 7(+) and 5(-) should read 24 VDC. Remove jumper. Press RESET button on fault indicator module to turn off indicator.

5. Connect jumper between pins 7 and 9 of fault indicator module. LOW OIL PRESSURE indicator should illuminate. Voltage between pins 7(+) and 5(-) should read 24 VDC. Remove jumper. Press RESET button on fault indicator module to turn off indicator.
6. Connect jumper between pins 7 and 8 of fault indicator module. ENGINE HIGH TEMP indicator should illuminate. Voltage between pins 7(+) and 5(-) should read 24 VDC. Remove jumper. Press RESET button on Fault Indicator Module to turn off indicator.
7. Connect jumper between pins 7 and 4 of fault indicator module. OVERVOLTAGE indicator should illuminate. Voltage between pins 7(+) and 5(-) should read 24 VDC. Remove jumper. Press RESET button on Fault Indicator Module to turn off indicator.
8. Connect jumper between pins 7 and 2 of fault indicator module. OVERLOAD SHORT CIRCUIT indicator should illuminate. Remove jumper. Press RESET button on Fault Indicator Module to turn off indicator.
9. Disconnect 24 VDC connected to pins 7 and 6.

END OF TASK

REMOVAL

1. Turn quarter-turn fasteners (Figure 1, Item 1) to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of fault indicator module (3).
3. Remove fault indicator module (3) from control panel (2) by removing screws (4), washers (5), and locknuts (6).

END OF TASK

REPAIR OR REPLACEMENT

1. Install fault indicator module (3) to control panel (2). Secure using screws (4), washers (5), and locknuts (6).
2. Connect electrical wiring to rear of fault indicator module (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

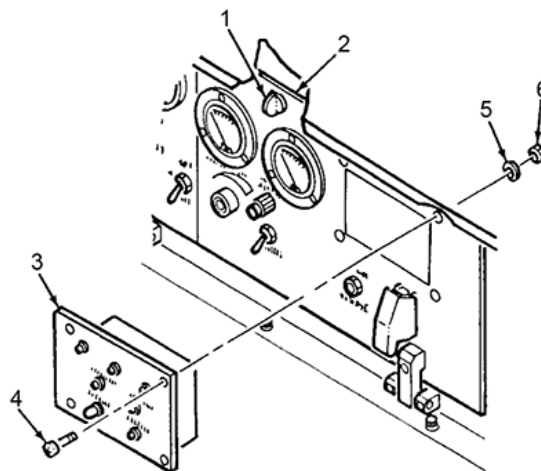


Figure 1. Fault Indicator Module.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****OPERATOR SWITCHES: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect switches (Figure 1, Items 3, 6, 9, 12, and 15) for obvious damage. Check for corrosion or evidence of electrical short.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of operator switches (3, 6, 9, 12, and 15), as required.
3. Remove AUX FUEL switch (3) from control panel (2) by removing attaching nut (4) and lockwasher (5).
4. Remove PREHEAT switch (6) from control panel (2) by removing attaching nut (7) and lockwasher (8).
5. Remove START/RUN/STOP switch (9) from control panel (2) by removing attaching nut (10) and lockwasher (11).
6. Remove CIRCUIT INTERRUPTER switch (12) from control panel (2) by removing attaching nut (13) and lockwasher (14).
7. Remove BATTLE SHORT switch (15) and switch guard (16) from control panel (2) by removing attaching nut (17) and lockwasher (18).

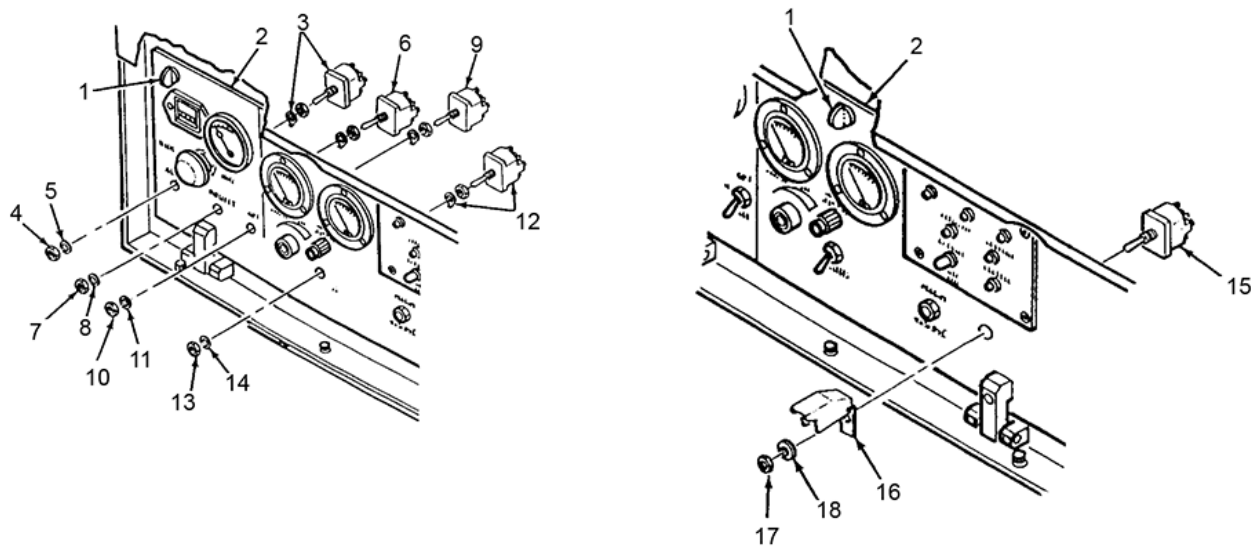


Figure 1. Operator Switches.

END OF TASK

REPAIR OR REPLACEMENT

1. Replace AUX FUEL switch (3) onto control panel (2) using attaching nut (4) and lockwasher (5).
2. Replace PREHEAT switch (6) onto control panel (2) using attaching nut (7) and lockwasher (8).
3. Replace START/RUN/STOP switch (9) onto control panel (2) using attaching nut (10) and lockwasher (11).
4. Replace CIRCUIT INTERRUPTER switch (12) onto control panel (2) using attaching nut (13) and lockwasher (14).
5. Remove BATTLE SHORT switch (15) and switch guard (16) from control panel (2) by removing attaching nut (17) and lockwasher (18).
6. Connect electrical wiring to rear of switches (3, 6, 9, 12, and 15).
7. Close control panel (2) and lock in place using quarter-turn fasteners (1).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****EMERGENCY STOP BUTTON: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)
Crimping Tool (WP 0140, Table 2, P/O Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect EMERGENCY STOP button (Figure 1, Item 3) for corrosion and obvious damage. Inspect electrical connectors for damage and evidence of short.
2. Depress switch shaft to check for proper operation. Switch must depress and reset smoothly.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of EMERGENCY STOP button (3).
3. Remove yellow locking tab (4) from side of EMERGENCY STOP button (3). Rotate lever (5) on EMERGENCY STOP button to unlock position, and remove EMERGENCY STOP button from rear of control panel (2).

NOTE

Observe orientation of push button (6) before removing to aid in assembly.

4. Remove push button (6) from control panel (2) by removing locknut (7) and gasket (8).

END OF TASK

REPAIR OR REPLACEMENT

1. Replace push button (6) on control panel (2) using locknut (7) and gasket (8).
2. Replace EMERGENCY STOP button (3) on rear of control panel (2). Rotate lever (5) to lock EMERGENCY STOP button in place. Replace locking tab (4).
3. Connect electrical wiring to rear of EMERGENCY STOP button (3).
4. Close control panel (2) and lock in place using quarter-turn fasteners (1).

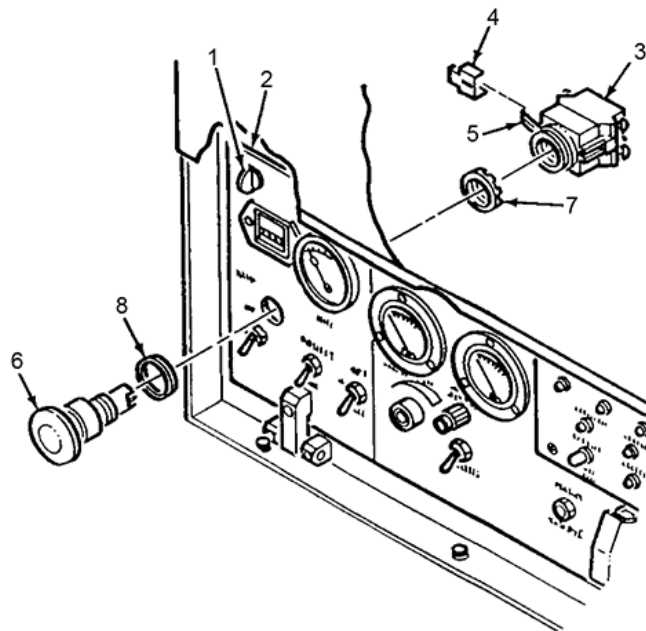


Figure 1. EMERGENCY STOP Button.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****DC CIRCUIT BREAKER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect DC CIRCUIT BREAKER switch (Figure 1, Item 3) for corrosion and obvious damage.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners to unlock and open control panel (2).
2. Tag and disconnect electrical wiring from rear of DC CIRCUIT BREAKER switch (3).
3. Remove DC CIRCUIT BREAKER switch (3) from control panel (2) by removing attaching nut (4) and lockwasher (5).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install DC CIRCUIT BREAKER switch (3) to rear of control panel (2). Secure using nut (4) and lockwasher (5).
2. Connect electrical wiring to rear of DC CIRCUIT BREAKER switch (3).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).

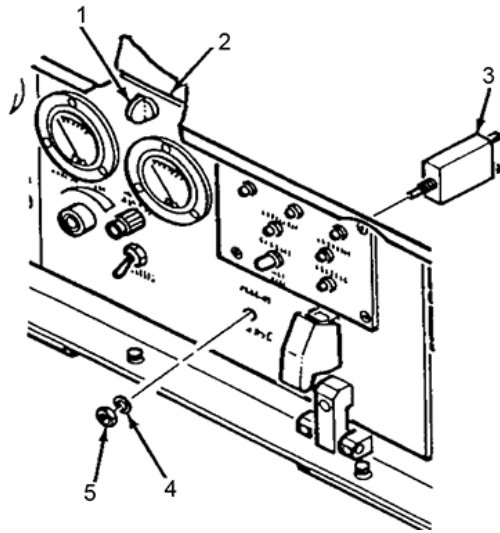


Figure 1. DC CIRCUIT BREAKER.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)**
CIRCUIT INTERRUPTER INDICATOR LIGHT: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Soldering Iron (WP 0140, Table 2, P/O Item 2)
Heat Gun (WP 0140, Table 2, P/O Item 2)

Materials/Parts

Solder, Tin Alloy (WP 0142, Item 20).
Tubing, Heat Shrink (WP 0142, Item 23).

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect CIRCUIT INTERRUPTER indicator light (Figure 1, Item 5) for corrosion and obvious damage.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners to unlock control panel (2).
2. Replace CIRCUIT INTERRUPTER indicator light bulb (3) by removing cap (4) from CIRCUIT INTERRUPTER indicator light (5). Unscrew bulb (3) from light (5).

CAUTION

Remove bulb (3) from indicator light (5) prior to soldering.

3. Peel back heat shrink tubing to expose electrical wires on rear of indicator light (5). Using a soldering iron, detach electrical wires from rear of indicator light.
4. Remove CIRCUIT INTERRUPTER indicator light (5) from control panel (2) by removing attaching nut (6) and lockwasher (1).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace CIRCUIT INTERRUPTER indicator light (5) onto control panel (2) using attaching nut (6) and lockwasher (1).

CAUTION

Remove bulb (3) from indicator light (5) prior to soldering.

2. Connect electrical wiring to rear of indicator light (5) and secure using soldering iron. Using a heat gun, adhere heat shrink tubing to wire connectors.
3. Screw CIRCUIT INTERRUPTER indicator light bulb (3) into indicator light (5). Replace cap (4).

4. Close control panel (2) and lock in place using quarter-turn fasteners (7).

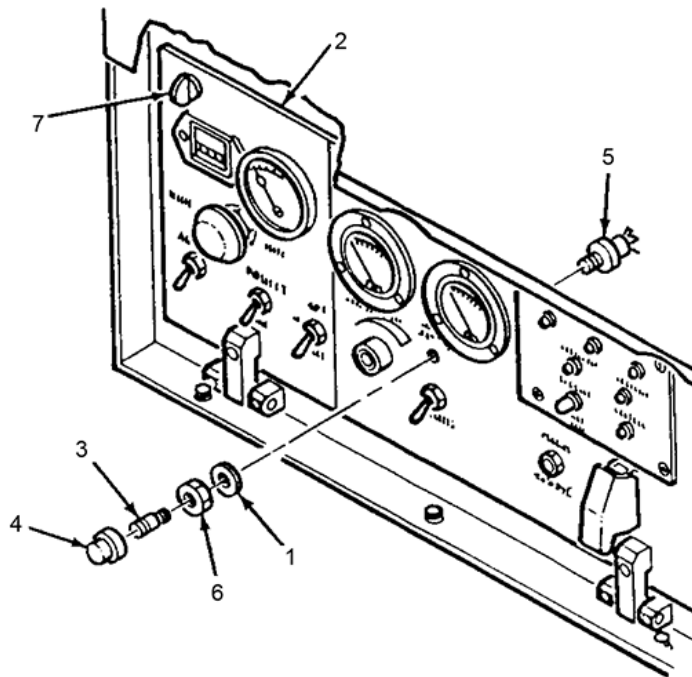


Figure 1. CIRCUIT INTERRUPTER Indicator Light.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****VOLTAGE ADJUST RHEOSTAT: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Soldering Iron (WP 0140, Table 2, P/O Item 2)
Heat Gun (WP 0140, Table 2, P/O Item 2)

Materials/Parts

Solder, Tin Alloy (WP 0143, Item 20)
Tubing, Heat Shrink (WP 0143, Item 23)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect VOLTAGE ADJUST rheostat (Figure 1, Item 3) for corrosion and obvious damage. Rotate VOLTAGE ADJUST rheostat shaft to ensure smooth operation.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Remove knob (4) from shaft of VOLTAGE ADJUST rheostat (3) by loosening setscrews (5).
2. Turn quarter-turn fasteners (1) to unlock and open control panel (2).
3. Remove VOLTAGE ADJUST rheostat (3) from control panel (2) by removing attaching nut (6) and lockwasher (7).
4. Peel back heat shrink tubing to expose electrical wires on rear of VOLTAGE ADJUST rheostat (3). Using a soldering iron, detach electrical wires from rear of rheostat.

END OF TASK**REPAIR OR REPLACEMENT**

1. Connect electrical wiring to rear of VOLTAGE ADJUST rheostat (3) and secure using soldering iron. Cover connection with heat shrink tubing and secure using heat gun.
2. Install VOLTAGE ADJUST rheostat (3) to rear of control panel (2). Replace using lockwasher (7) and nut (6).
3. Close control panel (2) and lock in place using quarter-turn fasteners (1).
4. Secure knob (4) to shaft of VOLTAGE ADJUST rheostat (3) by tightening setscrews (5).

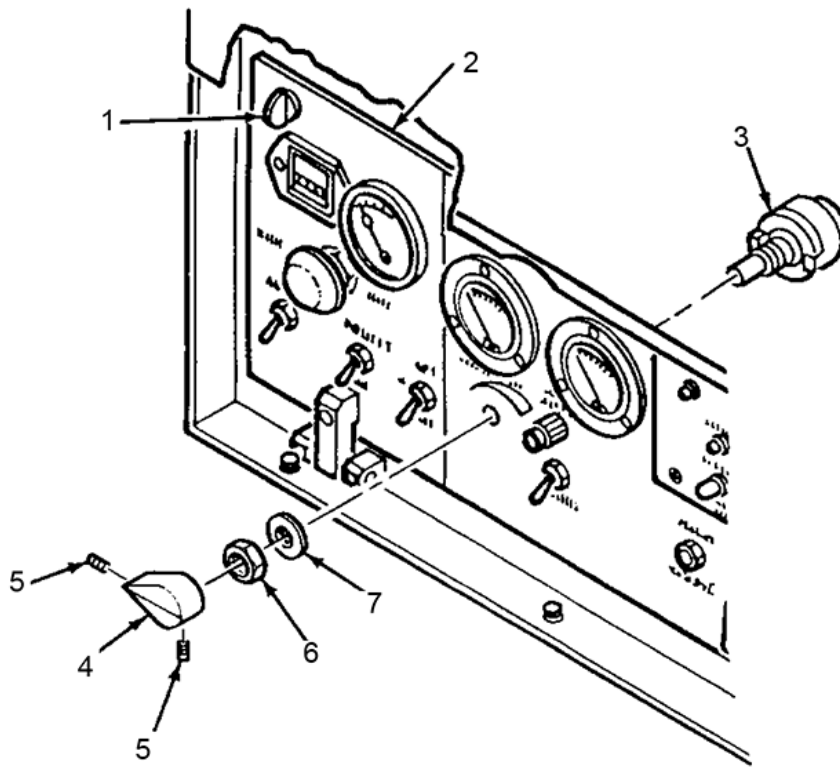


Figure 1. VOLTAGE ADJUST Rheostat.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****RELAY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect relays (Figure 1, Item 3) for corrosion, evidence of electrical short, and obvious damage. Ensure terminal lugs are intact and secure.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**REMOVAL**

1. Turn quarter-turn fasteners to unlock and open control panel.
2. Remove hold-down springs (4) to release relays (3) from relay sockets (1).
3. Tag and disconnect electrical wiring from fault lockout relay (K12), auxiliary fuel transfer relay (K14), and starter cutout relay (K15).

NOTE

Note orientation of diode on relay socket (1) before removing socket. Socket must be oriented the same way when installed to function properly.

4. Remove relay sockets (1) from rear wall of control box by removing screws (2).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install relay sockets (1) to rear wall of control box. Secure using screws (2) and nuts (3).
2. Connect electrical wiring to relays (K12), (K14), and (K15).
3. Insert relays (3) into relay sockets (1). Secure using hold-down springs (4).
4. Close control panel and lock in place using quarter-turn fasteners.

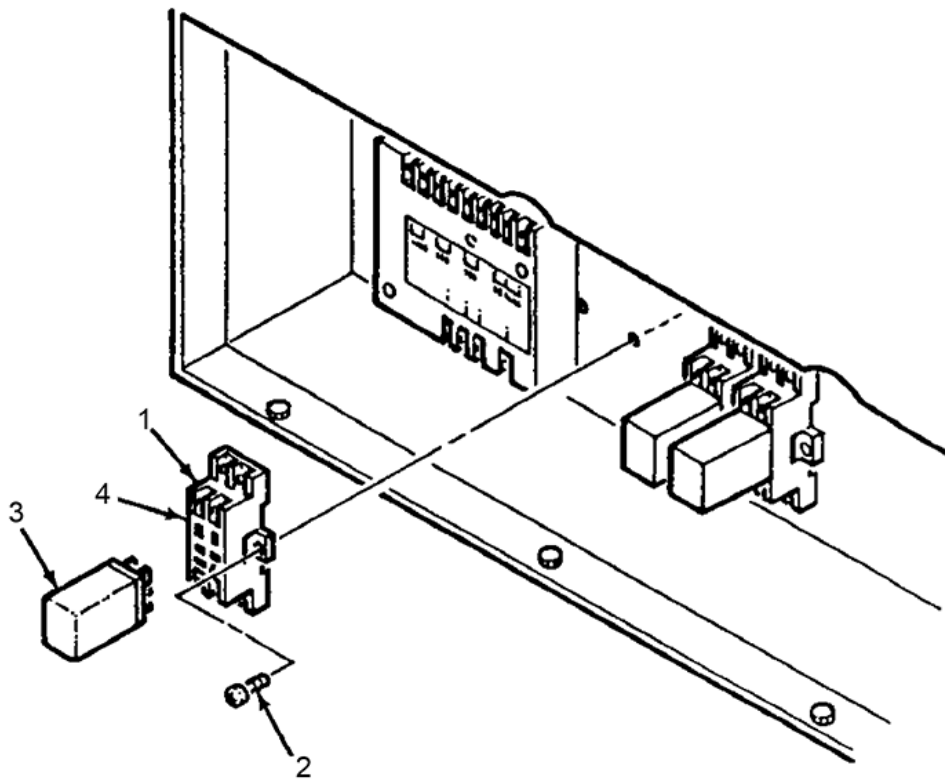


Figure 1. Control Box Relays.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUSE, DIODE, AND TERMINAL BLOCK: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Multimeter (WP 0140, Table 2, Item 1)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect terminal blocks (Figure 1, Item 1) and diodes (6) for corrosion, evidence of electrical short, and obvious damage. Ensure terminal connectors are intact and secure.
2. Inspect four diodes on terminal block (TB5) for obvious damage. Check security of attachment.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are secure.

END OF TASK**TESTING**

1. Connect positive (+) probes of multimeter across one diode (6).
2. Measure resistance of diode with positive (+) probe applied to terminal of diode (6) and negative (-) probe applied to other terminal of diode. Record ohms reading. Reverse the polarity of the probes and apply across the diode. Record ohms reading. For the diode to be in operable condition, one reading should be low and the other reading should be high. If not, the diode has failed.
3. Repeat test on remaining diodes, recording values in ohms.
4. If a diode is not working, remove it and replace with a new diode.

END OF TASK**REMOVAL**

1. To remove fuse (15), turn quarter-turn fasteners to unlock and open control panel. Unscrew cap (16) from fuse holder (17) and remove fuse.
2. Tag and disconnect electrical wiring from terminal blocks TB5 (1) and TB3 (2).
3. Remove terminal blocks TB5 (1) and TB3 (2) from inside wall of control box by removing screw and captive washer assemblies (5).
4. Remove five diodes (6).
5. To remove terminal blocks TB4 (3) and TB6 (4), unlock main access cover latches, and open cover.
6. Remove clear plastic covers (7 and 8) from terminal blocks TB4 (3) and TB6 (4) by removing screws (9) and lockwashers (10).
7. Tag and disconnect electrical wiring from terminal blocks TB4 (3) and TB6 (4).

8. Remove terminal blocks TB4 (3) and TB6 (4) from rear of control box by removing standoffs (11) and lockwashers (12). Remove identification plates (13 and 14).
9. Remove fuse holder (17) from control box by removing nut (18).

END OF TASK

REPAIR OR REPLACEMENT

1. Replace fuse holder (17) on control box using nut (18). Replace fuse (15) and cap (16).
2. Install terminal blocks TB4 (3) and TB6 (4) and identification plates (13 and 14) to rear of control box. Secure using standoffs (11) and lockwashers (12).
3. Connect electrical wiring to terminal blocks TB4 (3) and TB6 (4). Replace clear plastic covers (7, 8) using screws (9) and lockwashers (10).
4. Close main access cover and lock in place using latches.
5. Replace diodes (6) onto terminal block TB5 (1).
6. Install terminal blocks TB5 (1) and TB3 (2) to inside wall of control box. Secure using screw and captive washer assemblies (5).
7. Connect electrical wiring to terminal blocks TB5 (1) and TB3 (2).
8. Close control panel and lock in place using quarter-turn fasteners.

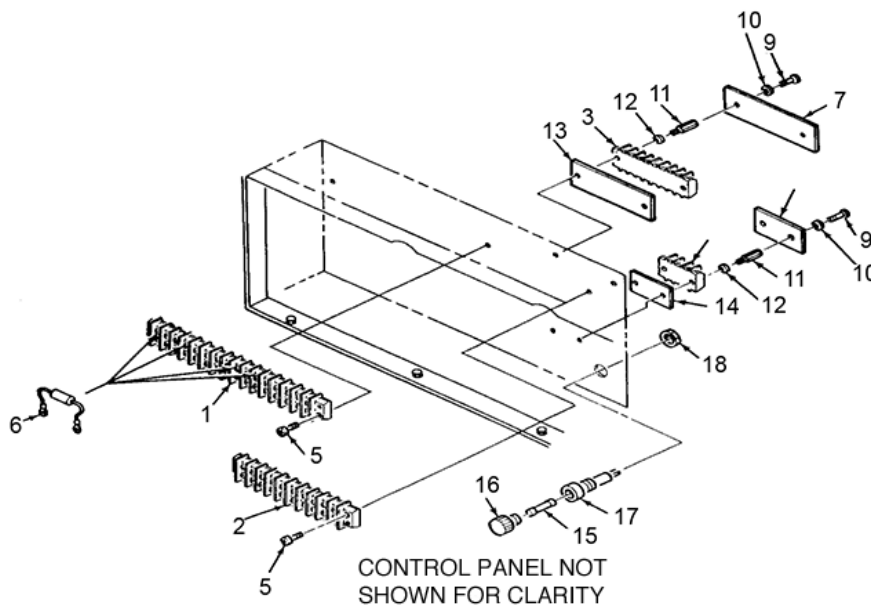


Figure 1. Fuses, Diodes, and Terminal Block.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****RECEPTACLE, FILTERS, TERMINALS, AND VOLTAGE RESISTOR: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0046, Ground Fault Circuit interrupter(GFCI)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)

Battery cables disconnected (WP 0026)

Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect convenience receptacle (Figure 1, Item 3) for corrosion, evidence of electrical short, and obvious damage. Check terminal connectors for damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**TESTING**

1. Test receptacle by pressing test button to reset GFCI. The reset button should release, and a red mark will show.
2. Press reset button to recycle power. Using multimeter check for voltage.
3. Check that CB3 on back of GFCI (inside set) is not tripped. Reset CB3 switch.
4. Check GFCI CB3 at (TB4), as follows:
 - a. Connect positive (+) probe of multimeter to terminal board (TB4), pin 1.
 - b. Connect negative (-) probe to terminal board (TB4), pin 3.
 - c. Start generator set. Using multimeter check voltage at rear of receptacle.
 - d. If voltage is present, remove and replace GFCI (WP 0046).

END OF TASK**REMOVAL**

1. Remove screw (1) to disconnect receptacle cover (2) from convenience receptacle (3). Remove cover and rubber gasket (6) by removing screw and captive washer assemblies (4).

CAUTION

Ensure wire leads on receptacle terminals are not damaged when pulling on receptacle.

2. Remove convenience receptacle (3) from control box by removing two screws (5).

3. Tag and disconnect electrical wiring from rear of convenience receptacle (3).

END OF TASK

REPAIR OR REPLACEMENT

1. Connect electrical wiring to convenience receptacle (3).
2. Install convenience receptacle (3) to control box and secure using screws (5)
3. Install cover (2) and rubber gasket (6) to control box and secure using screw and captive washer assemblies (4). Replace screw (1).
4. Close main access cover and lock in place using latches.

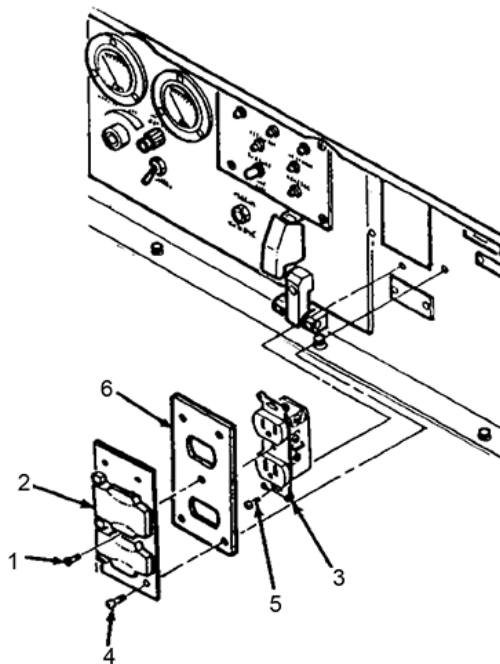


Figure 1. Convenience Receptacle.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****GROUND FAULT CIRCUIT INTERRUPTER (GFCI): INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0025, Battery
WP 0030, Control Box Assembly
WP 0045, Receptacle, Filters, Terminals

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect GFCI (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Depress RESET and TEST buttons to ensure smooth operation.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors are securely attached.

END OF TASK**TESTING**

1. Supply power, and press reset button (button should reset).
2. Ensure circuit breaker unit is not tripped.
3. Measure voltage at convenience receptacle by placing positive probe of multimeter into smaller rectangular output socket of receptacle and negative probe of multimeter into larger rectangular output socket of receptacle. Voltage should be 120 VAC +/-6.
4. Press TEST button. Voltage should drop to zero.

END OF TASK**REMOVAL**

1. Tag and disconnect GFCI (1) wiring from terminal block (TB4).
2. Remove GFCI (1) from control box by removing screws (2), washers (3), and nuts (4).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install GFCI (1) to back of control box. Secure using screws (2), washers (3), and nuts (4).
2. Connect GFCI (1) electrical wiring to terminal board (TB4). Replace cover on terminal block (TB4) (WP 0030).
3. Replace battery and tray (WP 0025). Replace convenience receptacle (WP 0045).
4. Close main access cover and lock in place using latches.

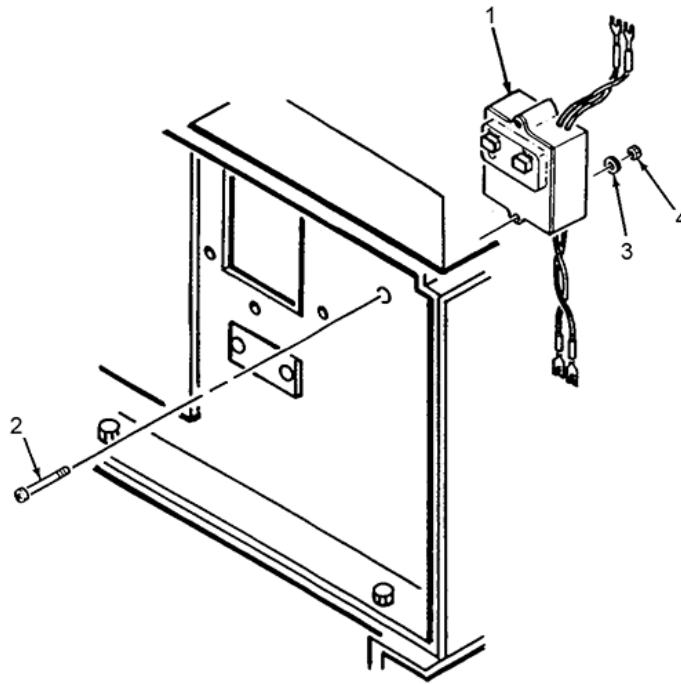


Figure 1. Ground Fault Circuit Interrupter (GFCI).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****LOAD TERMINALS AND EMI FILTER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down.
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open. Turn output panel cover lock (Figure 1, Sheet 1 of 2, Item 2) and open output panel cover (1).
2. Inspect load terminals (10) and ground terminal (11) for corrosion, evidence of electrical short, and obvious damage. Check for crossed, stripped, or flattened threads.
3. Inspect EMI filter (9) for obvious damage. Inspect electrical wiring for cuts, abrasions, or bare wire. Ensure connectors are securely fastened.
4. Inspect output panel cover (1) for dents, cracks, or other damage. Ensure it is securely attached. Ensure output panel cover lock (2) operates smoothly, free of binding.

END OF TASK**REMOVAL**

1. Disconnect load and ground wires from load terminals (10), using load wrench (3).
2. Release load wrench (3) lanyard from output box by removing screw (4), washer (5), and locknut (6). Remove lanyard from load wrench (3) only if replacement is required.
3. Tag and disconnect EMI filter (9) electrical connectors. Remove EMI filter from load and ground terminals (10 and 11) by removing nuts (7) and washers (8).
4. Remove load board (15) from generator set skid base by removing screws (16), washers (17), and locknuts (18).
5. Remove load terminals (10) by removing nuts (12) and washers (13). Remove ground terminal (11) by removing nut (14) and washers (13).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace load terminals (10) using nuts (12) and washers (13). Replace ground terminal (11, lower right-hand hole) using nut (14) and washers (13).
2. Install load board (15) to generator set skid base. Secure using screws (16), washers (17), and locknuts (18).
3. Replace EMI filter (9) onto load and ground terminals (10 and 11). Secure using nuts (7) and washers (8). Connect EMI filter connectors.

4. Connect electrical cables to load and ground terminals (10 and 11) using load wrench (3). Neutral terminal is upper right. Ground terminal is lower right.
5. Attach load wrench (3) lanyard to output box using screw (4), washer (5), and nut (6).
6. Close output panel cover (1) and engage lock (2).
7. Close main access cover and lock in place using latches.

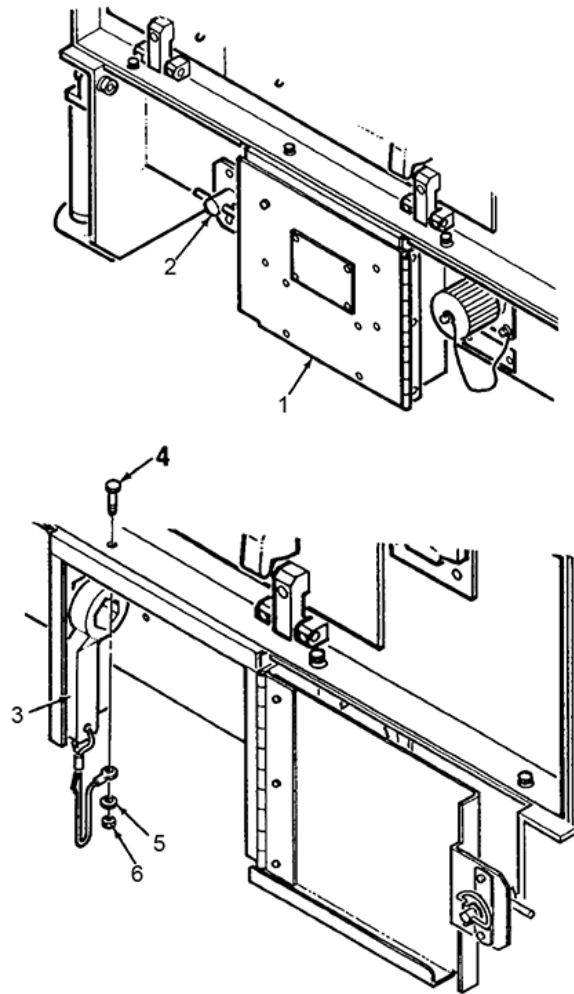


Figure 1. Load Terminals and EMI Filter (Sheet 1 of 2).

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****VOLTAGE RESISTOR: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)
Battery disconnected (WP 0025).

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Using inspection mirror, visually inspect voltage resistors (Figure 1, Item 3) for corrosion, evidence of electrical short, and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**REMOVAL**

1. Turn cover lock (2) and open output panel cover (1).
2. Disconnect electrical wiring from rear of three voltage resistors (3).
3. Remove three voltage resistors (3) from back of output box by removing screws (4), washers (5), and locknuts (6).

END OF TASK**REPAIR OR REPLACEMENT**

1. Connect three voltage resistors (3) to back of output box. Secure using screws (4), washers (5), and locknuts (6).
2. Connect electrical wiring to voltage resistors (3).
3. Close output panel cover (1) and engage cover lock (2).
4. Close generator set main access cover and lock in place using latches.

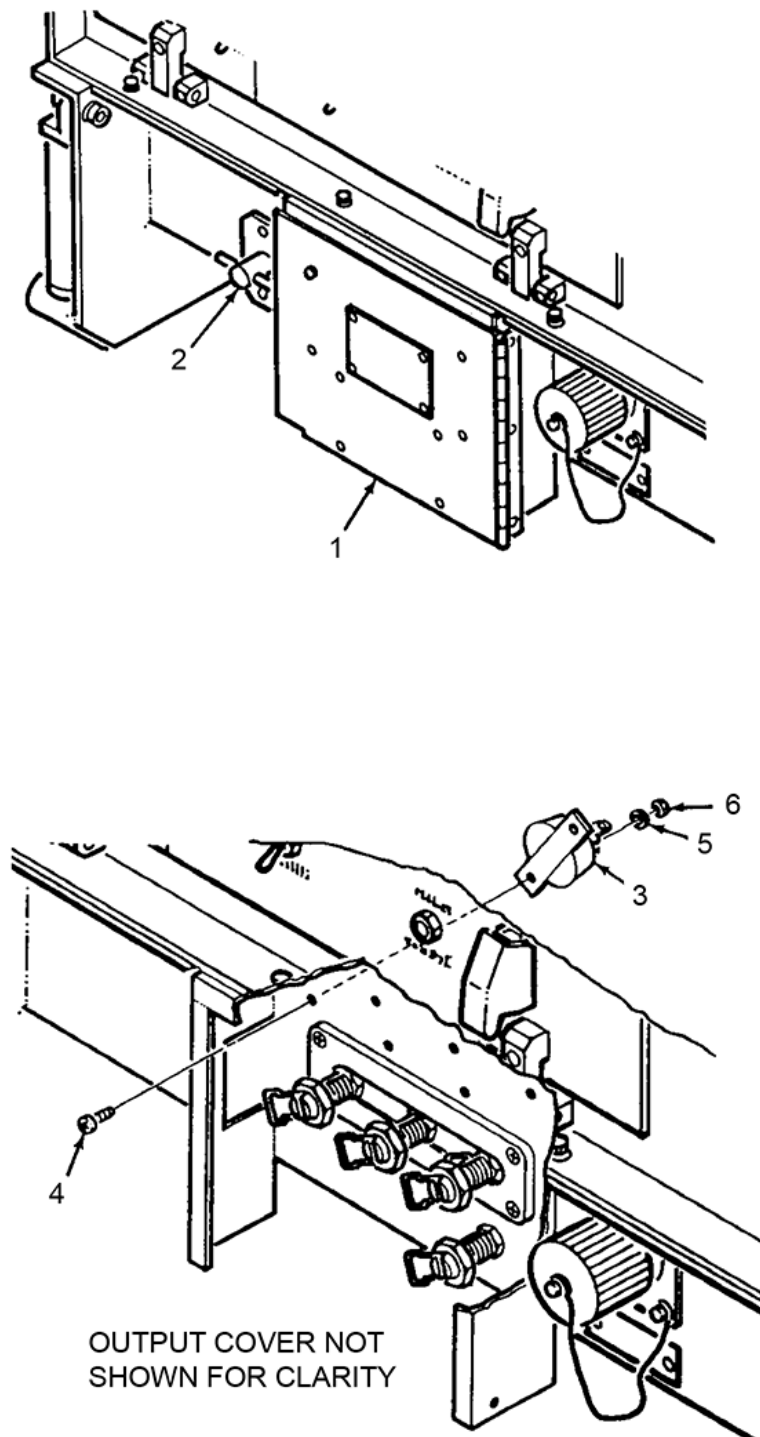


Figure 1. Voltage Resistors.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

CONTROL BOX WIRING HARNESS: INSPECTION

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect harness connector (J7) (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Check for bent, broken, or missing pins.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors and terminal lugs are securely attached.

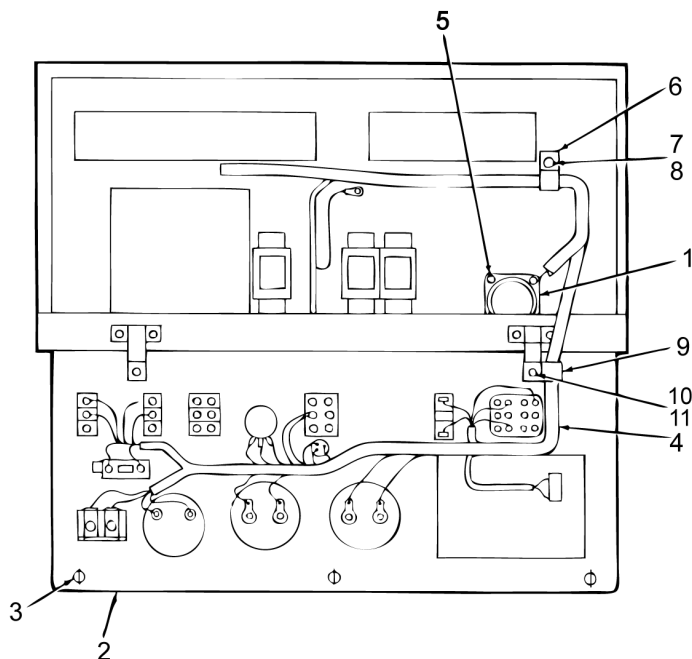


Figure 1. Control Box Wiring Harness.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****COOLING SYSTEM: INSPECTION, TESTING**

INITIAL SETUP:**Tools and Special Tools**

Multimeter (WP 0140, Table 2, Item 1)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)

Battery cables disconnected (WP 0026)

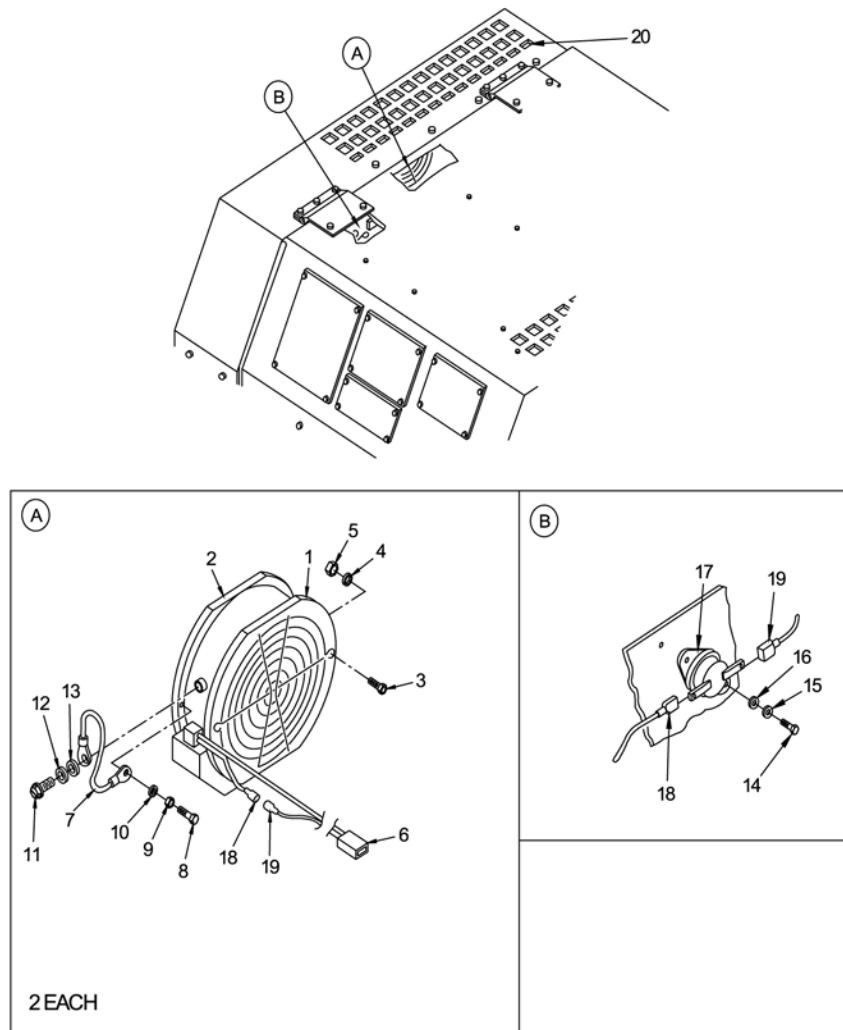
Cable disconnected for NATO Slave Receptacle (WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect air outlet panel (Figure 1, Item 20) and cooling fans (2) for obvious damage. Manually operate fan blades to ensure smooth operation.
2. Inspect HI/LO temperature switch (17) for obvious damage. Check that terminal lugs are securely attached and free of corrosion.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.
4. Inspect fan power cords for damage.

END OF TASK**TESTING**

1. Test is limited to (a) a voltage test of the fans (2) and (b) a continuity test of the HI/LO temperature switch (17).
2. Ensure cooling fans (2) operate ON and OFF as dictated by HI/LO temperature switch (17).



END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)**
COOLING FAN ASSEMBLY: INSPECTION, TESTING, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

NOTE

Two thermostatically controlled fans are supplied with the generator set. One is attached to the inside of the main access cover, and one is mounted to the right back panel on the inside of the generator set.

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect air outlet panels (Figure 1, Item 1) and cooling fans (2) for obvious damage. Manually operate fan blades to ensure smooth operation.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.
4. Inspect fan power cords (6) for damage.

END OF TASK**TESTING**

Perform continuity test of the fans (2), their wires, and connections.

END OF TASK**REMOVAL**

1. Tag and disconnect two electrical wires (18 and 19) from B3 high-temperature switch (17) (110 °F).
2. Disconnect fan power cord (6) from generator set wiring harness.
3. Remove high-temperature (B3) fan (2) from main access cover by removing screws (8), lockwashers (9), and washers (10).

NOTE

Remove air outlet panel (1) only if fan (2) is to be replaced. Air outlet panel must be retained for use on new fan.

4. Tag and disconnect two electrical wires (18 and 19) from B2 low-temperature switch (17) (85 °F).
5. Disconnect fan power cord (6) from generator set wiring harness.

6. Remove low-temperature (B2) fan (2) from right back panel of inside generator set by removing two screws (8), lockwashers (9), and washers (10).

NOTE

Remove air outlet panel (1) only if fan (2) is to be replaced. Air outlet panel must be retained for use on new fan.

7. Remove air outlet panel (1) from fan (2) by removing screws (3), washers (4), and nuts (5).
8. Disconnect electrical wire (7) from fan (2) by removing screw (11), lockwasher (12), and washer (13).
9. Remove fan (2).

END OF TASK

REPAIR OR REPLACEMENT

1. Attach low-temperature fan (B2) (Figure 1, Item 2) (85 °F) to main access cover and secure using screws (8), lockwashers (9), and washers (10). Connect two electrical wires (7) to low-temperature fan.
2. Attach low-temperature fan (2) to main access cover and secure using screws (8), lockwashers (9), and washers (10). Left-hand screw (8) secures electrical wire (7).
3. Connect fan power cord (6) to generator set wiring harness. Connect wire (7) to fan (2) using screw (11), lockwasher (12), and washer (13).

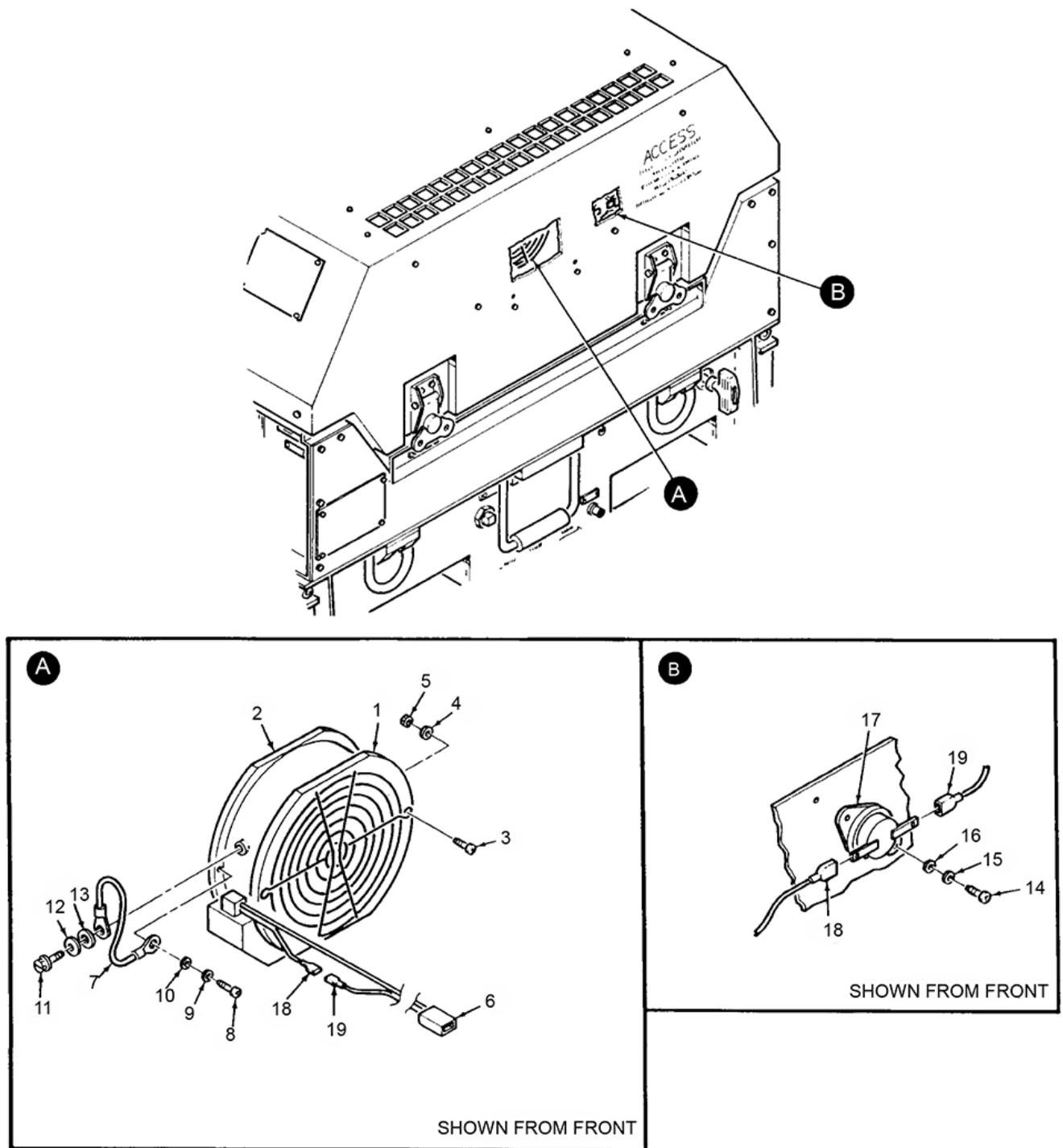


Figure 1. Temperature Switch and Cooling Fan.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****HI/LO TEMPERATURE SWITCHES: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0051, Fuel System Assembly

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

NOTE

Each generator set fan has its own thermostatically controlled switch.

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect temperature switch (Figure 1, Item 1) for obvious damage. Check that electrical terminals (2) are securely attached and free of corrosion.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached. Inspect fan power cords (WP 0051, Figure 1, Item 6) for damage. Check that electrical connectors are securely attached.

END OF TASK**TESTING**

Perform continuity test on switch.

END OF TASK**REMOVAL**

1. Tag and disconnect two electrical wires (Figure 1, Items 2 and 6) from B3 high-temperature switch (1) (110 °F). Remove B3 high-temperature switch (1) from interior of main access cover by removing screws (5), lockwashers (4), and washers (3).
2. From right-side wall of enclosure, tag and disconnect two electrical wires (2 and 6) from B2 low temperature switch (1), by removing screws (5), lockwashers (4), and washers (3).

END OF TASK**REPAIR OR REPLACEMENT**

1. Attach low-temperature switch (Figure 1, Item 1) (85 °F) to main access cover and secure using two screws (5), lockwashers (4), and washers (3). Connect electrical wires (2 and 6) to B2 low-temperature switch.
2. Attach B3 high-temperature switch (1) (110 °F) to main access cover and secure using screws (5), lockwashers (4), and washers (3). Connect electrical wires (2 and 6) to B3 high-temperature switch.

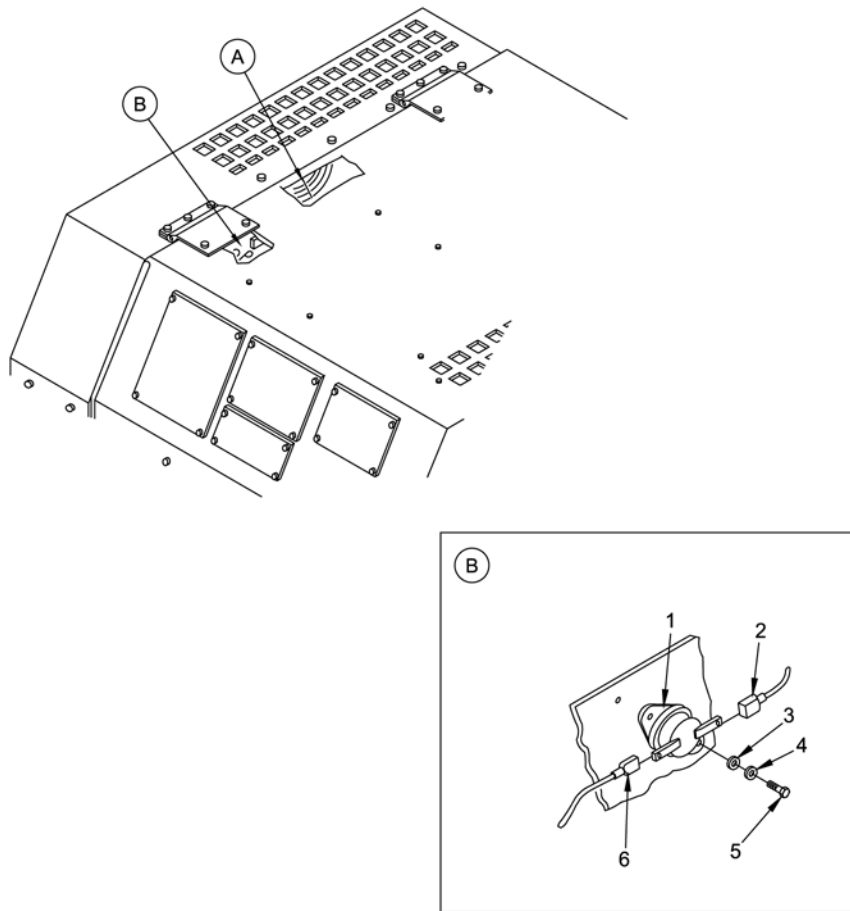


Figure 1. HI/LO Temperature Switches.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL SYSTEM ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or Standard Automotive Tool Set (WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)

References

WP 0055, Fuel-Level Assembly
WP 0056, Fuel-Level Switch

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect fuel level switch (Figure 1, Item 9) for corrosion and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure electrical connector plugs are securely attached.

END OF TASK**REMOVAL****NOTE**

Note position of fuel level switch (Figure 1, Item 9) and gasket (7) prior to removing from fuel tank (Figure 1, Item 6). Take note of hole pattern when removing to ensure proper installation.

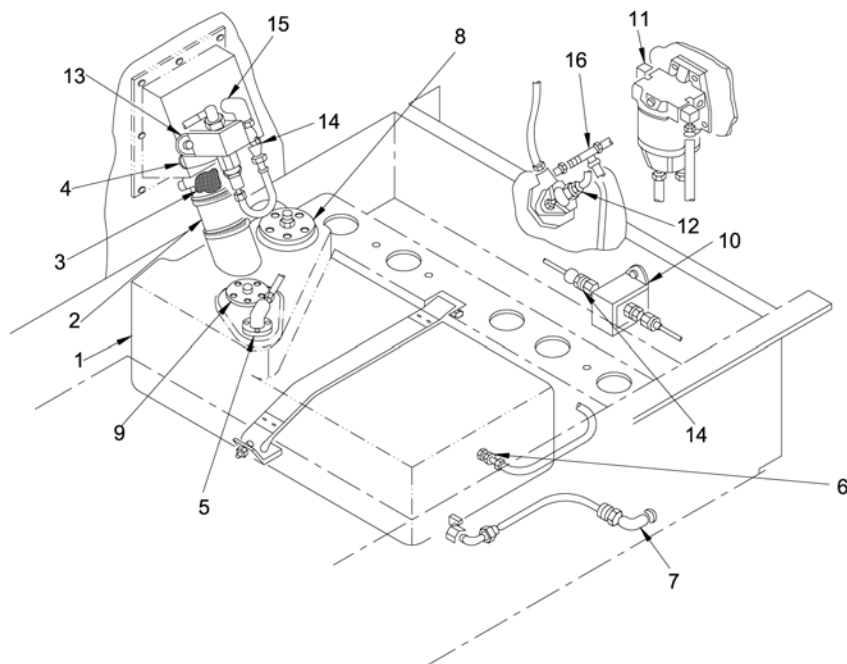
1. Disconnect fuel level switch (Figure 1, Item 9) electrical plugs (WP 0056, Figure 1, Items 8 and 9).
2. Remove any damaged components.

END OF TASK**REPAIR OR REPLACEMENT****NOTE**

If new fuel level switch (Figure 1, Item 9) has electrical connector plugs, omit Step 1 below.

1. Proceed, as follows, if electrical connector plugs (WP 0056, Figure 1, Items 8 and 9) need to be installed on fuel level switch (Figure 1, Item 9); otherwise, skip to Step 2:
2. Strip 1/8 inch insulation from switch wires (WP 0056, Figure 1, Item 4) and crimp male contacts (8) to ends of wires.
3. Insert blue wire into position 1, black wire into position 2, and yellow wire into position 3 of three-circuit connector plug (5).

4. Insert red wires into positions 1 and 2 of two-circuit electrical connector plug (9).
5. Align mounting holes on fuel level switch (4) with holes in gasket (7) prior to mounting into fuel tank (Figure 1, Item 1).
6. Replace fuel level switch (WP 0056, Figure 1, Item 4) and gasket (7) into fuel tank (Figure 1, Item 1). Secure using screws (WP 0055, Figure 1, Item 1), lockwashers (2), and washers (3).
7. Connect fuel-level-switch electrical connector plugs (8 and 9).
8. Close main access cover and lock in place.

**LEGEND**

1	Fuel Tank	9	Fuel Level Switch
2	Filler Neck	10	Electric Fuel Pump
3	Fuel Strainer	11	Fuel Filter/Water Separator
4	Fill Cap	12	Fuel Injection Pump
5	Pick-Up Connection	13	Auxiliary Fuel Transfer Pump
6	Return Connection	14	Fuel Strainer
7	Drain Connection	15	Auxiliary Fuel Input Connection
8	Sending Unit	16	Tee Pipe

Figure 1. Fuel System Assembly.**END OF TASK****END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL TANK STRAINER ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or Standard Automotive Tool Set (WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)

References

WP 0028, Frequency Converter (A8)
WP 0059, Auxiliary Fuel Pump

Materials/Parts

Tape, Teflon (WP 0143, Item 21)

INSPECTION OF INSTALLED ITEMS

1. Inspect fuel fill cap (Figure 1, Item 1) for obvious damage. Inspect for crossed, stripped, or damaged threads.
2. Inspect fuel strainer assembly (3) for dirt, clogging, and corrosion. Check that all screen material is intact and free from damage. Ensure screen is securely attached to lip.
3. Inspect fuel fill pocket (8) for cracks, dents, or evidence of leakage. Inspect for corrosion.
4. Inspect fill port collar (11) and fuel tank for cracks, dents, or evidence of leakage. Inspect for corrosion.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.
2. Remove fuel fill cap (1) from fuel fill throat (2). Remove fuel strainer assembly (3).
3. Release fuel cap chain (4) from fill pocket wall by removing screw (5), washer (6), and locknut (7).
4. Loosen clamps (10) and remove fill port collar (11) from fill pocket (8) and fuel tank (9).
5. Disconnect hose (12) from tee (17) by loosening clamp (13).
6. Disconnect hose (14) from fitting (15) by loosening clamp (16). Remove fitting (15), tee (17), and pipe (18) from fill pocket (8).
7. If removal of fill pocket (8) is required, remove auxiliary fuel pump (WP 0059) and connectors and Frequency Converter (A8) (WP 0028).
8. Remove fill pocket (8) from enclosure by removing screws (19), lockwashers (20), and washers (21).

END OF TASK**REPAIR OR REPLACEMENT**

1. Apply Teflon tape to threads of all fitting threads prior to installation.
2. Connect pipe (18), tee (17), and fitting (15) to fill pocket (8).
3. Replace collar (11) onto fill pocket (8) and fuel tank (9). Secure by tightening clamps (10).

4. Replace fill pocket (8) using screws (19), lockwashers (20), and washers (21).
5. Secure collar (11) to fill pocket (8) and fuel tank (9) using two clamps (10).
6. Connect hose (14) to fitting (15) and tighten clamp (16). Connect hose (12) to tee (17) and tighten clamp (13).
7. Replace fill cap chain (4) to fill pocket (8) using screw (5), washer (6), and locknut (7).
8. Carefully replace fuel strainer assembly (3) into fuel throat (2), making sure not to damage screen. Screw cap (1) onto throat (2).
9. Replace auxiliary fuel pump (WP 0059) and fuel connection.
10. Replace Frequency Converter (A8) (WP 0028).
11. Replace any damaged components.
12. Close main access cover and lock in place using latches.

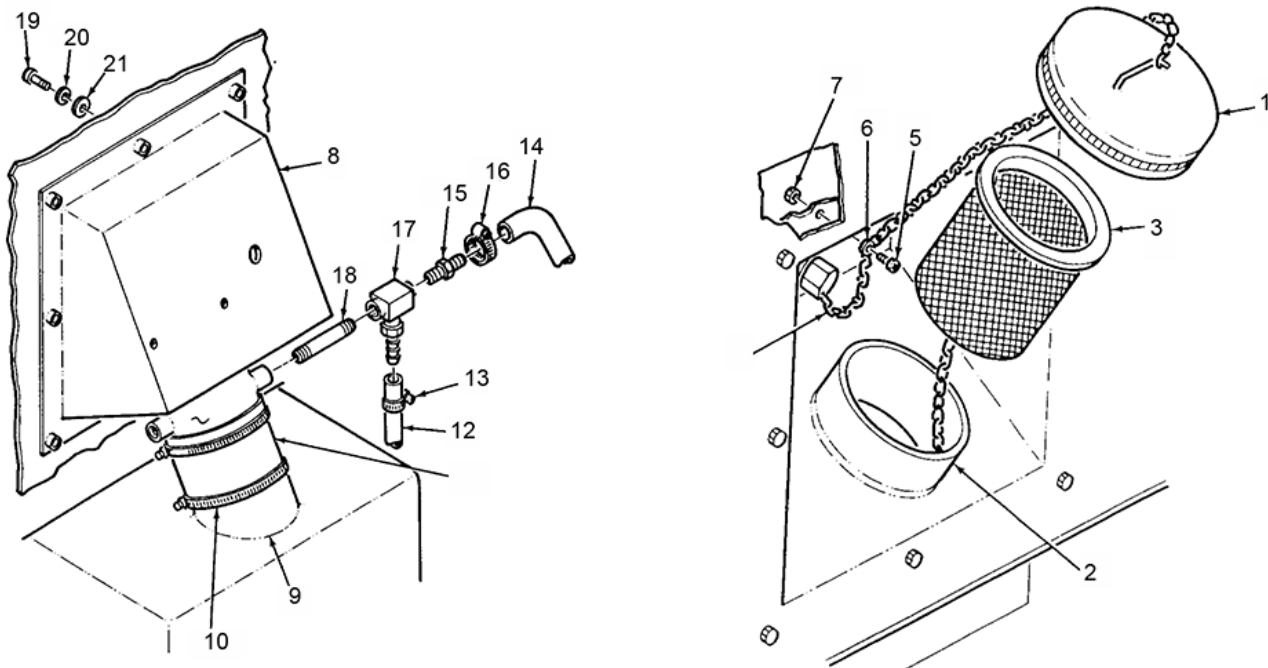


Figure 1. Fuel Tank Strainer Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL-LEVEL ASSEMBLY: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect fuel-level sender (Figure 1, Item 12) for corrosion and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage.

END OF TASK**TESTING**

1. Remove fuel-level sender (2) from fuel tank (5).
2. Inspect and ensure float moves up and down freely.
3. Using a multimeter place positive (+) lead on wire #2V18 and negative (-) lead on wire #40A18.
4. Move float up and down. Resistance should vary.

END OF TASK**REMOVAL****NOTE**

Note position of fuel-level sender (2) and gasket (10) prior to removing from fuel tank (5).

CAUTION

The float can come loose. Ensure that you do not disturb the float or release it from its holder.

1. Tag and disconnect electrical wire (1) from fuel-level sender (2) by removing captive nut and washer (3) from stud (4) on fuel-level sender (2).
2. Remove fuel-level sender (2) and gasket (10) from fuel tank (5) by removing screws (6), lockwashers (7), and washers (8). Remove remaining wires (9).

END OF TASK

REPAIR OR REPLACEMENT

1. Align mounting holes on fuel-level sender (2) with holes in gasket (10) prior to mounting into fuel tank (5).
2. Replace fuel-level sender (2) and gasket (10) on fuel tank (5). Secure sender and wire (9) using screws (6), lockwashers (7), and washers (8).
3. Connect electrical wire (1) to stud (4) on fuel-level sender (2), using nut and captive washer (3).
4. Close main access cover and lock in place.

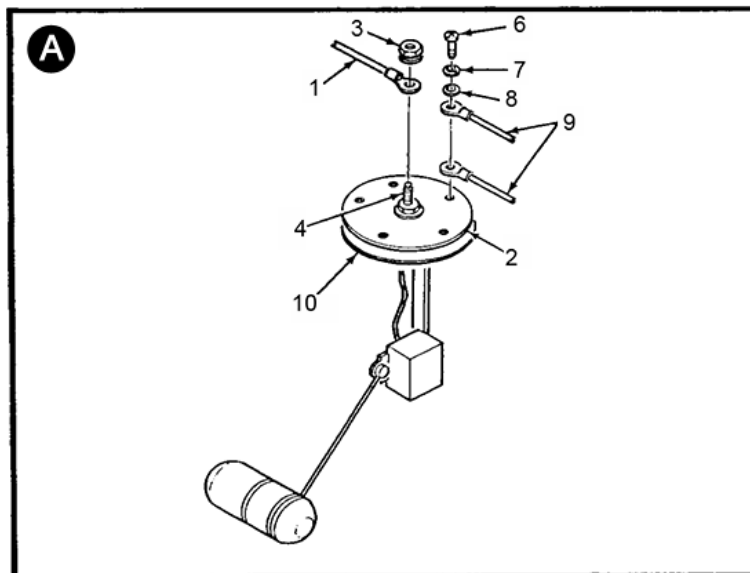
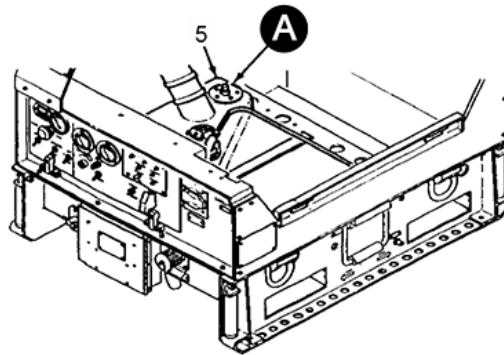


Figure 1. Fuel-Level Sender Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL-LEVEL SWITCH: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect fuel level switch (Figure 1, Item 4) for corrosion and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure electrical connector plugs are securely attached.

NOTE

Note position of fuel-level switch (4) and gasket (7) prior to removing from fuel tank (6). Take note of hole pattern when removing to ensure proper installation.

END OF TASK**TESTING**

1. Remove fuel-level switch (4) from fuel tank.
2. Inspect fuel-level switch (4) and ensure float moves freely.
3. Hold fuel-level switch (4) vertically and ensure float is resting on bottom stops.
4. Check continuity between J8 pins 1 and 2 and between J8 pins 2 and 3.
5. Check continuity between J11 pins 1 and 2.

END OF TASK**REMOVAL**

1. Disconnect fuel-level switch (4) electrical plugs (8 and 9).
2. Remove screws (1), lockwashers (2), and washers (3) from fuel-level switch (4). Remove fuel-level switch (4) and gasket (7) from fuel tank (6).

END OF TASK

REPAIR OR REPLACEMENT**NOTE**

If new fuel-level switch (4) has electrical connector plugs (8 and 9), omit Step 1 below.

1. Proceed, as follows, if electrical connector plugs (8 and 9) need to be installed on fuel-level switch (4); otherwise, skip to Step 2:
2. Strip 1/8 inch insulation from fuel-level switch (4) wires and crimp male contacts (5) onto ends of wires.
3. Insert blue wire into position 1, black wire into position 2, and yellow wire into position 3 of three-circuit connector plug (5).
4. Insert red wires into positions 1 and 2 of two-circuit electrical connector plug (9).
5. Align mounting holes on fuel-level switch (4) with holes in gasket (7) prior to mounting into fuel tank (6).
6. Replace fuel-level switch (4) and gasket (7) in fuel tank (6). Secure using screws (1), lockwashers (2), and washers (3).
7. Connect electrical connector plugs (8 and 9) of fuel level switch.
8. Close main access cover and lock in place.

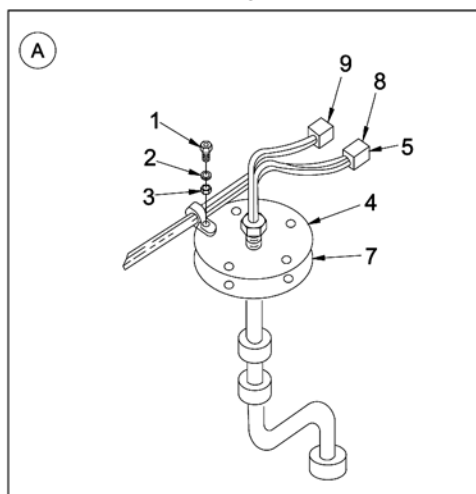
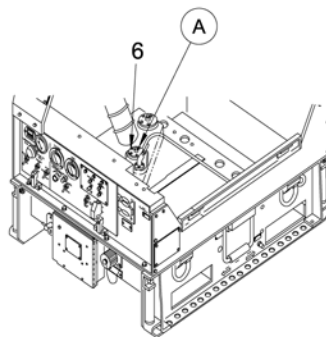


Figure 1. Fuel-Level Switch.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL TANK PICKUP TUBE: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect fuel tank pickup tube (Figure 1, Item 9) for corrosion and obvious damage.
3. Inspect fuel hose (1) for cuts, cracks, deterioration, or other damage. Check for evidence of leakage. Inspect for crossed, stripped, or damaged threads.

END OF TASK**REMOVAL**

1. Disconnect fuel hose (1) from elbow (2).
2. Remove fuel tank pickup tube (9) and gasket (8) from fuel tank (4) by removing screws (5), lockwashers (6), and washers (7).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace fuel tank pickup tube (9) and gasket (8) on fuel tank (4). Secure using screws (5), lockwashers (6), and washers (7).
2. Connect fuel hose (1) to elbow (2).
3. Close main access cover and lock in place.

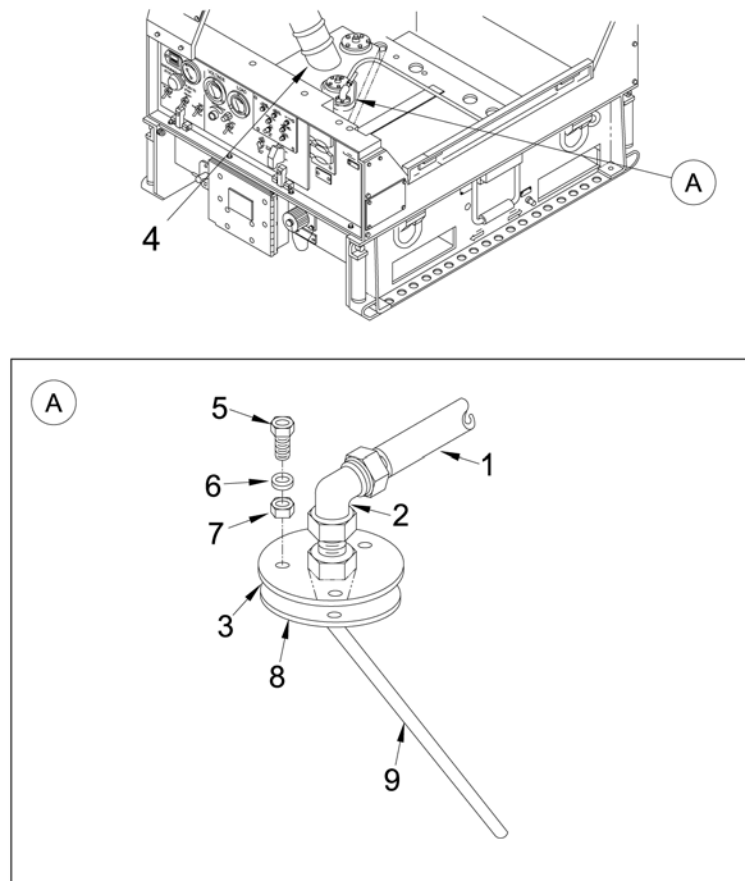


Figure 1. Fuel Tank Pickup Tube.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****PRIMARY FUEL PUMP: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

Tape, Teflon (WP 0143, Item 21)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect primary fuel pump (Figure 1, Item 11) for cracks, corrosion, evidence of leakage, and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**TESTING**

1. Place START/RUN/STOP switch in RUN position.
2. Using a multimeter, check voltage by inserting leads into back side of J12. Voltage reading should be 20-32 VDC.
3. If voltage is present remove and replace primary fuel pump (11).

END OF TASK**REMOVAL**

1. Disconnect fuel pump electrical plug (7).
2. Disconnect fuel hose (1) from fuel filter (2) by loosening clamp (3). Remove filter from fuel pump (11).
3. Disconnect fuel hose (4) from fitting (6) by loosening clamp (5). Remove fitting (6) from fuel pump (11).
4. Remove fuel pump (11) from enclosure assembly wall by removing screws (8), lockwashers (9), and washers (10).

END OF TASK

REPAIR OR REPLACEMENT

1. Apply Teflon tape to threads of fuel filter (2) and fitting (6). Replace fuel filter (2) and fitting (6) on fuel pump (11).
2. Install fuel pump (11) to wall of enclosure. Secure using screws (8), lockwashers (9), and washers (10).
3. Connect fuel hoses (1) to fuel filter (2) and fitting (6). Tighten clamps (3).
4. Connect fuel pump electrical plug (7).
5. Close main access cover and lock in place using latches.

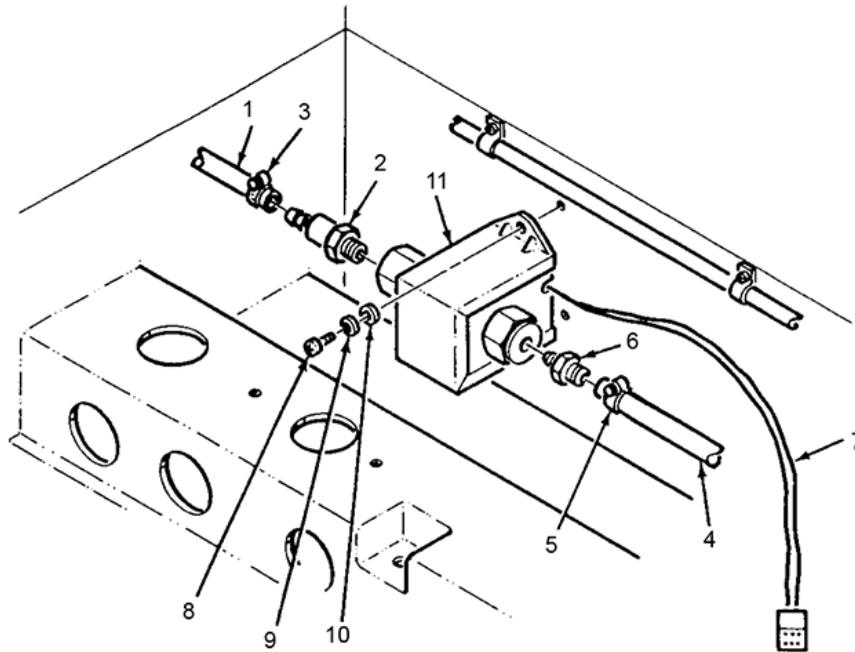


Figure 1. Primary Fuel Pump.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****AUXILIARY FUEL PUMP: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or Standard Automotive Tool Set (WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)

References

WP 0058, Primary Fuel Pump

Materials/Parts

Tape, Teflon (WP 0143, Item 21).

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect auxiliary fuel pump (Figure 1, Item 7) and fuel strainer for cracks, corrosion, evidence of leakage, and obvious damage.
3. Inspect fuel hoses for cuts, cracks, or other damage.
4. Inspect fuel fittings for crossed, stripped, or damaged threads.
5. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**TESTING**

1. Disconnect J12 from P12 at primary fuel pump (WP 0058, Figure 1, Item 11).
2. Disconnect J9 from P9 at auxiliary fuel pump (Figure 1, Item 7).
3. Connect J9 to P12 at auxiliary fuel pump, feeding P12 behind engine.
4. Place START/RUN/STOP switch in RUN position.
5. Listen for clicking sound at fuel pump.
6. If no clicking sound is heard at the auxiliary fuel pump, remove and replace the auxiliary fuel pump.

END OF TASK**REMOVAL**

1. Disconnect plug to auxiliary fuel pump (7) electrical wires (18).
2. Disconnect fuel hose (1) from elbow (12) by loosening clamp (2).
3. Disconnect fuel hose (4) from fuel strainer (6) by loosening clamp (5).
4. Remove auxiliary fuel pump (7) from fill pocket (8) by removing screws (9), washers (10), and locknuts (11).
5. Remove elbow (12) from auxiliary fuel pump (7). Remove fuel strainer (6).

6. Disconnect fuel hose (4) from fitting (13) by loosening clamp (5).
7. Remove fitting (13) from elbow (14). Remove cap (17), nut (16), washer (15), and elbow (14) from fill pocket (8).

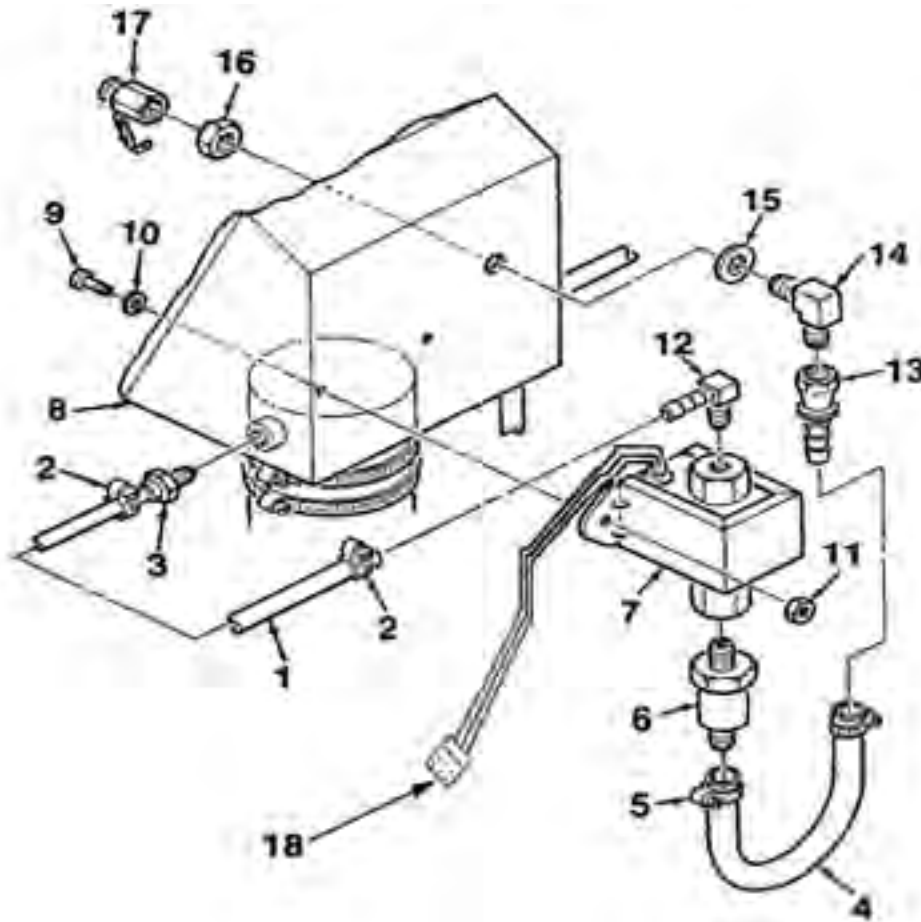


Figure 1. Auxiliary Fuel Pump.

END OF TASK

REPAIR OR REPLACEMENT

1. Apply Teflon tape to threads of all fittings prior to installation.
2. Replace elbow (14), washer (15), nut (16), and cap (17) onto fill pocket (8). Connect fitting (13) to elbow (14).
3. Replace elbow (14) and fuel strainer (6) in auxiliary fuel pump (7).
4. Install auxiliary fuel pump (7) to fill pocket (8) and secure using screws (9), washers (10), and locknuts (11).
5. Connect fuel hose (4) to fuel strainer (6) and fitting (13). Secure by tightening clamps (5).
6. Connect fuel hose (1) to elbow (12). Secure by tightening clamp (2).
7. Connect fuel pump electrical plug (18).
8. Close main access cover and lock in place using latches.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)**
FUEL FILTER/WATER SEPARATOR: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0025, Battery
WP 0062, Frame and Housing Assembly

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

Sealant, Thread (WP 0143, Item 18)
Tape, Teflon (WP 0143, Item 21)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect fuel filter/water separator (Figure 1, Item 5) for cracks, corrosion, evidence of leakage, and obvious damage.
3. Inspect fuel hoses for cuts, cracks, or other damage.

END OF TASK**REMOVAL**

1. Open fuel filter/water separator drain valve (13) and drain fluid through hose (4). Close valve (13) and disconnect hose (4).
2. Disconnect fuel hoses (1) from elbows (3) by loosening hose clamps (2).
3. Remove elbows (3) from fuel filter/water separator (5).
4. Remove fuel filter/water separator (5) from bracket (6) by removing screws (7), washers (8), and locknuts (9).
5. If removal of bracket (6) is required, remove air inlet cover (WP 0062).
6. Remove bracket (6) from enclosure by removing screws (10), washers (11), and locknuts (12).

END OF TASK**REPAIR OR REPLACEMENT**

1. Apply sealant to threads of screws (Figure 1, Item 7). Replace fuel filter/water separator (5) on bracket (6) using screws (7), washers (8), and locknuts (9).
2. Apply Teflon tape to threads of elbows (3). Replace elbows (3) in fuel filter/water separator (5).
3. Install bracket (6) to main frame and housing. Secure using screws (10), washers (11), and locknuts (12).
4. Connect fuel hoses (1) to elbows (3) and secure by tightening hose clamps (2).
5. Connect drain hose (4) to fuel filter/water separator (5). Close drain valve (13).
6. Reconnect battery (WP 0025).
7. Close main access cover and lock in place using latches.
8. Place START/RUN/STOP switch in RUN position until fuel bowl is filled. Check for evidence of leaks.

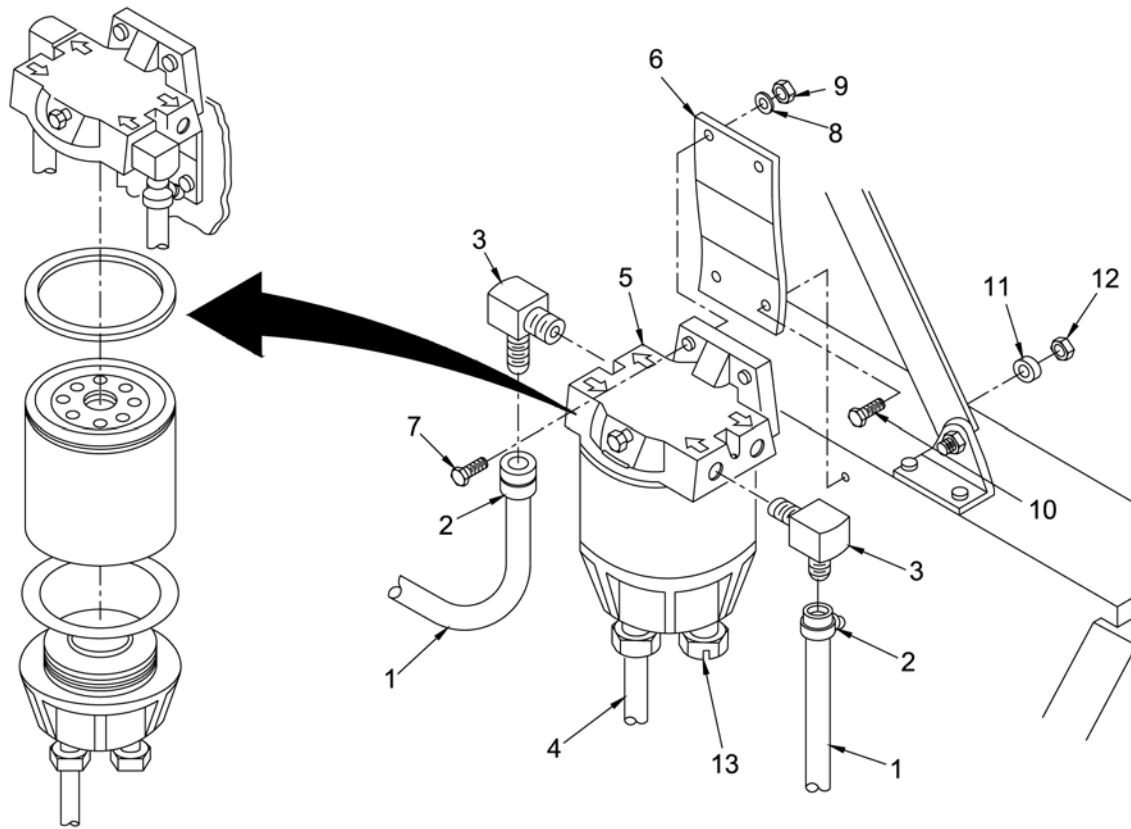


Figure 1. Fuel Filter/Water Separator.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****AIR CLEANER ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect air filter (5) for dirt and debris.
2. If air filter is dirty, replace.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.
2. Remove cover (Figure 1, Item 1) from air filter housing (2) by removing wing nut (3) and washer (4).
3. Remove air filter (5) from housing (2).

END OF TASK**REPAIR OR REPLACEMENT**

1. Ensure all dirt and debris are removed from housing (2) before replacing air filter element.
2. Replace new filter (5) into housing (2).
3. Replace cover (1) on housing using wing nut (3) and washer (4).
4. Close main access cover and lock in place using latches.

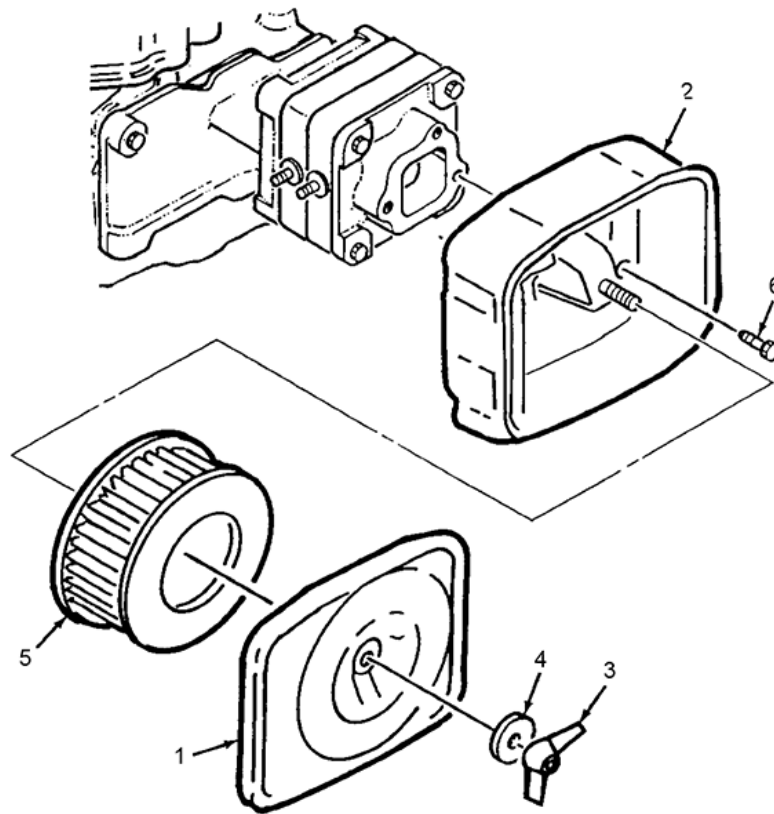


Figure 1. Air Cleaner Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FRAME AND HOUSING ASSEMBLY: INSPECTION**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and
Repair, Field Maintenance, Suppl 1, W/O Power
(WP 0140, Table 2, Item 2)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect lifting handles (Figure 1, Item 1) for corrosion and obvious damage.
2. Inspect lifting handle (1) bracket for cracks or deformation. Replace handle if damaged.
3. Inspect main access cover (2) for corrosion, cracks, dents, scratches, or other obvious damage.
4. Inspect air inlet grate (3) for damage.
5. Inspect main access cover latches (4) for corrosion and damage. Check for smooth operation, free of binding.
6. Inspect main access cover gaskets for cuts, tears, deterioration, or other damage. Ensure insulation is clean, free of dirt, grime, or grease.
7. Inspect main access cover identification and caution plates (5) for legibility and security of attachment.
8. Inspect frame and housing panels (6) for corrosion, cracks, dents, scratches, or other obvious damage. Inspect fuel fill pocket for evidence of fuel leakage.
9. Inspect acoustic insulation for cuts, tears, rips, or deterioration.
10. Inspect for corrosion, dents, grease, grime, general deterioration, and other visible damage. Check for need to repaint.

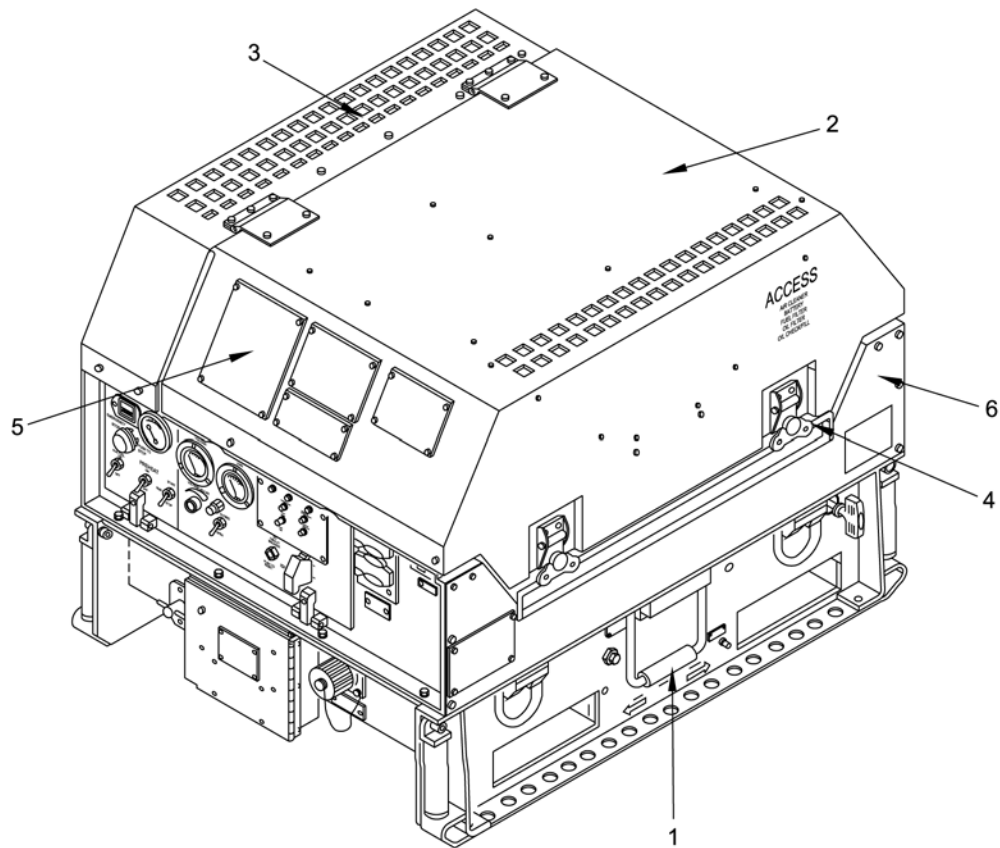


Figure 1. Frame and Housing Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****MAIN ACCESS COVER: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or Standard Automotive Tool Set (WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)

References

WP 0028, Frequency Converter (A8)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Inspect main access cover (Figure 1, Item 1) for corrosion, cracks, dents, scratches, or other obvious damage. Inspect air inlet grate for damage.
2. Inspect main access cover latches (2) for corrosion and damage. Check for smooth operation, free of binding.
3. Inspect acoustic insulation for cuts, tears, deterioration, or other damage. Ensure insulation is clean, free of dirt, grime, or grease.
4. Inspect data plates for legibility and security of attachment.

END OF TASK**TESTING**

1. To test for water leakage, unlock main access cover latches (28) and lift main access cover (1) to open.
2. Cover Frequency Converter (A8) (WP 0028, Figure 1, Item 5) with plastic.
3. Close main access cover latches (Figure 1, Item 28) and lock in place.
4. Spray water (low pressure) over main access cover (1).
5. Wipe exterior of main access cover (1) to remove water.

CAUTION

After power washing generator set, allow it to dry out thoroughly. **DO NOT START GENERATOR SET UNLESS IT HAS COMPLETELY DRIED AFTER WASHING.**

6. Unlock main access cover latches (28) and lift main access cover (1) to open.
7. Inspect for new signs of water.
8. If water is present, dry inside of generator thoroughly and replace gaskets (59).

END OF TASK

REMOVAL

1. Unlock generator set main access cover latches (2) and lift main access cover (1) to open.
2. Disconnect electrical plug (22) from fan (23). Remove wire clamps (24) by removing screws (25), lockwashers (26), and washers (27).
3. Release two main access cover supports (3) from main access cover (1) by removing screws (4), lockwashers (5), and washers (6).
4. Remove main access cover hinges (7, 11) from main access cover (1) by removing screws (12), washers (13), and locknuts (14).
5. Lift main access cover (1) off generator set and place on a clean work surface for further maintenance.
6. If hinges need replacing, remove hinges (7, 11) from left side panel by removing screws (8), washers (9), and locknuts (10).
7. Remove swivel joints (15) from main access cover supports (3) by removing washers (16) and locknuts (17).
8. If right-side main access cover support (3) must be removed, remove front panel.
9. Remove main access cover supports (3) by removing screws (18), washers (19), and locknuts (20). Remove spacers (21).
10. Remove main access cover latches (28) from main access cover (1) by removing screws (29), washers (30), and locknuts (31).
11. Remove keeper plates (32) from right side panel by removing screws (33), washers (34), and locknuts (35).
12. Remove air outlet panel (36) from underside of main access cover (1) by removing screws (37), washers (38), and locknuts (39).
13. Remove air louver (40) from air outlet panel (36) by removing screws (41), lockwashers (42), and washers (43).
14. Remove laminated cards (44) from document tray (48) by removing screw (45), lockwasher (46), and washer (47).
15. Remove document tray (48) from main access cover (1) by removing screws (49), lockwashers (50), and washers (51). Remove insulation (53).
16. Remove spacers (52) from main access cover (1) by removing screws (54), lockwashers (55), and washers (56).
17. Inspect gaskets and seals for deterioration or other damage.

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace spacers (52) on underside of main access cover (1) using screws (54), lockwashers (55), and washers (56).
2. Replace insulation (53) and document tray (48) over spacers (52). Secure using screws (49), lockwashers (50), and washers (51).
3. Secure laminated cards (44) to document tray (48) using screw (45), lockwasher (46), and washer (47).
4. Replace air louver (40) on air outlet panel (36) using screws (41), lockwashers (42), and washers (43).
5. Replace air outlet panel (36) to underside of main access cover (1) using screws (37), washers (38), and locknuts (39).
6. Replace keeper plates (32) on right-side panel using screws (33), washers (34), and locknuts (35).
7. Replace main access cover latches (28) on main access cover (1) using screws (29), washers (30), and locknuts (31).
8. Replace main access cover supports (3) to skid base using screws (18), washers (19), locknuts (20), and spacers (21).
9. Replace swivel joints (15) on cover supports (3) using washers (16) and locknuts (17).

NOTE

Be sure to check hinge gaskets (57, 58) and cover gasket (59) for evidence of deterioration or damage. Replace as required. The wide or bubble portion of the gasket (59) should be installed toward the hinge side of the cover (1).

10. Secure main access cover hinges (7, 11) to left-side panel using screws (8), washers (9), and locknuts (10).
11. Lift up main access cover (1) and place on generator set, aligning hinge mounting holes. Replace hinges on main access cover (1) using screws (12), washers (13), and nuts (14).
12. Attach main access cover supports (3) to main access cover (1) using screws (4), lockwashers (5), and washers (6).
13. Connect electrical plug (22) to fan (23). Secure electrical wiring to inside of main access cover (1) using wire clamps (24), screws (25), washers (26), and lockwashers (27).
14. Close main access cover (1) and lock latches (2).

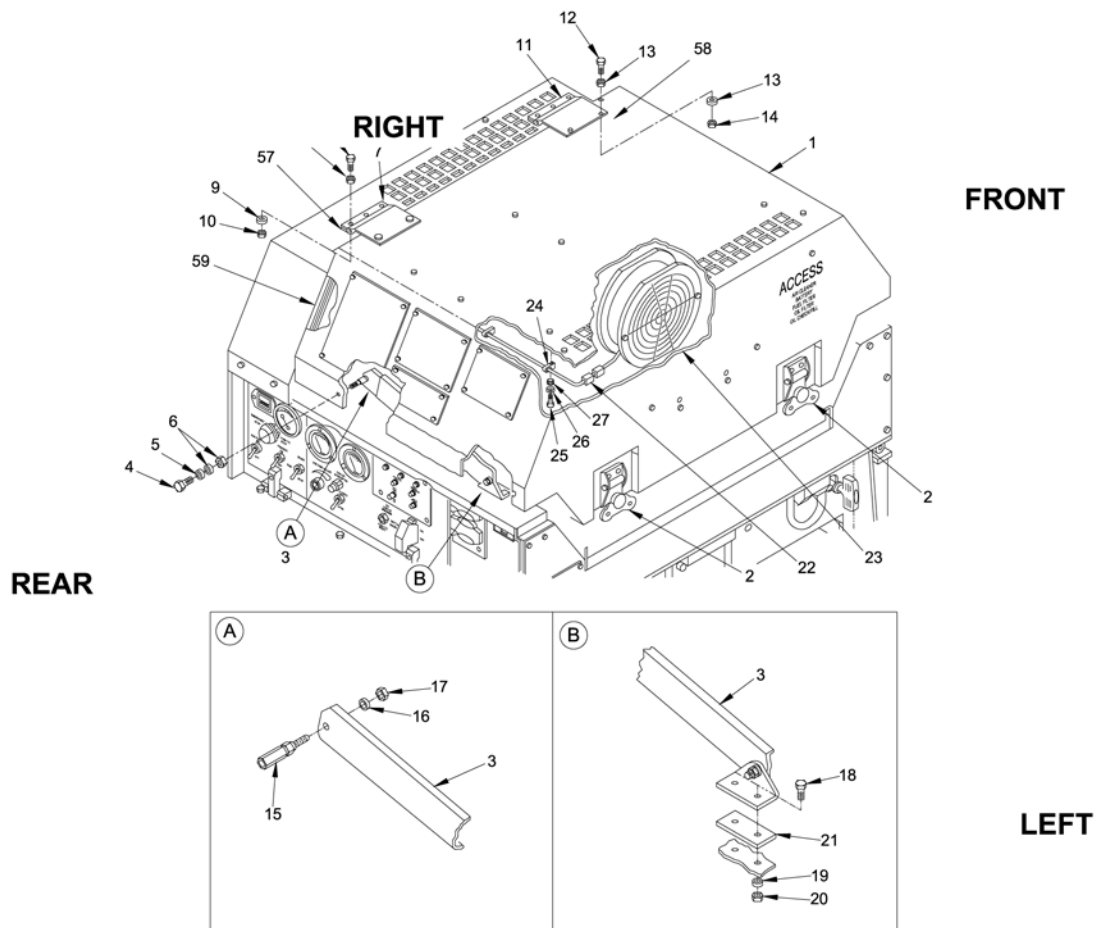


Figure 1. Main Access Cover (Sheet 1 of 3).

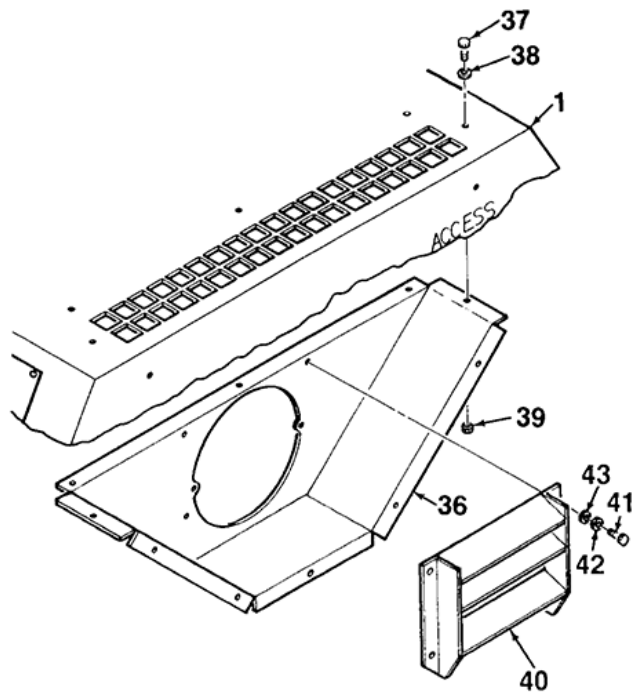
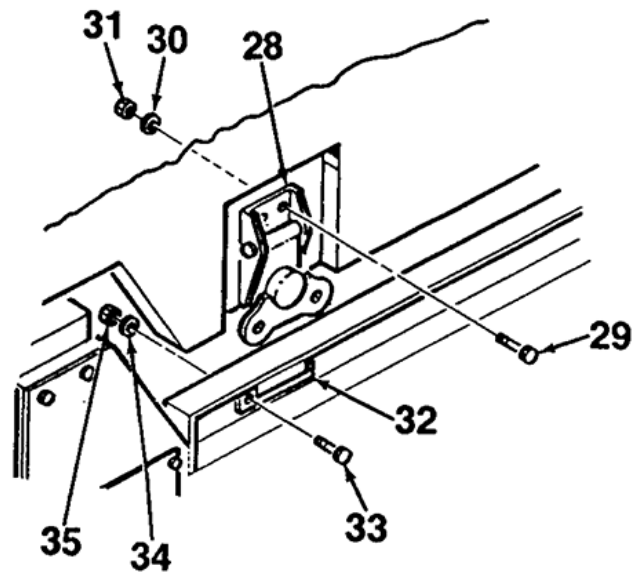


Figure 1. Main Access Cover (Sheet 2 of 3).

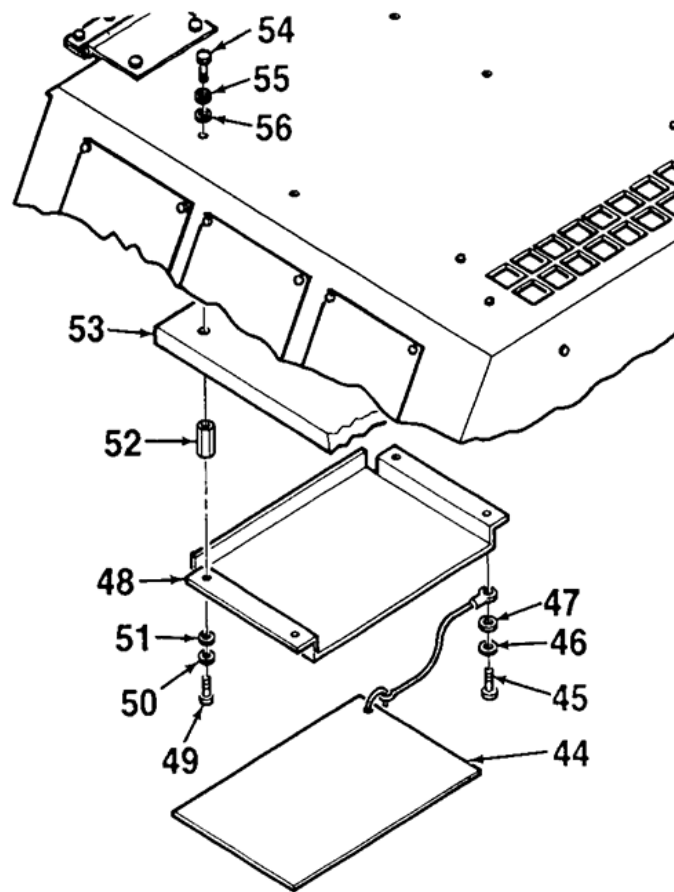


Figure 1. Main Access Cover (Sheet 3 of 3).

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

FRAME AND HOUSING PANELS: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or Standard Automotive Tool Set (WP 0140, Table 2, Item 5)
Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

References

WP 0060, Fuel Filter/Water Separator
WP 0063, Main Access Cover

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery removed (WP 0025) and Battery cables disconnected (WP 0024).
DC magnetic contactors removed (WP 0027)
Frequency Converter (A8) removed (WP 0028)
Control box removed (WP 0030)
HI/LO temperature cooling fan & switch removed (WP 0051 and WP 0052)
Fuel pump removed (WP 0058)
Primary fuel line disconnected (WP 0058)
Fuel fill pocket removed (WP 0059)
Auxiliary fuel line disconnected (WP 0059)
Main access cover removed (WP 0062)
Cable disconnected for NATO Slave Receptacle (WP 0066)
Muffler disengaged from left-side panel (WP 0075)

Materials/Parts

Sealant, RTV (WP 0143, Item 17).

INSPECTION OF INSTALLED ITEMS

1. Inspect frame and housing panels (Figure 1, Item 1) for corrosion, cracks, dents, scratches, or other obvious damage. Inspect fuel fill pocket (WP 0059) for evidence of fuel leakage.
2. Inspect acoustic insulation (42) for cuts, tears, rips, or deterioration.

END OF TASK

REMOVAL

1. Remove screws (2), washers (3), and locknuts (4) to release left-side panel (1) from air inlet cover (20).
2. Remove screws (5), washers (6), and locknuts (7). Remove screw (8), washers (9), and locknut (10).
3. Remove screws (11, 12) to release left side panel (1) from skid base.
4. Remove screws (13), washers (14), and locknuts (15) to release left-side panel (1) from bracket (16). Carefully lift left-side panel (1) off skid base.
5. Remove angle bracket (16) from air inlet panel (25) by removing screws (17), washers (18), and locknuts (19).
6. Remove air inlet cover (20) from air inlet panel (25) by removing screws (21), lockwashers (22), and washers (23) from captive nuts (24). Remove acoustic insulation (33).
7. Remove air inlet panel (25) from skid base by removing screws (26), washers (27), and locknuts (28), and by removing screws (29), washers (30), lockwashers (31), and captive nuts (32).

8. Remove air outlet panel (34) from left-side panel (1) by removing screws (35), washers (36), and locknuts (37).
9. Remove louver (38) from air outlet panel (34) by removing screws (39), lockwashers (40), and washers (41).
10. Remove acoustic insulation (42).

END OF TASK

REPAIR OR REPLACEMENT

1. Replace acoustic insulation (42).
2. Apply RTV sealant to top edge of louver (38). Replace louver (38) on air outlet panel (34) using screws (39), lockwashers (40), and washers (41).
3. Apply RTV sealant to flange of air outlet panel (34) that aligns with left-side panel (1). Replace air outlet panel (34) onto left-side panel (1) using screws (35), washers (36), and locknuts (37).
4. Replace acoustic insulation (33). Replace air inlet cover (20) on air inlet panel (25) using screws (21), lockwashers (22), washers (23), and captive nuts (24).
5. Replace angle bracket (16) on air inlet panel (25) using screws (17), washers (18), and locknuts (19).
6. Replace air inlet panel (25) on skid base using screws (26), washers (27), and locknuts (28), and by using screws (29), washers (30), lockwashers (31), and captive nuts (32).
7. Position left-side panel (1) on skid base. Secure using screws (5), washers (6), and locknuts (7). Replace screw (8), washers (9), and locknut (10). Replace screws (11, 12).
8. Attach left-side panel (1) to air inlet panel (20) using screws (2), washers (3), and locknuts (4).
9. Attach left-side panel (1) to bracket (16) using screws (13), washers (14), and locknuts (15).
10. Replace HI/LO temperature cooling fan and switch (WP 0051 and WP 0052).
11. Reconnect NATO slave receptacle (WP 0066).
12. Replace control box (WP 0030).
13. Replace main access cover (WP 0063).
14. Replace auxiliary and primary fuel pumps and fuel lines (WP 0059 and WP 0060).
15. Replace DC magnetic contactors (WP 0027).
16. Replace Frequency Converter (A8) (WP 0028).
17. Replace muffler (WP 0075).
18. Replace fuel fill pocket (WP 0059).

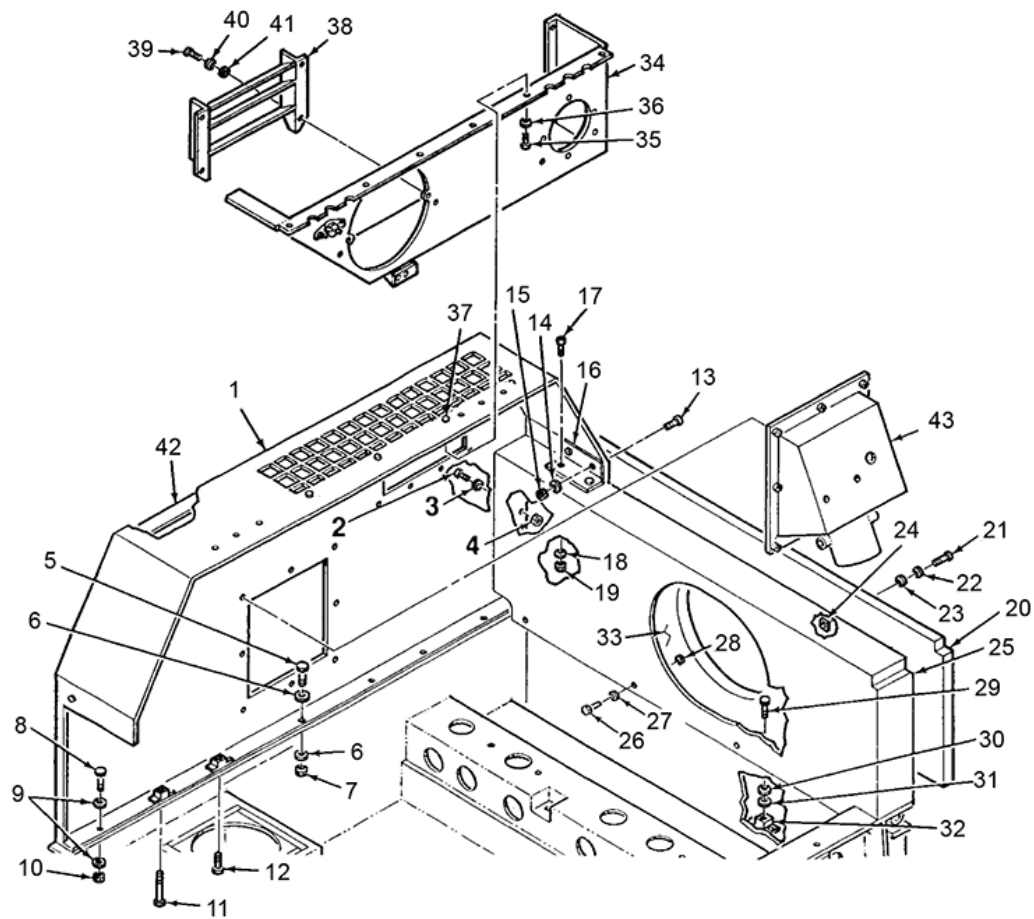


Figure 1. Frame and Housing Panels.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FRAME AND LIFTING HANDLES, LIFTING RINGS: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect frame and lifting handles (Figure 1, Items 1 and 6) for corrosion and obvious damage.
2. Inspect lifting handle bracket for cracks or deformation. Replace handle if damaged.
3. Inspect frame for dents, cracks, grease, other obvious damage, and the need for paint.

END OF TASK**REMOVAL**

1. Remove lifting handle (1) from generator set frame by removing screw (2), washers (3 and 4), and locknut (5).
2. Unlock main access cover latches and lift cover to open.
3. Remove lifting handle (6) from frame by removing screws (7), washers (8), and locknuts (9), and by removing screws (10), washers (11), and locknuts (12).
4. Remove paint chips, grease, and other debris from frame. Prepare for paint, if necessary.

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace lifting handle (6) on frame using screws (7), washers (8), locknuts (9), and by using screws (10), washers (11), and locknuts (12).
2. Replace lifting handle (1) on frame using screw (2), washers (3, 4), and locknut (5).
3. Close main access cover and lock in place using latches.
4. Repaint frame, as necessary, to preserve integrity of system.

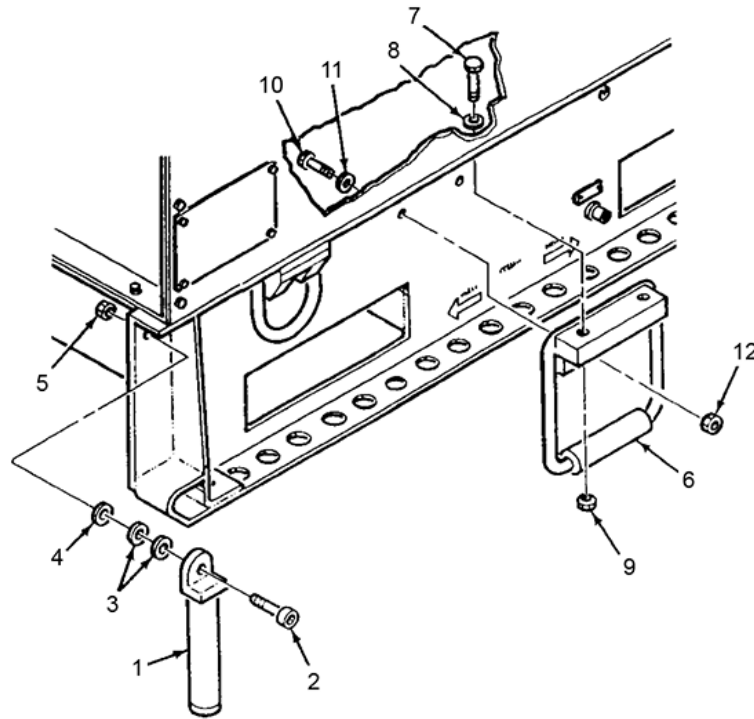


Figure 1. Frame and Lifting Handles.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****NATO SLAVE RECEPTACLE: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)

References

WP 0025, Battery

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect NATO slave receptacle (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Check terminal connectors for damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure terminal lugs are securely attached.

END OF TASK**REMOVAL**

1. Tag and disconnect electrical wiring from rear of NATO slave receptacle (1).
2. Remove NATO slave receptacle (1) and attached cap from generator set skid base by removing screws (2), washers (3), and nuts (4).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install NATO slave receptacle (1) and attached cap to skid base. Secure using screws (2), washers (3), and nuts (4).
2. Connect electrical wiring to rear of NATO slave receptacle (1).
3. Replace battery (WP 0025).
4. Close main access cover and lock in place using latches.

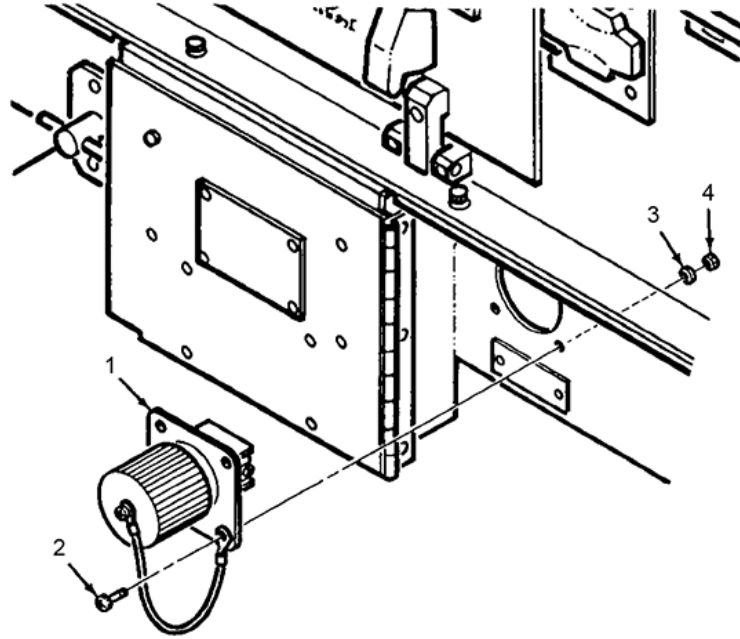


Figure 1. NATO Slave Receptacle.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****SKID BASE: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

Inspect frame and housing panels for corrosion, cracks, dents, scratches, or other obvious damage.

END OF TASK**REMOVAL**

1. Remove locknuts (Figure 1, Item 1), washers (2), and screws (3) from all four sides of skid base assembly (4).
2. Detach skid base assembly (4) from enclosure assembly (5).

END OF TASK**REPAIR OR REPLACEMENT**

1. Reattach skid base assembly (4) to enclosure assembly (5).
2. Replace screws (3), washers (2), and locknuts (1) on all four sides of skid base assembly (4).

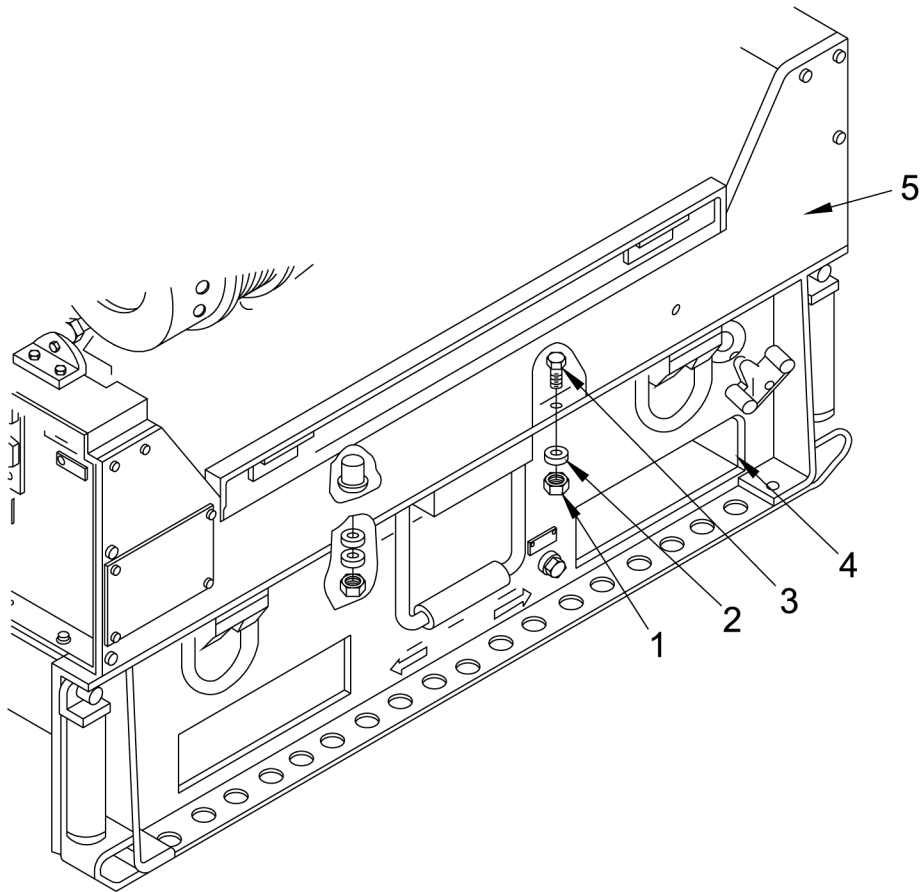


Figure 1. Skid Base.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ID PLATES: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

Check ID plates for corrosion, damage, and wear.

END OF TASK**REMOVAL****NOTE**

ID plates are attached to frame by rivets. ID Plate removal instructions are typical for all ID plates unless otherwise noted.

1. Remove four rivets (Figure 1, Item 1) from ID plate.
2. Remove ID plate.

END OF TASK**REPAIR OR REPLACEMENT**

1. Place new ID plate on generator set, lining up holes for rivets (1).
2. Reattach rivets (1) to ID plates.

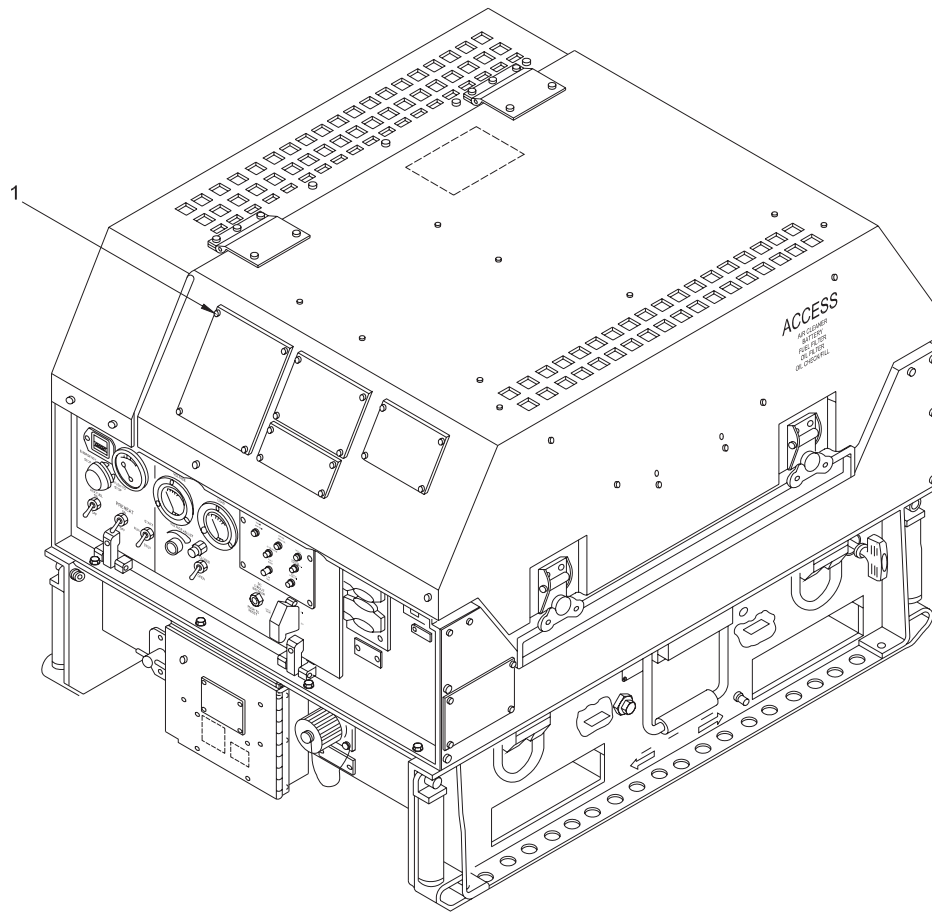


Figure1. ID Plates.

ENDOF TASK

ENDOF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****LUBRICATION SYSTEM: INSPECTION, SERVICING**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0016, PMCS Including Lubrication
Instructions

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

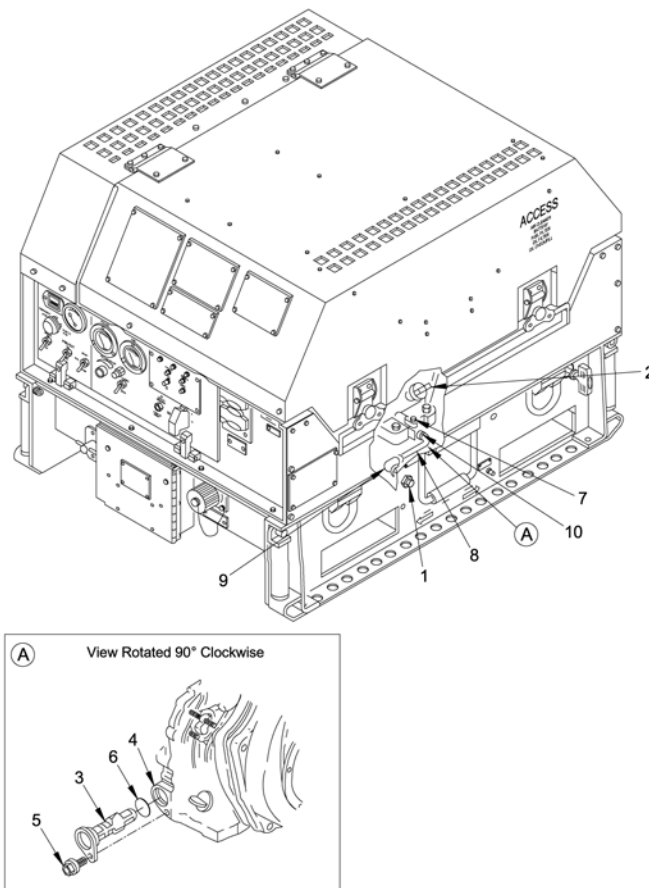
1. Unlock main access cover latches and lift cover to open.
2. Inspect oil drain hose (Figure 1, Item 8) for cuts, cracks, deterioration, or other damage. Inspect for evidence of leakage.
3. Inspect drain valve (7) for clogging or obstruction. Ensure valve handle operates smoothly and that valve shuts completely.
4. Inspect elbow (9), fitting (10), and plug (1) for damage. Inspect for crossed, stripped, or damaged threads.
5. Inspect engine temperature switch for corrosion, evidence of electrical short, and obvious damage.
6. Inspect electrical wiring to engine temperature switch for cuts, crimps, bare wire, or other damage. Ensure plug is securely attached.
7. Inspect oil pressure switch for corrosion, evidence of electrical short, and obvious damage.
8. Inspect electrical wiring to oil pressure switch for cuts, crimps, bare wire, or other damage.

END OF TASK**SERVICING**

Service in accordance with WP 0016, Table 1.

NOTE

Services include scheduled as well as preventive maintenance.

**LEGEND**

- 1 Oil drain plug
- 2 Oil fill cap
- 3 Oil filter
- 4 Crankcase cover
- 5 Bolt
- 6 O-ring
- 7 Oil drain valve
- 8 Oil drain hose
- 9 Elbow
- 10 Fitting

Figure 1. Lubrication System.**END OF TASK****END OF WORK PACKAGE**

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

OIL DRAIN ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT.

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0016, PMCS Including Lubrication Instructions
WP 0078, Generator Set/Engine Assembly
WP 0082, Fuel Tank

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect oil drain hose (Figure 1, Item 1) for cuts, cracks, deterioration, or other damage. Inspect for evidence of leakage.
3. Inspect drain valve (4) for clogging or obstruction. Ensure drain valve handle operates smoothly and that valve shuts completely.
4. Inspect elbow (2), fitting, and plug for damage. Inspect for crossed, stripped, or damaged threads.

END OF TASK

REMOVAL

1. Confirm drain valve (4) is closed (valve handle perpendicular to valve).
2. Disconnect hose (1) from drain valve (4) and adapter (5), loosening hose clamps (3). Remove adapter (5) from elbow (2).

NOTE

Nut on outside of skid base, adjacent to plug, is welded in place and not removable.

3. Unscrew plug (8) from elbow (2). Release chain (9) from skid base by removing screw (10), washers (11), and locknut (12). Remove chain (9) from plug only if replacement is required.
4. Remove elbow (2) from skid base by removing nut (6) and star washer (7).
5. If removal of drain valve (4) is required, engine must be removed from generator set. See WP 0078 through WP 0082.

END OF TASK

REPAIR OR REPLACEMENT

1. Replace elbow (2) on skid base and secure using nut (6) and star washer (7). Replace plug (8) and secure chain (9) to skid base using screw (10), washers (11), and locknut (12).
2. Replace adapter (5) onto elbow (2).
3. Connect hose (1) to drain valve (4) and adapter (5) and tighten hose clamps (3).
4. Close drain valve (4) by turning handle perpendicular to valve.

5. Service engine oil (WP 0016).

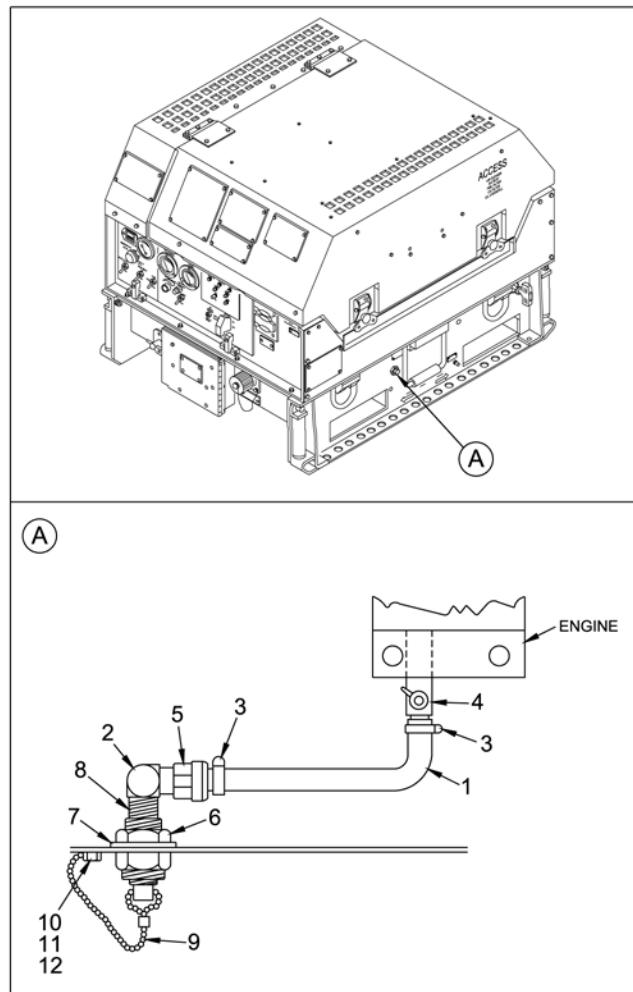


Figure 1. Oil Drain Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****OIL PRESSURE SWITCH: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0016, PMCS, Including Lubrication
Instructions

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

Tape, Teflon (WP 0143, Item 21)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect oil pressure switch (Figure 1, Item 2) for corrosion, evidence of electrical short, and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage.

END OF TASK**REMOVAL****NOTE**

It is not necessary to drain oil if a suitable plug is used to plug port when oil pressure switch (2) is removed. If required, drain oil. (See WP 0016, Table 1 and Lubrication Instructions).

1. Tag and disconnect electrical wires (1) from pressure switch (2).
2. Remove oil pressure switch (2) from engine crankcase.

END OF TASK**REPAIR OR REPLACEMENT****CAUTION**

Oil pressure switch (2) is fragile. Do not overtighten. Apply light pressure while tightening to prevent switch from breaking off in engine.

1. Apply Teflon tape to threads of oil pressure switch (2). Replace oil pressure switch (2) in engine crankcase.
2. Connect electrical wires (1) to oil pressure switch (2).
3. Service engine oil (See WP 0016, Table 1 and Lubrication Instructions), as required.

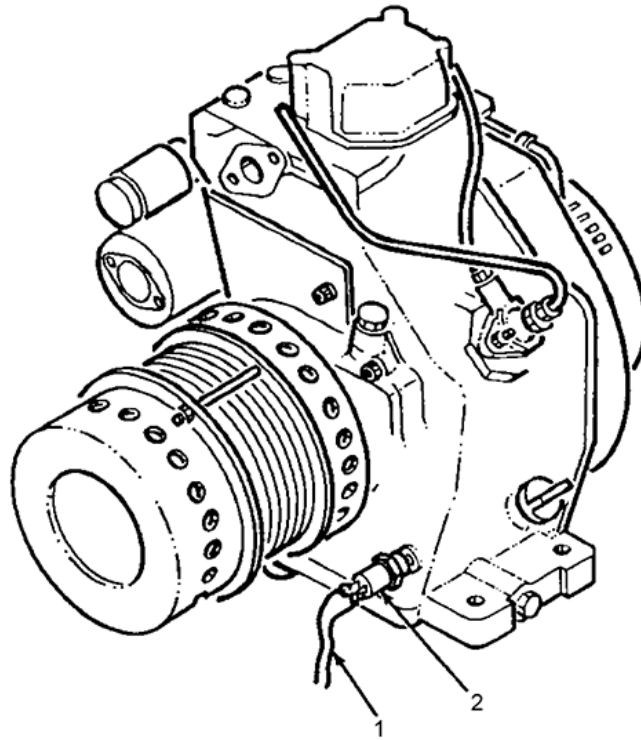


Figure 1. Oil Pressure Switch.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)**
ENGINE OIL TEMPERATURE SWITCH: INSPECTION, REMOVAL, REPLACEMENT

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

References

WP 0016, PMCS Including Lubrication
Instructions

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

Materials/Parts

Tape, Teflon (WP 0143, Item 21)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect engine oil temperature switch (Figure 1, Item 2) for corrosion, evidence of electrical short, and obvious damage.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure plug is securely attached.

END OF TASK**REMOVAL**

1. Disconnect electrical plug (1) from engine oil temperature switch (2).
2. Using a 1-inch, open-end wrench, remove engine oil temperature switch (2) from engine crankcase.

END OF TASK**REPAIR OR REPLACEMENT****CAUTION**

Oil pressure switch (2) is fragile. Do not overtighten. Apply light pressure while tightening to prevent switch from breaking off in engine.

1. Apply Teflon tape to threads of engine oil temperature switch (2). Replace engine oil temperature switch (2) into engine crankcase.
2. Connect electrical plug (1) to engine oil temperature switch (2).
3. Check engine oil in accordance with WP 0016, Table 1 and Lubrication Instructions.

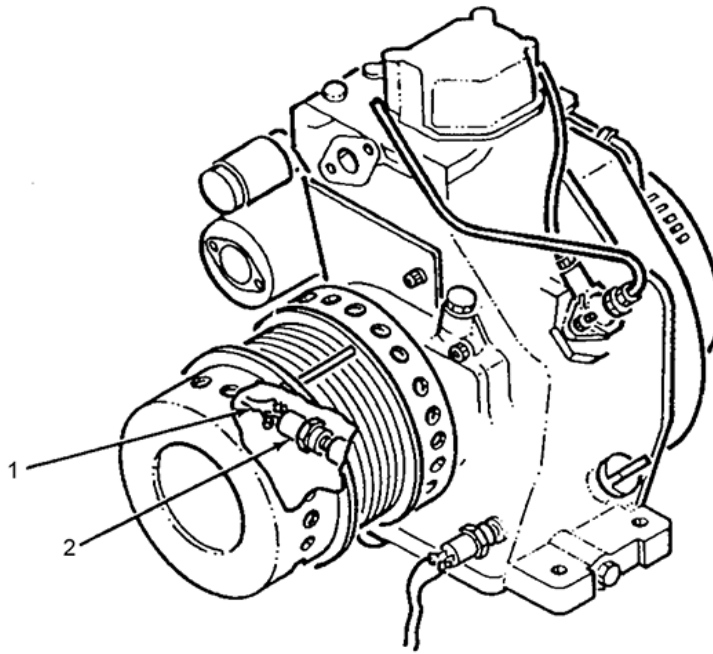


Figure 1. Engine Oil Temperature Switch.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****OIL FILTER: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Oil, Engine (WP 0143, Items 7 through 12)
Cloth, Cleaning (WP 0143, Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Engine oil drained (WP 0016).

INSPECTION OF INSTALLED ITEMS

1. Inspect oil filter (Figure 1, Item 1) for obvious damage.
2. Check oil filter's mesh material for damage.
3. Clean out clogging dirt and residue.
4. Inspect area around oil filter port for evidence of leakage. Using a clean rag, clean area of dirt and accumulated grime.

END OF TASK**REMOVAL**

1. Remove oil filter (1) from crankcase cover (2) by removing bolt (3).
2. Remove and discard O-ring (4).

END OF TASK**REPAIR OR REPLACEMENT**

1. Apply a light coat of lubricating oil to new O-ring (4) and install O-ring onto oil filter (1).
2. Slide oil filter (1) into crankcase (2) and secure using bolt (3).

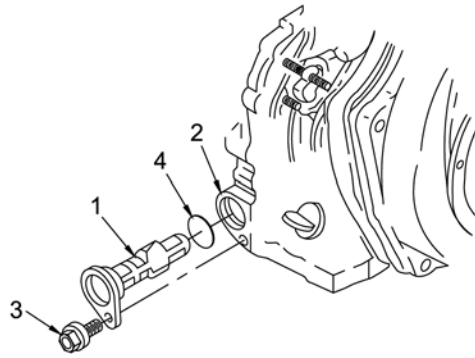


Figure 1. Oil Filter.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****EXHAUST SYSTEM ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)

References

WP 0075, Muffler Assembly
WP 0076, Bellows Assembly
WP 0077, Duct Assembly

Materials/Parts

As required

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect muffler bracket, and check for loose bolts and screws.
3. Inspect muffler (Figure 1, Item 1), bellows (2), duct (3), and flanges (4) for cracks, dents, corrosion, and obvious damage.
4. Check for holes or evidence of deterioration in muffler (1) and with gaskets (5).

END OF TASK**REMOVAL**

See WP 0075, WP 0076, and WP 0077 for specific tasks in removing subcomponents.

END OF TASK**REPAIR OR REPLACEMENT**

See WP 0075, WP 0076, and WP 0077 for specific tasks in removing subcomponents.

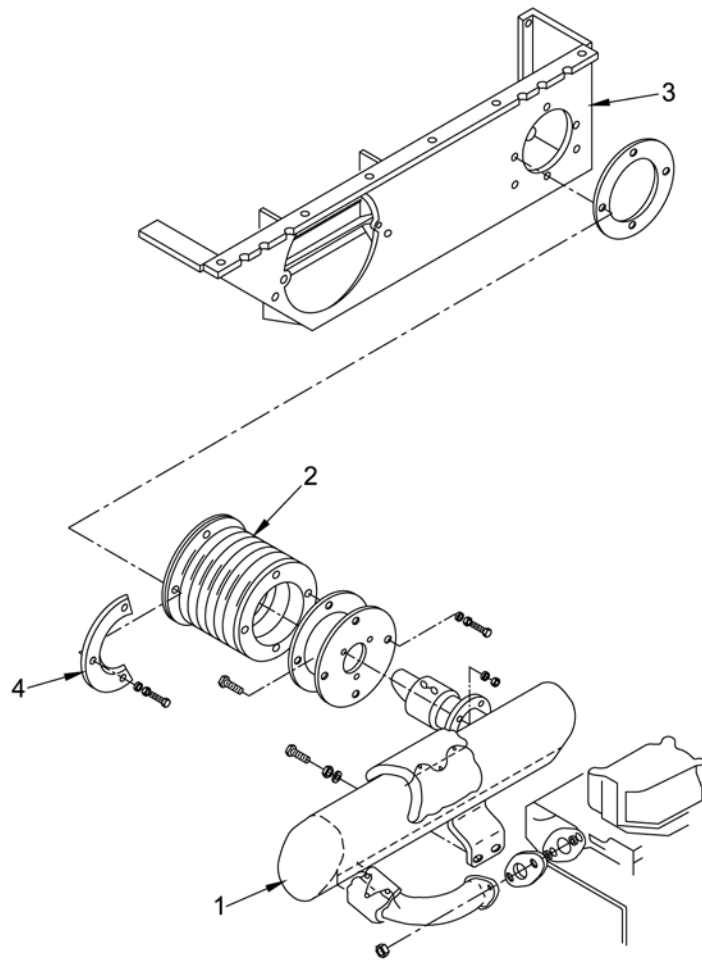


Figure 1. Exhaust System Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****MUFFLER ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect muffler (Figure 1, Item 27) for cracks, dents, corrosion, and obvious damage.
3. Check for holes or evidence of deterioration in muffler (27) and with gaskets (21).
4. Check for loose bolts and screws.
5. Check muffler mounting bolts (23) to ensure they are tightened securely.

NOTE

Vibrations can loosen muffler mounting hardware. With loose mounting hardware vibrations will crack exhaust pipe. A crack in the pipe or muffler could lead to an exhaust system failure. If muffler mounting hardware loosens, tighten it. If mounting bolts (23) have suffered thread damage replace them. Some muffler mounting hardware is underneath the muffler, on the back of the engine, and is hard to see.

6. Inspect muffler (27) for flow-through and carbon accumulation.

END OF TASK**REMOVAL**

1. Remove access plate (1) from left-side panel (2) by removing screws (3), lockwashers (4), and washers (5).
2. Remove deflector panel (6) from left-side panel (2) by removing screws (7), lockwashers (8), and washers (9).
3. Remove mounting plate (10) from left-side panel (2) by removing four screws (11), lockwashers (12), and washers (13).
4. Remove thermal wrap (14) from muffler (27) by removing lockwire. Remove nuts (15) from cylinder head studs (16).
5. Remove screws (17), lockwashers (18), and washers (19). Remove bellows (20) and gasket (21) from flange (22).
6. Remove screws (23), lockwashers (24), washers (25), muffler (27), and gasket (26) from engine block.
7. Remove flange (22) from muffler (27) by removing screws (28), lockwashers (29), and nuts (30).
8. Remove thermal wrap (31) and thermal blanket (32) from muffler (27) by removing lockwire.

9. Remove bellows (20), flange (33), and gasket (37) from duct (38) by removing screws (34), lockwashers (35), and washers (36).

END OF TASK

REPAIR OR REPLACEMENT

1. Replace bellows (20), flange (33), and gasket (37) on duct (38) using screws (34), lockwashers (35), and washers (36).
2. Replace flange (22) on muffler (27) using screws (28), lockwashers (29), and nuts (30).
3. Install muffler (27) and gasket (26) to engine block and secure using screws (23), lockwashers (24), and washers (25).
4. Replace thermal wrap (31) and thermal blanket (32) on muffler (27). Secure using lockwire.
5. Replace bellows (20) and gasket (21) on flange (22). Replace screws (17), lockwashers (18), and washers (19).
6. Replace nuts (15) on cylinder head studs (16). Torque nuts to 14 to 16 ft•lb. Replace thermal wrap (14) and secure using lockwire.
7. Replace mounting plate (10) on left-side panel (2) using screws (11), lockwashers (12), and washers (13).
8. Replace deflector panel (6) on left-side panel (2) using screws (7), lockwashers (8), and washers (9).
9. Replace access plate (1) on left-side panel (2) using screws (3), lockwashers (4), and washers (5).
10. Close main access cover and lock in place using latches.

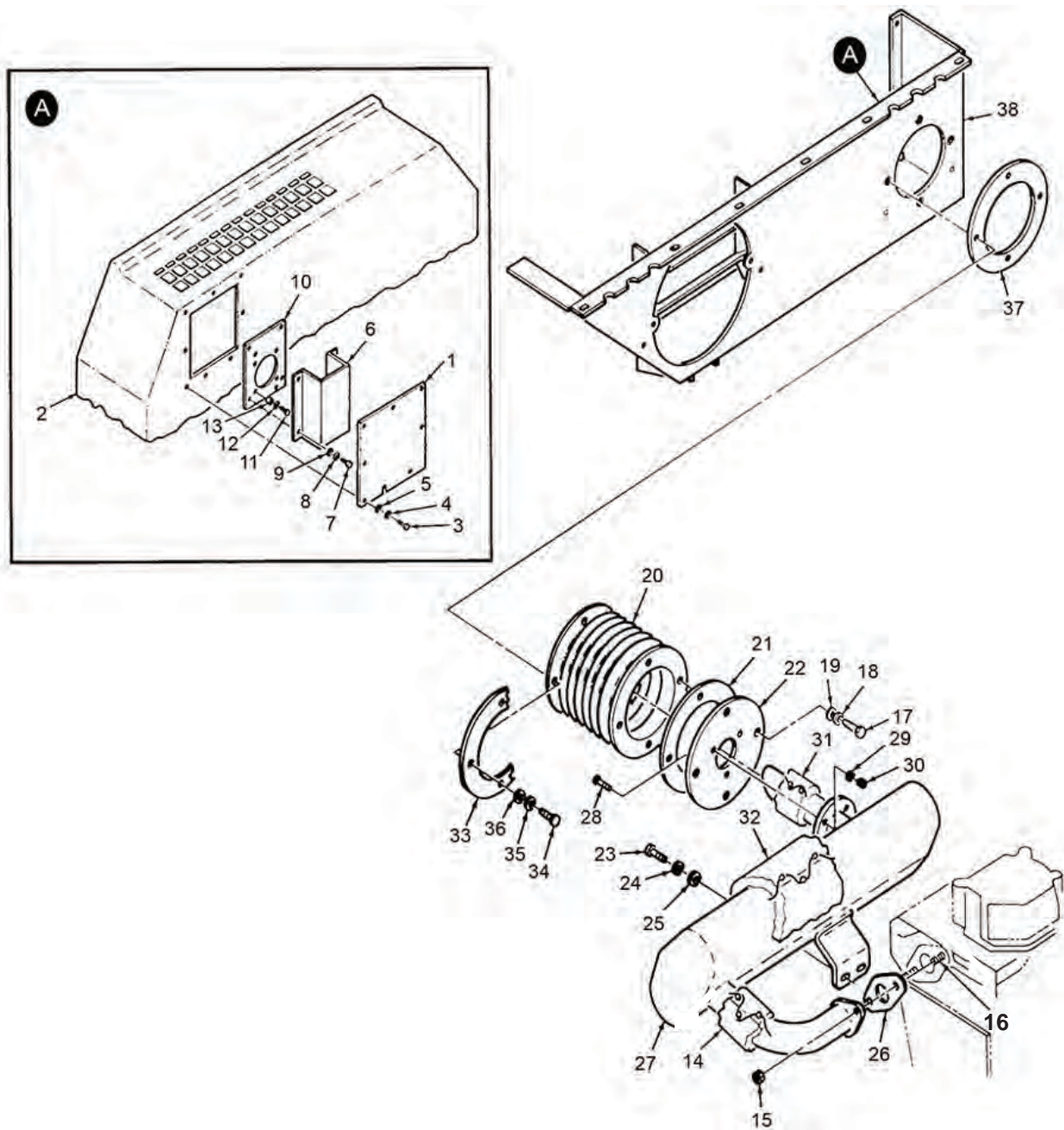


Figure 1. Muffler Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****BELLOWS ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect bellows (Figure 1, Item 20) for cracks, dents, corrosion, and obvious damage.
3. Check for holes or evidence of deterioration in bellows (20) and with gaskets (21).
4. Check for loose bolts and screws.

END OF TASK**REMOVAL**

1. Remove access plate (1) from left-side panel (2) by removing screws (3), lockwashers (4), and washers (5).
2. Remove deflector panel (6) from left-side panel (2) by removing screws (7), lockwashers (8), and washers (9).
3. Remove mounting plate (10) from left-side panel (2) by removing screws (11), lockwashers (12), and washers (13).
4. Remove screws (17), lockwashers (18), and washers (19). Remove bellows (20) and gasket (21) from flange (22).
5. Remove screws (23), lockwashers (24), washers (25), muffler (27), and gasket (26) from engine block. Remove flange (22) from muffler (27) by removing screws (28), lockwashers (29), and nuts (30).
6. Remove bellows (20), flange (33), and gasket (37) from duct (38) by removing screws (34), lockwashers (35), and washers (36).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace bellows (20), flange (33), and gasket (37) on duct (38) using screws (34), lockwashers (35), and washers (36).
2. Replace flange (22) on muffler (27) using screws (28), lockwashers (29), and nuts (30).
3. Install muffler (27) and gasket (26) on engine block and secure using screws (23), lockwashers (24), and washers (25).
4. Replace bellows (20) and gasket (21) on flange (22). Replace screws (17), lockwashers (18), and washers (19).

5. Replace mounting plate (10) on left-side panel (2) using screws (11), lockwashers (12), and washers (13).
6. Replace detector panel (6) on left-side panel (2) using screws (7), lockwashers (8), and washers (9).
7. Replace access plate (1) on left-side panel (2) using screws (3), lockwashers (4), and washers (5).
8. Close main access cover and lock in place using latches.

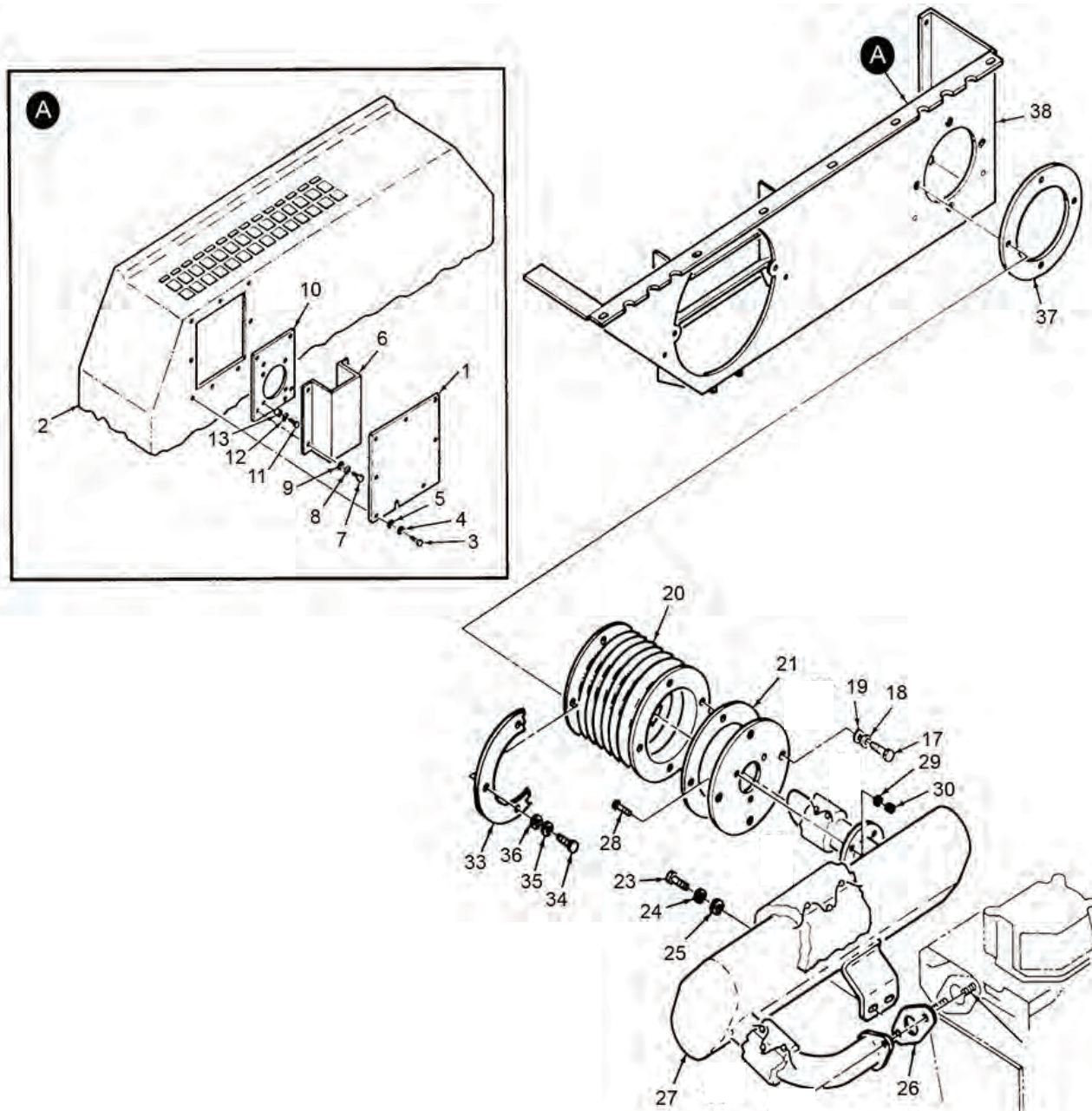


Figure 1. Bellows Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****DUCT ASSEMBLY: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

As required

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Unlock main access cover latches and lift cover to open.
2. Inspect duct (Figure 1, Item 38) for cracks, dents, corrosion, and obvious damage.
3. Check for holes or evidence of deterioration in duct assembly (38), mounting plate (10), deflector panel (6), and access plate (1). Also check flange gaskets.
4. Check for loose bolts and screws.

END OF TASK**REMOVAL**

1. Remove access plate (1) from left-side panel (2) by removing screws (3), lockwashers (4), and washers (5).
2. Remove deflector panel (6) from left-side panel (2) by removing screws (7), lockwashers (8), and washers (9).
3. Remove mounting plate (10) from left-side panel (2) by removing screws (11), lockwashers (12), and washers (13).
4. Remove screws (17), lockwashers (18), and washers (19). Remove bellows (20) and gasket (21) from flange (22).
5. Remove screws (23), lockwashers (24), washers (25), muffler (27), and gasket (26) from engine block.
6. Remove flange (22) from muffler (27) by removing screws (28), lockwashers (29), and nuts (30).
7. Remove bellows (20), flange (33), and gasket (37) from duct (38) by removing screws (34), lockwashers (35), and washers (36).

END OF TASK**REPAIR OR REPLACEMENT**

1. Replace bellows (20), flange (33), and gasket (37) on duct (38) using screws (34), lockwashers (35), and washers (36).
2. Replace flange (22) on muffler (27) using screws (28), lockwashers (29), and nuts (30).
3. Install muffler (27) and gasket (26) on engine block and secure using screws (23), lockwashers (24), and washers (25).

4. Replace bellows (20) and gasket (21) on flange (22). Replace screws (17), lockwashers (18), and washers (19).
5. Replace mounting plate (10) on left-side panel (2) using screws (11), lockwashers (12), and washers (13).
6. Replace deflector panel (6) on left-side panel (2) using screws (7), lockwashers (8), and washers (9).
7. Replace access plate (1) on left-side panel (2) using screws (3), lockwashers (4), and washers (5).
8. Close main access cover and lock in place using latches.

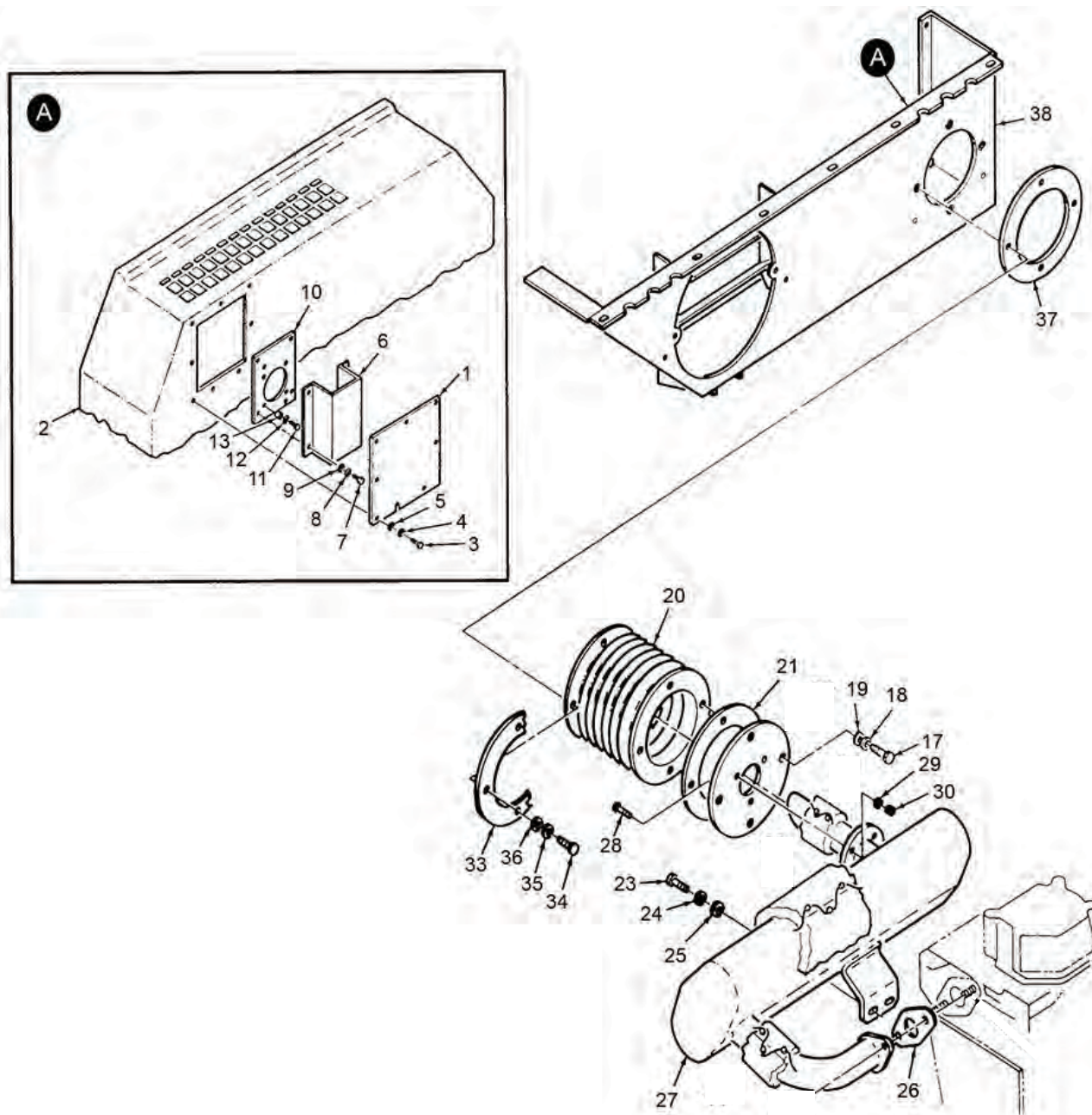


Figure 1. Duct Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****GENERATOR SET/ENGINE ASSEMBLY: INSPECTION, TESTING, REMOVAL, REPLACEMENT****INITIAL SETUP:****Tools and Special Tools**

Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)
Hoist, Lifting (WP 0140, Table 2, P/O Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shut Down).
Muffler assembly removed (WP 0075).

References

Test Results Outlined in WP 0017 - WP 0077
WP 004, Description and Use of Operator Controls and Indicators
WP 0020, Governor Actuator Assembly Maintenance
WP 0053, Fuel System Assembly
WP 0054, Fuel Tank Strainer Assembly
WP 0061, Air Cleaner Assembly
WP 0063, Main Access Cover
WP 0070, Oil Drain Assembly

Personnel Required

Two (2) maintenance personnel.

INSPECTION OF INSTALLED ITEMS

1. Visually inspect generator set engine assembly for damage. Clean, as required, to view all components carefully. Look for signs of fluid leakage. Check all sealing areas and surfaces.
2. Inspect engine fuel and oil lines for cracks, cuts, abrasions, evidence of leakage, and obvious damage. Check fluid fittings and connectors for security of attachment.
3. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage. Ensure all connectors and terminal lugs are securely attached.
4. Conduct a detailed inspection of suspect components in accordance with the appropriate maintenance paragraph.
5. Remove and replace any component damaged to the extent it will affect safe operation of generator set.

END OF TASK**TESTING**

Verify all tests outlined in WP 0017 through WP 0077 have been performed.

END OF TASK**REMOVAL**

1. Remove two cover supports from main access cover (WP 0063, Figure 1, Item 3). Fully open main access cover (1). Remove wire ties.
2. Tag and disconnect electrical wiring from engine components, including oil pressure switch, starter (positive terminal), and two air heater plugs. See FO-3 and FO-4 for wire locations.
3. Disconnect all connectors from TB6A. Disconnect wire from fuse (FU1). Disconnect wire (TB4B9). Disconnect all wires from Frequency Converter (A8).
4. Disconnect fuel return line (Figure 1, Item 1) from fuel injector. Disconnect fuel line (2) from fuel tank to tee. Disconnect fuel line (3) from fuel filter/water separator outlet. Disconnect fuel return line (1) from fuel injector.
5. Disconnect oil drain line (4) from oil drain valve (12) by loosening clamp (13).

WARNING

The generator set is heavy. Provide lifting hoist capable of lifting 100 lbs. Do not lift generator set over personnel. Enlist the help of an aide to prevent damage to equipment. Failure to observe this warning could result in severe personal injury or death.

6. Attach lifting hoist to engine lifting cable (10). Raise hoist to remove slack.
7. Release generator set engine assembly (23) from vibration isolators (14) by removing screws (15), lockwashers (16), and washers (17).

CAUTION

End of starter rope can be quickly drawn into recoil winding mechanism, making it pull back out. To prevent this, ensure end of starter rope is knotted or otherwise secured after removing tee handle.

8. Disconnect tee handle from starter pull rope (WP 0004, Figure 1, Item 20) by removing knot. Feed end of rope through hole (34) in skid base (Figure 1, Item 27).
9. Carefully lift generator set engine assembly (23) up and out of generator set main frame. Place generator set engine assembly on a flat work surface for further maintenance. If generator set engine assembly (23) is to be replaced, remove lifting cable (10) by removing screws (11), lockwasher (12), and washer (13). Retain for future use.
10. If required, remove generator set engine assembly (23) from engine base (18) by removing screws (19), washers (20), and nuts (21).
11. Remove vibration isolators (14) from skid base (27) by removing screws (24), washers (25), and nuts (26).
12. If generator set engine assembly (23) is being replaced, remove and retain the following engine components for use on new engine: engine air cleaner assembly (WP 0061, Figure 1, Item 5), engine oil drain valve (WP 0070, Figure 1, Item 7), governor actuator (WP 0020, Figure 1, Item 2), and engine lifting cable (Figure 1, Item 10).

END OF TASK

REPAIR OR REPLACEMENT

WARNING

The generator set is heavy. Provide lifting hoist capable of lifting 100 lbs. Do not lift generator set over personnel. Enlist the help of an aide to prevent damage to equipment. Failure to observe this warning could result in severe personal injury or death.

NOTE

When replacing engine components, use new lockwashers if necessary.

1. Replace engine lifting cable (Figure 1, Item 10) on generator set engine assembly (23) using screws (11).
2. Attach lifting hoist to engine lifting cable (10). Raise hoist to remove slack.
3. Carefully lift generator set engine assembly (23) and install on plate (18). Secure using screws (19), washers (20), and nuts (21). Torque screws to 30 ft-lbs.
4. Install vibration isolators (14) on skid base (27) using screws (24), washers (25), and nuts (26).
5. Lift generator set engine assembly (23) and carefully lower into generator set main frame and housing. Make sure mounting holes on plate (18) align with vibration isolators (14).
6. Attach generator set engine assembly (23) to vibration isolators (14) using screws (15), lockwashers (16), and washers (17). Torque screws to 30 ft-lbs.
7. Connect oil drain line (4) to drain valve (12) and secure by tightening clamp (13). If removed, secure drain plug (6) to skid base (27) using screw (7), washers (8), and nut (9).
8. Feed recoil winding mechanism starter rope through hole (WP 0004, Figure 1, (Sheet 1 of 4)) in skid base (Figure 1, Item 27). Install tee handle (WP 0004, Figure 1, Item 20) and knot rope to secure handle.
9. Connect fuel line (Figure 1, Item 3) to fuel filter/water separator outlet (28). Connect fuel line (2) from fuel tank to tee pipe (WP 0054, Figure 1, Item 16). Connect fuel return line (Figure 1, Item 1) to fuel injector. See fuel injector maintenance in TM 9-2815-257-24.

CAUTION

After the following step is performed be sure to cover the connection point of the positive terminal of the starter with NSN:8040-00-117-8510. Failure to comply may cause damage to the generator set and/or injury to soldiers.

10. Connect electrical wiring (FO-1 and FO-2) to engine components.
11. Attach cover support to main access cover (WP0063).
12. Install muffler assembly if necessary (WP 0075).

NOTE

Index numbers 5 and 22 are not used.

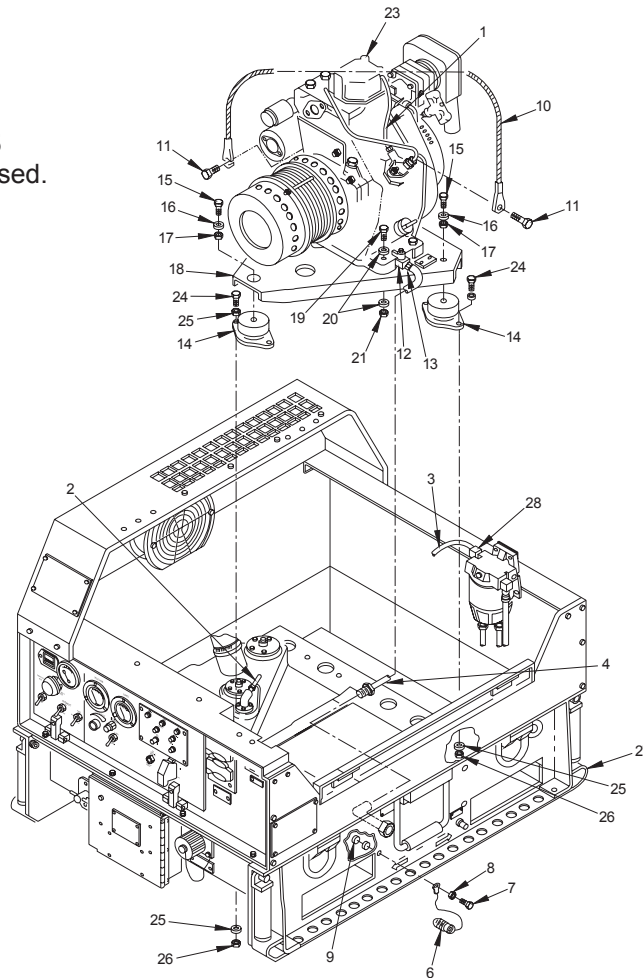


Figure 1. Generator Set Engine/Alternator Assembly.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PERMANENT MAGNET ALTERNATOR (PMA): INSPECTION, TESTING, REMOVAL, REPLACEMENT

INITIAL SETUP:

Tools and Special Tools

Shop Equipment, Automotive Vehicle Maintenance (WP 0140, Table 2, Item 3)
 Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)
 Puller, Mechanical (WP 0140, Table 2, P/O Item 2)

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
 Battery cables disconnected (WP 0026)
 Cable disconnected for NATO Slave Receptacle (WP 0066)

References

WP 0086, Torque Limits

Materials/Parts

Adhesive, Loctite (WP 0143, Item 19)

INSPECTION OF INSTALLED ITEMS

1. Inspect Permanent Magnet Alternator (PMA) components (Figure 2, Item 19) for damage. To view all components, clean as required.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage. Ensure all connectors and terminal lugs are securely attached.
3. Inspect all components (19) for corrosion. Check attaching parts for crossed, stripped, or damaged threads.
4. Inspect edge gasket (8) for damage. Inspect label (7) for legibility.

END OF TASK

TESTING

1. Open VOLTAGE SELECTOR switch door on top on Frequency Converter (A8).

NOTE

This is a safety function to disable the Frequency Converter (A8) output until other parameters are verified. Do not close this door until specifically told to do so.

2. Remove J15 and J16 from Frequency Converter (A8). Zero multimeter on low range (less than 400 ohms) and ensure three pins on each side of plug are same numbered winding, as indicated in Figure 1 below:

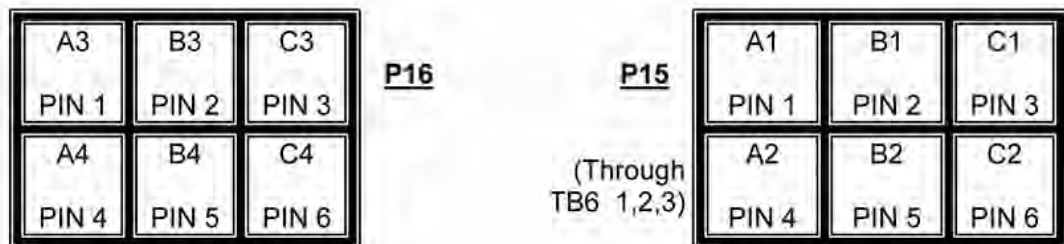


Figure 1. Pin Winding.

3. Select a multimeter range of high resistance (higher than 1 megohm) and ensure there is no connection between any different numbered windings (A1 winding does not connect to any 2 winding or 3 winding or 4 winding, then the A2 winding does not connect to any 3 winding or 4 winding, then the A3 winding does not connect to any 4 winding). There should be no steady reading under 200K ohms.
4. Measure voltage output of PMA at P15 and P16. Measure voltage between A1 and B1, A2 and B2, A3 and B3, and A4 and B4. Minimum output should be 200 VAC. Output between all four should be within 2 V of each other. If current voltage is less than 200 VAC, manually increase engine speed and check if voltage increases over 200 VAC.
5. Measure battery-charging winding output (TB4 terminal 9 and FU1 terminal 2). Output should read approximately 28 to 40 VAC.

END OF TASK

REMOVAL

1. Tag and disconnect engine/alternator wiring harness (FO-4, Sheet 1 of 2)
2. Using a #4 metric Allen wrench, remove PMA cover (Figure 2, Item 5) by removing screws (6). Use care when removing cover to prevent damage to alternator output leads.

CAUTION

Use correct puller. Damage to equipment can occur if wrong puller is used.

NOTE

Rotor assembly (11) is held in stator (14) by magnets. Rotor assembly must be completely removed from stator, or magnets will pull it back into place.

3. Release rotor assembly (11) from engine shaft by removing screw (9) and washer (10). Using a mechanical puller, remove rotor assembly (11) completely from stator (14).
4. Loosen clamping ring (13). Remove stator (14) from engine adapter (18) by removing screws (12).
5. Remove engine adapter (18) from engine by removing screws (15), lockwashers (16), and washers (17).

END OF TASK

REPAIR OR REPLACEMENT

1. Apply adhesive (Loctite, WP 0143, Item 19) to threads of screws (Figure 2, Item 15). Install engine adapter (18) on engine using screws (15), lockwashers (16), and washers (17). Torque screws to 15 ft•lb (see WP 0086, Torque Limits).
2. Install stator (14) on engine adapter (18). Stator must be installed so that alternator output leads (1, 2, 3 and 4) are at bottom, positioned for their exit through cover (5). Secure stator (14) using screws (12) and clamping ring (13).

WARNING

The rotor assembly (11) is held in the stator (14) by magnets. The rotor will snap into place in stator when installed. Use care to prevent injury to fingers. Failure to observe this warning could result in severe personal injury or death.

3. Hold rotor assembly (11) so no part of your fingers will be between rotor and stator (14). Carefully insert rotor assembly (11) into stator (14). Rotor will cock slightly as it is drawn into stator and sticks in place. Using a rubber hammer lightly tap high side of rotor (11) until it slams into place.
4. Apply adhesive (Loctite) to threads of screw (9). Install screw (9) and washer (10). Torque screw to 15 ft•lb. See WP 0086, Torque Limits.
5. Using a feeler gauge check that clearance between rotor assembly (11) and stator (14) is 0.010 inch (minimum) at all points. If clearance is less than 0.010 inch, remove rotor assembly (11) and reinstall.

6. Feed alternator output leads (1, 2, 3 and 4) through cover (5). Output leads must exit cover without possibility of abrasion. Secure cover (5) using screws (6).

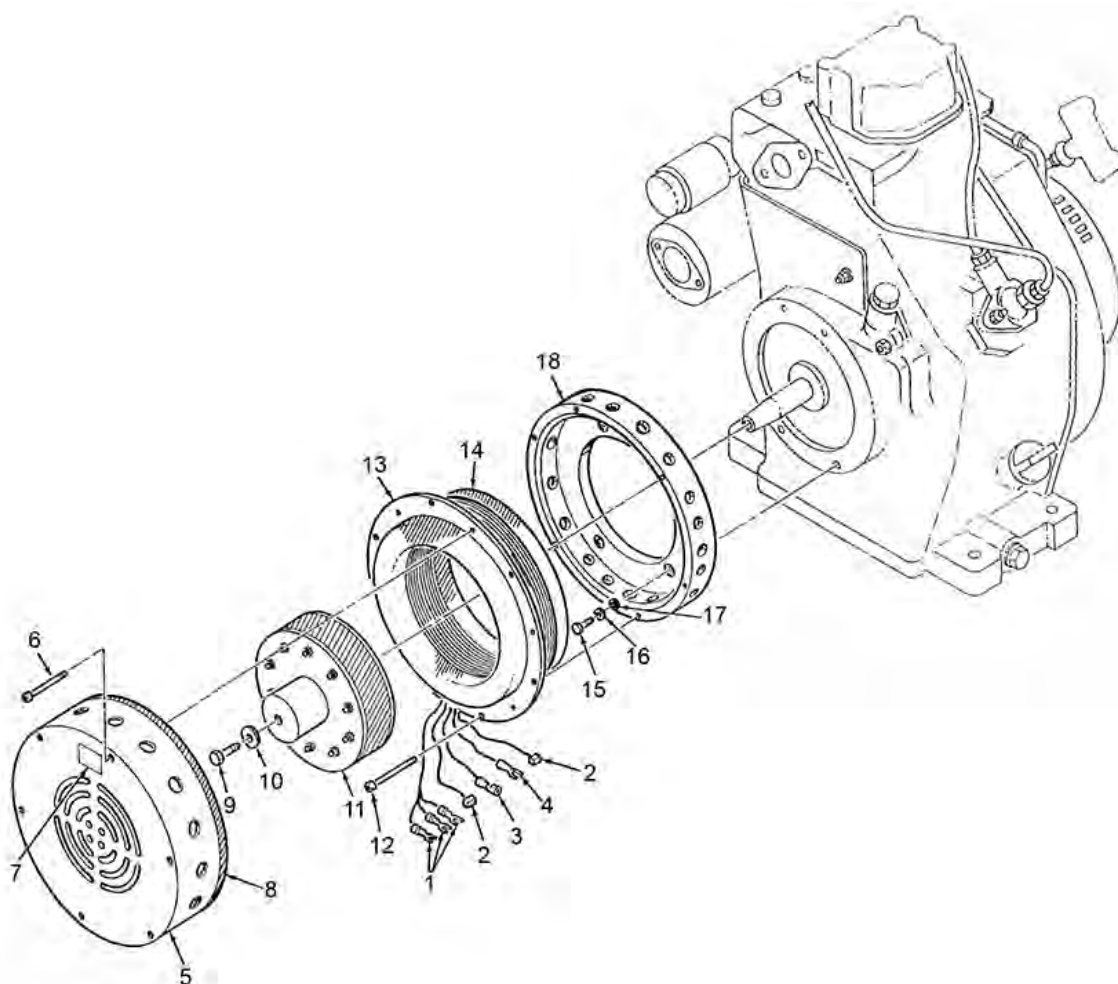


Figure 2. Permanent Magnet Alternator.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ELECTRICAL SYSTEM ASSEMBLY: INSPECTION, TESTING, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

References

WP 0024, Battery Charging Regulator
WP 0025, Battery
WP 0027, Contactor Assembly
WP 0028, Frequency converter (A8)
WP 0029, Relays Electromagnetic

Equipment Condition

Generator set shut down (WP 0005, Generator Set Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle (WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Inspect wiring insulation for damage (see FO-2).
2. Inspect connectors and terminal lugs. Ensure they are securely attached and free from corrosion. Ensure there are no broken connector ends.

END OF TASK**TESTING**

Verify all field level Maintenance procedure tests, shown below, have been performed:

1. Electrical System Assembly, WP 0080.
2. Battery, WP 0025.
3. Frequency Converter (A8), WP 0028.

END OF TASK**REPAIR OR REPLACEMENT**

Repair of parts is limited to removing and replacing damaged components. See the following work packages for instructions.

1. Electrical System Assembly, WP 0080.
2. Battery-Charging Regulator, WP 0024.
3. Battery, WP 0025.
4. Battery cables, WP 0026.
5. Contactor Assembly, WP 0027.
6. Frequency Converter (A8), WP 0028.
7. Relays, Electromagnetic, WP 0029.
8. NATO Slave Receptacle, WP 0066.

END OF TASK**END OF WORK PACKAGE**

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****CONTROL BOX WIRING HARNESS: INSPECTION, TESTING, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Equipment Condition

Generator set shut down (WP 0005, Generator Set
Shutdown)
Battery cables disconnected (WP 0026)
Cable disconnected for NATO Slave Receptacle
(WP 0066)

INSPECTION OF INSTALLED ITEMS

1. Inspect harness connector J7 (Figure 1, Item 1) for corrosion, evidence of electrical short, and obvious damage. Check for bent, broken, or missing pins.
2. Inspect electrical wiring for cuts, crimps, bare wire, or other damage. Ensure connectors and terminal lugs are securely attached.

END OF TASK**TESTING**

Using a multimeter conduct continuity check on suspect wires. Ensure connectors and terminal lugs are securely attached.

END OF TASK**REMOVAL**

1. Unlock main access cover latches and lift cover to open.
2. Disconnect generator set wiring harness plug (P7) from control box harness connector (J7) (Figure 1, Item 1), located on rear of control box assembly.
3. Unlock and open control panel (2) by turning quarter-turn fasteners (3).
4. Tag and disconnect control box harness wires from control box components. See FO-3, 60 Hz Control Box Wiring Harness, and FO-4, 400 Hz Control Box Wiring Harness.
5. Release harness connector (J7) (1) from inside wall of control box by removing screws with captive washers (5).
6. Remove clamp (6) by removing screw and captive washer assembly (7) and washer (8). Screw (7) secures panel cable to control box wall.
7. Remove clamp (9) from rear of control panel (2) by removing nut (10) and lockwasher (11). Remove control box wiring harness (4) from control box.

END OF TASK**REPAIR OR REPLACEMENT**

1. Install control box harness connector (J7) (Figure 1, Item 1) to inside wall of control box. Secure using screws with captive washers (5).
2. Connect control box harness wires to control box components. See FO-3, 60 Hz Control Box Wiring Harness, and FO-4, 400 Hz Control Box Wiring Harness.

3. Replace clamp (6) using screw and captive washer assembly (7) and washer (8). Replace clamp (6) using nut (10) and lockwasher (11).
4. Close control panel (2) and lock in place using quarter-turn fasteners (3).
5. Connect generator set wiring harness plug (P7) to control box harness connector (J7) (1).
6. Close main access cover and lock in place using latches.

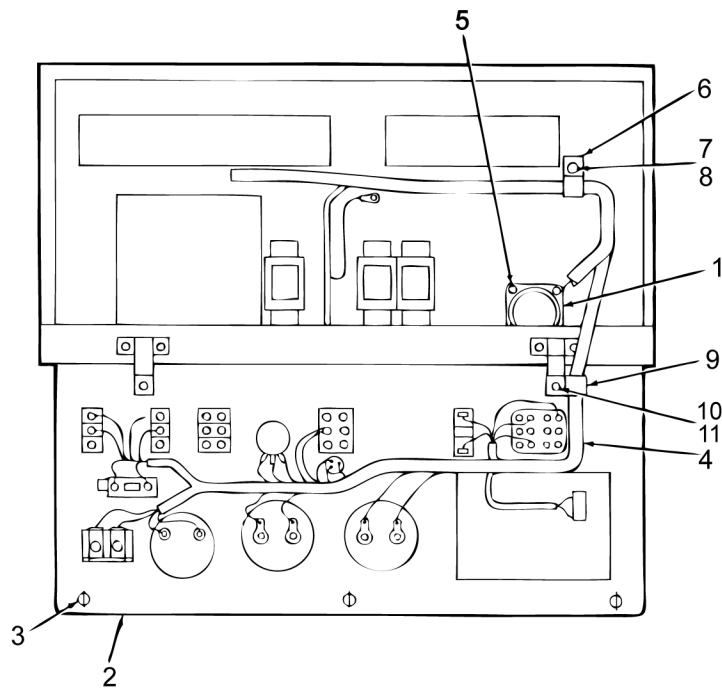


Figure 1. Control Box Wiring Harness.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE**3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****FUEL TANK: INSPECTION, REMOVAL, REPLACEMENT**

INITIAL SETUP:**Tools and Special Tools**

Shop Equipment, Automotive Maintenance and Repair, Field Maintenance, Suppl 1, W/O Power (WP 0140, Table 2, Item 2)

Equipment Condition

Permanent Magnet Alternator (PMA) removed (WP 0022)
Auxiliary fuel pump removed (WP 0059)

References

WP 0079, Permanent Magnet Alternator (PMA)

INSPECTION OF INSTALLED ITEMS

1. Inspect fuel tank (Figure 1, Item 14) for cracks, dents, cuts, or evidence of leakage. Inspect for corrosion.
2. Inspect fuel hoses for cuts, cracks, or other damage. Check for deterioration.
3. Inspect fuel fittings for crossed, stripped, or damaged threads.
4. Remove and replace any component that is damaged to the extent that it will affect the safe operation of the generator set.

END OF TASK**REMOVAL**

1. Place a suitable container (4-gallon capacity) beneath fuel drain (Figure 1, Item 10). Open drain valve (1) and drain fuel into container. Close drain valve (1).
2. Tag and disconnect electrical wiring from fuel tank (14) components.
3. Remove jam nut (3) and washer (4) from hold down bracket (2). Carefully pry pin (5) from pin well to remove hold down bracket (2).
4. Disconnect fuel drain line (6) from bulkhead fitting (8). Remove bulkhead fitting (8), elbow (9), and nut (10).
5. Disconnect fuel return line (11) from fitting (12) by loosening hose clamp (13). Disconnect opposite end of line (to fuel injector) from tee.
6. Remove rubber hose (15) from fuel tank filler neck and fuel pocket (16) by loosening clamps (17 and 18).
7. Remove tank bracket (22) from skid base by removing screws (19), lockwashers (20), and washers (21).
8. Slide fuel tank (14) toward drain valve (1) and lift rear of tank to remove from skid base.
9. Disconnect fuel drain line (6) from elbow (7). Remove elbow (7), drain valve (1), and fitting (12) from fuel tank (14).

END OF TASK**REPAIR OR REPLACEMENT**

1. Install drain valve (Figure 1, Item 1), elbow (7), and fitting (12) into fuel tank (14). Connect fuel drain line (6) to elbow (7).
2. Place fuel tank (14) into skid base and slide into place. Secure tank bracket (22) using screws (19), lockwashers (20), and washers (21). Torque screws to 30 ft•lb.
3. Connect rubber hose (15) between fuel tank filler neck and fuel pocket (16). Tighten clamps (17 and 18).
4. Connect fuel return line (11) to fitting (12) and tighten hose clamp (13). Connect opposite end of line (to fuel injector) to tee.
5. Install bulkhead fitting (8), elbow (9), and nut (10) onto skid base. Connect drain hose (6) to fitting (8).

6. Install hold down bracket (2) using jam nut (3), washer (4), and pin (5).
7. Connect electrical wiring to fuel tank components. Install PMA (WP 0079). Install auxiliary fuel pump (WP 0059).

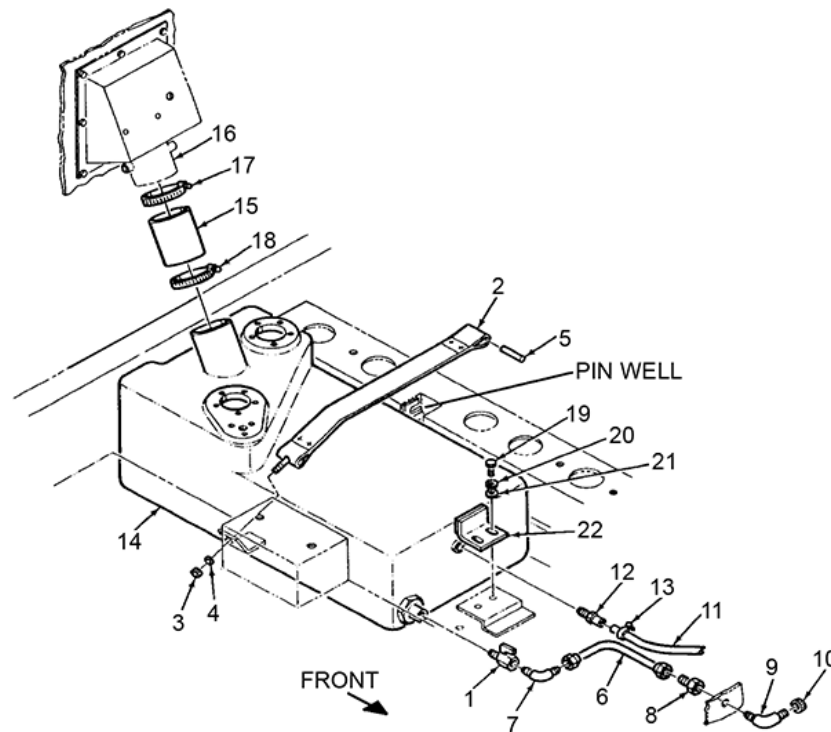


Figure 1. Fuel Tank.

END OF TASK

END OF WORK PACKAGE

FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

PREPARATION FOR STORAGE OR SHIPMENT

INITIAL SETUP:

Tools and Special Tools

Tool Kit, General Mechanic's Automotive or
Standard Automotive Tool Set
(WP 0140, Table 2, Item 5)

Materials/Parts

Preservative oil, MIL-PRF-21260
Hose
Container for preservative oil
Caps or plugs conforming to AIA/NAS 840 and/or
AIA/NAS 847
Tape conforming to SAE-AMS-T-22085
Oil Filter
Fuel Filter element

Personnel Required

(1)

Equipment Condition

Engine control Switch OFF

STORAGE

For periods less than 9 months.

1. Start generator set every month and operate for a minimum of 15 minutes or until engine reaches normal operating temperature.

END OF TASK**For periods longer than 9 months up to 36 months.**

1. Completely read storage and preservation instructions that follow prior to performing them to avoid unnecessary steps.
2. Operate generator set at 80% load for 1/2 hour. Perform PMCS inspections and verify generator set is fully mission capable.
3. Drain engine oil and refill engine crankcase with preservative lubricating oil conforming to grade 10, 30, or 15-40 of MIL-PRF 21260. Before refilling, remove engine oil filter and clean this filter or replace with a new filter, replace the o-ring.
4. Locate a container capable of supplying oil to the engine fuel supply lines. Fill container with preservative oil, MIL-PRF-21260, Grade PEI 0, and position container next to the fuel tank suction lines. Drain diesel fuel from the fuel filters and supply lines between the engine and the fuel tank. Replace fuel filter elements. Disconnect the engine fuel supply line at a convenient point close to the fuel tank and connect a flexible line from the container of preservative oil to the engine fuel supply line. Start the engine and operate at its normal rated speed, for the time deemed necessary to ensure that the preservative oils have reached all internal engine components and all the fuel injection system components. This should be between 4 to 7 minutes.

CAUTION

Take special precautions to ensure that the amount of oil drawn into the engine while completing step 5 below will not result in a hydrostatic lock. Do not crank the engine more than 10 seconds. Prior to processing additional engines, process the first engine as specified below and allow to stand for 12 hours. Manually rotate the engine, or rotate the engine with the starter if manual turning is not possible, to ensure that the amount of oil drawn into combustion chambers allows free rotation of the engine.

5. Allow engine to cool to less than 100 °F. Install plate in air intake system that fully blocks air flow into the engine. With preservative oil supply line still connected crank the engine without starting for 10 seconds. Disconnect preservative oil supply line and reconnect engine fuel lines.
6. Remove batteries from generator, clean dirt, acid and other residues from top of batteries, and check voltage. Charge the batteries if the voltage is less than 12.7 volts for the Optima AGM batteries. Charge the batteries if the voltage is less than 12.5 volts for the flooded wet cell batteries. Store the batteries in a location where they can be charged. Charge wet-cell batteries every 3 months and Optima batteries every 6 months. Charge the Optima batteries with a charger with an AGM setting or that regulates the voltage between 14.25 and 14.75 volts.
7. Drain the Fuel tank.
8. Drain oil from engine. Reinstall drain plug.
9. Upon completion of engine preservation, all openings into the engine such as crankcase breathers, oil filter caps, valve cover breather holes, oil level dipstick/tube, and openings into accessories, shall be sealed with plastic caps or plugs conforming to AIA/NAS 840 and/or AIA/NAS 847, or with tape conforming to SAE-AMS-T-22085.
10. Attach warning tags to the oil dipstick and the control panel start switch stating that: 'The generator set has been preserved. Change fuel filters, fill engine with oil and perform PMCS before starting.'
11. Close all access doors and lock. Store generator set under roof, or inside if available. Do not store under tarp for long periods unless there is significant air flow under tarp and at least 3 ft. of space between tarp and generator set.

END OF TASK

Shipment

Prepare for shipment in accordance with applicable DOD and commercial transportation rules, regulations and procedures. Refer to Defense Travel Regulations, DOD 4500.9-R, Part II, Cargo Movement and TM 38-250, Preparing Hazardous Materials for Military Air Shipments.

END OF WORK PACKAGE

FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ILLUSTRATED LIST OF MANUFACTURED ITEMS INTRODUCTION**

ILLUSTRATED LIST OF MANUFACTURED ITEMS INTRODUCTION**Scope**

WP 0085 includes complete instructions for making items authorized to be manufactured or fabricated at the opfield maintenance level.

How to Use the Index of Manufactured Items

A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the information which covers fabrication criteria.

Explanation of the Illustrations of Manufactured Items

All instructions needed by maintenance personnel to manufacture the item are included on the illustrations. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

INDEX OF MANUFACTURED ITEMS

P/N AND/OR DWG NO	PART DESCRIPTION	REFERENCE
	Typical Manufactured Wire	WP 0085

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****TYPICAL MANUFACTURED WIRE****INITIAL SETUP:**

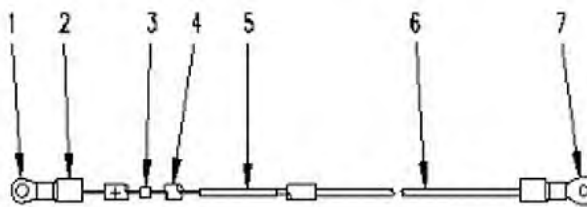
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PART DESCRIPTION	APPLICABLE FIGURE
Control Box Wiring Harness, 60 Hz	FO-5
Engine Wiring Harness, 400 Hz	FO-4

GENERAL INSTRUCTIONS

The manufacture of items listed above consists of cutting wires to the length required (see Figure 1) and soldering terminal lugs or connectors on appropriate wires. Use standard shop procedures in the manufacture of these items, as shown below:

1. Cut wire (6) to length required. Strip ends of wire.
2. Install insulation sleeving (2) by sliding over positive wire of diode (3).
3. Crimp terminal lug (1) to positive wire of diode (3).
4. Install insulation sleeving (2) over terminal lug (1). Heat-shrink to a firm fit.
5. Slide splice (5) over negative wire of diode (3) and crimp.
6. Slide wire (6) into splice (5) and crimp.
7. Slide insulation marker (4) over wire (6), splice (5), and diode (3). Heat-shrink to a firm fit.
8. Slide terminal lug (7) onto wire (6) and crimp.
9. Mark appropriate wire number, consisting of the "FROM" termination (a double-headed arrow (↔)) and the "TO" termination.

**Figure 1. Typical Manufactured Wire.****END OF TASK****END OF WORK PACKAGE**

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

TORQUE LIMITS

INITIAL SETUP:

Not Applicable

Introduction

This work package lists torque ratings for fasteners used on the generator set. When torque values are called out in the maintenance procedures, those torques supersede the torques specified in this work package. Table 1 lists torque limits for standard fasteners installed dry. Table 2 provides formulas for converting the dry torque values to wet. Table 3 lists torque limits for standard metric fasteners installed dry.

Table 1. Torque Limits for Dry Fasteners.




								
SIZE			TORQUE					
			SAE GRADE 0-1-2		SAE GRADE 3		SAE GRADE 5	
Diameter in Inches	Threads Per Inch	Milli-meters	Foot Pounds	Newton Meters	Foot Pounds	Newton Meters	Foot Pounds	Newton Meters
1/4	20	6.350	6	8	9	12	10	14
1/4	28	6.350	7	9	10	13	11	15
5/16	18	7.937	12	16	17	23	19	26
5/16	24	7.937	13	18	18	25	21	28
3/8	16	9.525	20	27	30	40	33	45
3/8	24	9.525	22	30	33	44	36	49
7/16	14	11.112	32	43	47	64	54	73
7/16	20	11.112	35	47	51	69	59	80
1/2	13	12.700	47	64	69	93	78	106
1/2	20	12.700	51	69	75	102	85	115
9/16	12	14.287	69	94	103	140	114	155
9/16	18	14.287	75	102	112	152	124	168
5/8	11	15.875	96	130	145	197	154	209
5/8	28	15.875	105	142	158	214	168	228
3/4	10	19.050	155	210	234	317	257	348
3/4	26	19.050	169	229	255	346	280	380
7/8	9	22.225	206	279	372	504	382	518
7/8	24	22.225	225	304	405	550	416	565

Table 1. Torque Limits for Dry Fasteners. - Continued


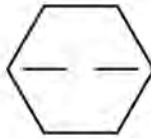
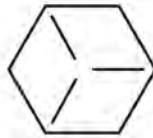
								
SIZE			TORQUE					
			SAE GRADE 0-1-2		SAE GRADE 3		SAE GRADE 5	
1	8	25.400	310	420	551	747	587	796
1	14	25.400	338	458	601	814	640	867
1/4	20	6.350	6	8	9	12	10	14
1/4	28	6.350	7	9	10	13	11	15
5/16	18	7.937	12	16	17	23	19	26
5/16	24	7.937	13	18	18	25	21	28
3/8	16	9.525	20	27	30	40	33	45
3/8	24	9.525	22	30	33	44	36	49
7/16	14	11.112	32	43	47	64	54	73
7/16	20	11.112	35	47	51	69	59	80
1/2	13	12.700	47	64	69	93	78	106
1/2	20	12.700	51	69	75	102	85	115
9/16	12	14.287	69	94	103	140	114	155
9/16	18	14.287	75	102	112	152	124	168
5/8	11	15.875	96	130	145	197	154	209
5/8	28	15.875	105	142	158	214	168	228
3/4	10	19.050	155	210	234	317	257	348
3/4	26	19.050	169	229	255	346	280	380
7/8	9	22.225	206	279	372	504	382	518
7/8	24	22.225	225	304	405	550	416	565
1	8	25.400	310	420	551	747	587	796
1	14	25.400	338	458	601	814	640	867

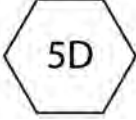

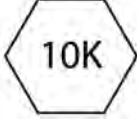

Table 2. Effect of Lubrication on Torque.

Lubricant	TORQUE RATING IN FOOT-POUNDS	
	5/16-18 Thread/Inch	1/2-13 Thread/Inch
NO LUBE, Steel	29	121
Plated and cleaned	19 (66%)	90 (26%)
SAE 20 Oil	18 (38%)	87 (28%)
SAE 40 Oil	17 (41%)	83 (31%)
Plated and SAE 30	16 (45%)	79 (35%)
White Grease	16 (45%)	79 (35%)

Table 2. Effect of Lubrication on Torque. - Continued

Lubricant	TORQUE RATING IN FOOT-POUNDS	
	5/16-18 Thread/Inch	1/2-13 Thread/Inch
White Moly Film	14 (52%)	66 (45%)
Graphite and Oil	13 (55%)	62 (49%)

Table 3. Torque Limits for Dry Fasteners (Metric).

										
			Standard 5D		Standard 8G		Standard 10K		Standard 12K	
Diameter in Milli- meters	Coarse Thread Pitch	Inches	Ft•lb	N•m	Ft•lb	N•m	Ft•lb	N•m	Ft•lb	N•m
6	1.00	0.2362	5	7	6	8	8	11	10	14
8	1.00	0.3150	10	14	16	22	22	30	27	37
10	1.25	0.3937	19	26	31	42	40	54	49	66
12	1.25	0.4624	34	46	54	73	70	95	86	117
14	1.25	0.5512	55	75	89	121	117	159	137	186
16	2.00	0.6299	83	113	132	179	175	237	208	282
18	2.00	0.7087	111	150	182	247	236	320	283	384
22	2.50	0.8771	182	247	284	385	394	534	464	629
24	3.00	0.9449	261	354	419	568	570	773	689	934

END OF WORK PACKAGE

CHAPTER 7

OPERATOR AND FIELD PARTS INFORMATION

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 7
PARTS INFORMATION

WORK PACKAGE INDEX

<u>Title</u>	<u>WP Sequence No.</u>
Introduction.....	0087
GROUP 00 Generator Set.....	0088
GROUP 01 Engine Assembly, Diesel.....	0089
GROUP 0101 Engine Assembly, Diesel/Governor Control Module	0090
GROUP 010101 Governor Actuator Assembly	0091
GROUP 02 Permanent Magnet Alternator (PMA).....	0092
GROUP 03 Electrical System Assembly	0093
GROUP 0301 Electrical System Assembly/Battery Charging Regulator.....	0094
GROUP 0302 Electrical System Assembly/Battery	0095
GROUP 030201 Electrical System Assembly/Battery Cables.....	0096
GROUP 0303 Electrical System Assembly/Contactor Assembly	0097
GROUP 0304 Electrical System Assembly/Frequency Converter (A8).....	0098
GROUP 0305 Electrical System Assembly/Relays, Electromagnetic	0099
GROUP 04 Control Box Assembly/Load Wrench Assembly	0100
GROUP 0401 Control Panel Assembly (60/400 Hz)	0101
GROUP 0401 Control Box Assembly/Control Panel Assembly, (60/400 Hz).....	0102
GROUP 040101 Control Box Assembly/Control Panel Assembly/Panel Meters, Gauges, and Switches	0103
GROUP 0402 Control Box Assembly/Receptacle, Filters, Terminals, and Voltage Resistors	0104
GROUP 05 Cooling System	0105
GROUP 0501 Cooling System/Cooling Fan Assembly	0106
GROUP 0502 Cooling System/Hi/Lo Temperature Switches.....	0107
GROUP 06 Fuel System	0108
GROUP 0601 Fuel System Assembly/Fuel Tank Strainer Assembly.....	0109
GROUP 0602 Fuel System Assembly/Fuel Tank.....	0110
GROUP 060201 Fuel System Assembly/Fuel Tank/Fuel-Tank Pickup Tube.....	0111
GROUP 060202 Fuel System Assembly/Fuel Tank/Fuel-level Switch.....	0112
GROUP 060203 Fuel System Assembly/Fuel Tank/Fuel Tank Level Sender.....	0113
GROUP 0603 Fuel System Assembly/Primary Fuel Pump	0114
GROUP 0604 Fuel System Assembly/Auxiliary Fuel Pump	0115
GROUP 0605 Fuel System Assembly/Fuel Filter/Water Separator	0116
GROUP 0606 Fuel System Assembly/Air Cleaner Assembly	0117
GROUP 07 Frame and Housing Assembly	0118

<u>Title</u>	<u>WP Sequence No.</u>
GROUP 0701 Frame and Housing Assembly/Main Access Cover	0119
GROUP 0702 Frame and Housing Assembly/Frame and Housing Panels.....	0120
GROUP 0703 Frame and Housing Assembly/Frame and Lifting Handles, Lifting Rings	0121
GROUP 0704 Frame and Housing Assembly/NATO Slave Receptacle	0122
GROUP 0705 Frame and Housing Assembly/Skid Base	0123
GROUP 0706 Frame and Housing Assembly/ID Plates.....	0124
GROUP 08 Lubrication System.....	0125
GROUP 0801 Lubrication System/Oil Drain Assembly	0126
GROUP 0802 Lubrication System/Oil Pressure Switch	0127
GROUP 0803 Lubrication System/Engine Oil Temperature Switch	0128
GROUP 0804 Lubrication System/Oil Filter	0129
GROUP 09 Exhaust System Assembly.....	0130
GROUP 0901 Exhaust System Assembly/Muffler Assembly	0131
GROUP 0902 Exhaust System Assembly/Bellows Assembly.....	0132
GROUP 0903 Exhaust System Assembly/Duct Assembly.....	0133
GROUP 99 Bulk Items.....	0134
Special Tools List	0135
NSN Index	0136
P/N Index.....	0137

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

INTRODUCTION

INTRODUCTION

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 operator and field maintenance of the 3 kW Tactical Quiet Generator Sets. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

1. **Repair Parts List Work Packages.** Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages 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 work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for reparable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.
2. **Special Tools List Work Packages.** Work packages containing lists 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 Work Packages.** There are 2 cross reference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package, and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES

ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout. This entry may be subdivided into 4 subentries, one for each service.

Table 1. SMR Code Explanation.

<u>Source Code</u>		<u>Maintenance Code</u>	<u>Recoverability Code</u>
<u>XX</u>		<u>XX</u>	<u>X</u>
1st two positions:	3rd position:	4th position:	5th position:
How to get an item.	Who can install, replace, or use the item.	Who can do complete repair* on the item.	Who determines disposition action on unserviceable items.

*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Source Code**Application/Explanation**

PA
PB
PC
PD
PE
PF
PG
PH
PR
PZ

NOTE

Items coded PC are subject to deterioration.

Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the third position of the SMR code.

KD
KF
KB

Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the third position of the SMR code. The complete kit must be requisitioned and applied.

MF-Made at field
MH-Made at below depot/sustainment level
ML-Made at SRA
MD-Made at depot
MG-Navy only

Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the third position 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.

AF-Assembled by field
AH-Assembled by below depot sustainment level
AL-Assembled by SRA
AD-Assembled by depot
AG-Navy only

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 third 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.

XA
XB
XC
XD

Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)

If an item is not available from salvage, order it using the CAGEC and part number.

Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's part number.

Item is not stocked. Order an XD-coded item through local purchase or normal supply channels using the CAGEC and part number 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:

<u>Maintenance Code</u>	<u>Application/Explanation</u>
--------------------------------	---------------------------------------

F -	Field maintenance can remove, replace, and use the item.
H -	Below Depot Sustainment maintenance can remove, replace, and use the item.
L -	Specialized repair activity can remove, replace, and use the item.
G -	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only)
K -	Contractor facility can remove, replace, and use the item.
Z -	Item is not authorized to be removed, replaced, or used at any maintenance level
D -	Depot can remove, replace, and use the item.

*NOTE - Army may use C in the third position. However, for joint service publications, Army will use O.

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.

<u>Maintenance Code</u>	<u>Application/Explanation</u>
--------------------------------	---------------------------------------

F -	Field is the lowest level that can do complete repair of the item.
H -	Below Depot Sustainment is the lowest level that can do complete repair of the item.
L -	Specialized repair activity 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.
G -	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
K -	Complete repair is done at contractor facility
Z -	Nonrepairable. 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:

<u>Recoverability Code</u>	<u>Application/Explanation</u>
Z -	Nonrepairable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
F -	Reparable item. When uneconomically repairable, condemn and dispose of the item at the field level.
H -	Reparable item. When uneconomically repairable, condemn and dispose of the item at the below depot sustainment 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.
G -	Field level repairable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K -	Reparable item. Condemnation and disposal to be performed at contractor facility.

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). 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.

PART NUMBER (Column (5)). 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 part number from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. Part numbers 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 work packages.

QTY (Column (7)). 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.

EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. National Stock Number (NSN) Index Work Package. NSN's in this index are listed in National Item Identification Number (NIIN) sequence.

STOCK NUMBER Column. This column lists the NSN in NIIN sequence. The NIIN consists of the last nine digits of the NSN. 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.

For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

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 work packages.

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.
2. Part Number (P/N) Index Work Package. Part numbers 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).

PART NUMBER Column. Indicates the part number assigned to the item.

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 work packages.

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.

SPECIAL INFORMATION

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>
LQQ	60 Hz
LQR	400 Hz

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.

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 / Part Number (P/N) Index work packages and the bulk material list in the repair parts list work package.

Illustrations List. The illustrations in this RPSTL contain field authorized items. The tabular list in the repair parts list work package contains only those parts coded "F" in the third position of the SMR code, therefore, there may be a break in the item number sequence.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or Part Numbers Are Not Known.

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.

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

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

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

2. When NSN Is Known.

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

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

3. When Part Number Is Known.

First. If you have the part number and not the NSN, look in the PART NUMBER column of the part number index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

ABBREVIATIONS

Not Applicable

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 00 GENERATOR SET

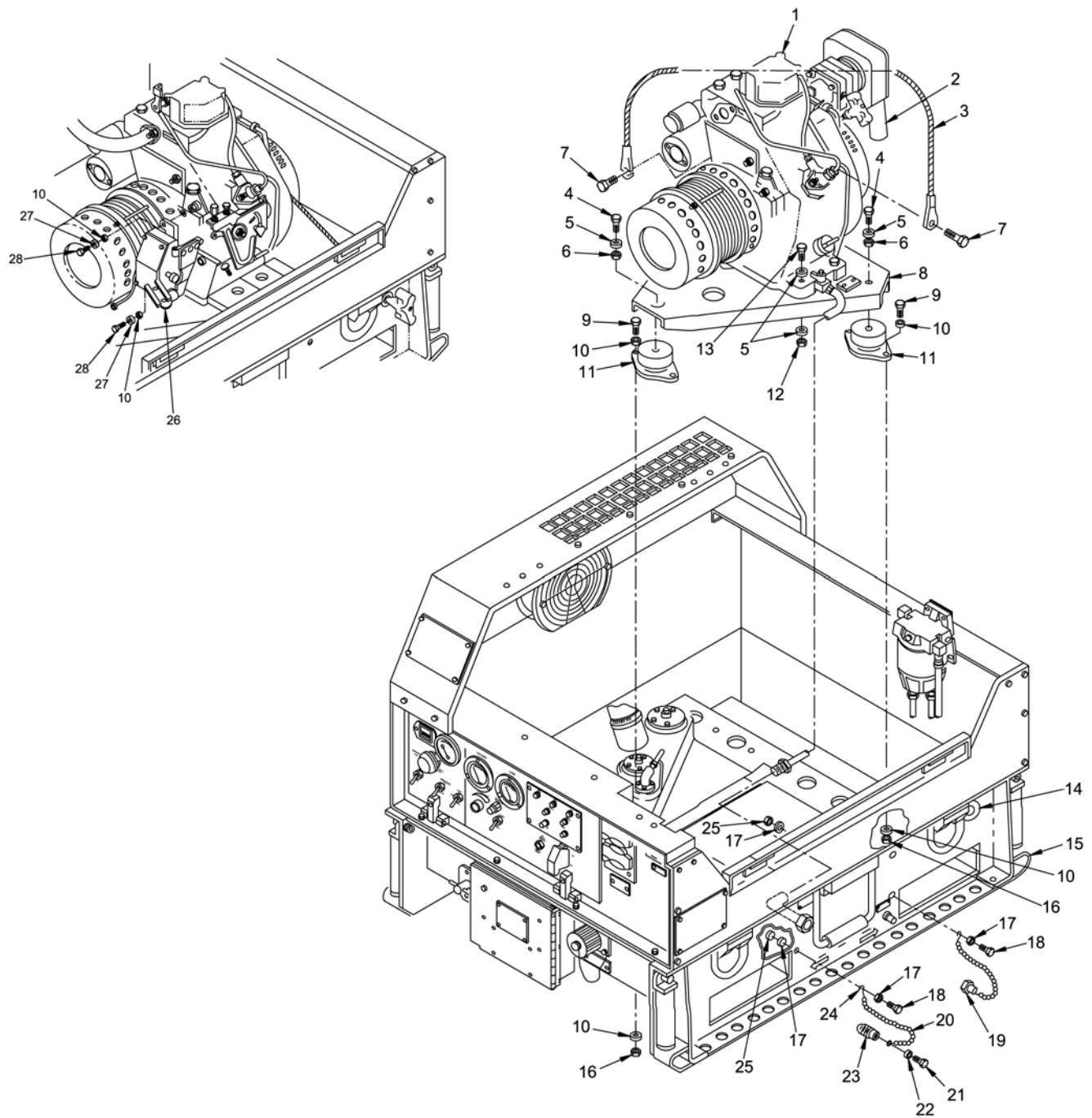


Figure 1. Generator Set.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 00 GENERATOR SET								
FIG. 1 GENERATOR SET								
	PEFFF	PEOFF	PEOFF	6115-01-285-3012	30554	98-831A	GENERATOR SET 3 W, 60 Hz, TACTICAL QUIET UOC: LQQ	1
	PEFFF	PEOFF	PEOFF	6115-01-287-2431	30554	98-832A	GENERATOR SET 3 kW, 400 Hz, TACTICAL QUIET UOC: LQR.....	1
1	XCFFF	XCOFF	XCOFF		30554	98-19503	. GENERATOR SET ASSEM 60 Hz UOC: LQQ	1
1	XCFFF	XCOFF	XCOFF		30554	98-19504	. GENERATOR SET ASSEM 400 Hz UOC: LQR.....	1
1	PAFHH	PAFHH	PAFHH	2815-01-465-5993	S4163	L70AE-DEGFR	. ENGINE, DIESEL (SEE ENGINE MANUAL FOR PARTS BREAK- DOWN)	1
2	PAFZZ	PAOZZ	PAOZZ	4720-01-476-9814	0AK42	186	. HOSE ASSEMBLY, AIR DUCT	1
3	XBFZZ	XBOZZ	XBOZZ	4010-01-497-2675	2V507	8925T5	. CABLE, LIFTING	1
4	PAFZZ	PAFZZ	PAFZZ	5305-01-380-3395	80204	B18231B10025NF	. SCREW, CAP, HEXAGON HEAD	3
5	PAFZZ	PAFZZ	PAFZZ	5310-01-280-5796	96906	MS27183-57	. WASHER, FLAT 3/8	11
6	PAFZZ	PAFZZ	PAFZZ	5310-01-387-2150	15526	DIN127-B10-FST-B3B	. WASHER, LOCK	3
7	PAFZZ	PAOZZ	PAOZZ	5305-01-303-5631	80204	B18231B08020N	. SCREW, CAP, HEXAGON HEAD	2
8	XBFZZ	XBFZZ	XBFZZ		30554	98-19563	. PLATE, MOUNTING, ENGINE	1
9	PAFZZ	PAFZZ	PAFZZ	5305-01-476-9099	30554	88-20260-44	. SCREW, CAP, HEXAGON HEAD	6
10	PAFZZ	PAOZZ	PAOZZ	5310-00-081-4219	96906	MS27183-12	. WASHER, FLAT, 5/16	14
11	PAFZZ	PAFZZ	PAFZZ	5340-01-477-1375	93742	409320-001	. MOUNT, RESILIENT, GEN	3
12	PAFZZ	PAFZZ	PAFZZ	5310-00-050-6646	96906	MS17830-6C	. NUT, SELF-LOCK 3/8-16	4
13	PAFZZ	PAFZZ	PAFZZ	5305-01-476-9095	80204	B1821BH037C175N	. SCREW, CAP, HEXAGON HEAD	4
14	PAFZZ	PAOZZ	PAOZZ	5975-01-199-9033	83879	ABB-100	. BUSHING, ELECTRICAL	1
15	XBFZZ	XBFZZ	XBFZZ		30554	98-19562	. BASE, MOTOR-GENERATOR	1
16	PAFZZ	PAFZZ	PAFZZ	5310-00-984-3806	81349	M45913/1-5CG5C	. NUT, SELF-LOCKING, HEX 5/16-18	6
17	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT, #8	4
18	PAFZZ	PAOZZ	PAOZZ	5305-01-477-9618	80204	B1821BH164C075H	. SCREW, CAP, HEXAGON HEAD	2
19	PAFZZ	PAFZZ	PAFZZ	4730-00-812-1333	93742	69-539-2	. CAP, TUBE	1
20	XBFZZ	XBOZZ	XBOZZ		81348	TYPEII, GRADEC, CL3	. CHAIN, SASH	2
21	PAFZA	PAOZA	PAOZA	5305-01-477-9613	2V507	90081A108	. SCREW, DRIVE	1
22	PAFZZ	PAOZZ	PAOZZ	5310-01-477-9626	30554	88-20033-4A	. WASHER, FLAT	1
23	PAFZZ	PAOZZ	PAOZZ		30554	98-19747	. PLUG, PIPE	1
24	PAFZZ	PAOZZ	PAOZZ	4030-00-270-5436	96906	MS87006-3	. HOOK, CHAIN, S	2
25	PAFZZ	PAOZZ	PAOZZ	5310-00-982-6814	80205	MS21044C08	. NUT, SELF-LOCKING #8	2

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
26	XBFFF	XBOOO	XBOOO	2920-01-477-1320	0BXW5	ADG150	. ACTUATOR ASSEMBLY (SEE GROUP 010101 FOR PARTS BREAKDOWN)	1
27	PAFZZ	PAOZZ	PAOZZ	5310-12-125-0056	D8286	DIN127-B8-FST	. WASHER, LOCK	2
28	PAFZZ	PAOZZ	PAOZZ	5305-01-381-1202	80204	S231NA38MMRC5568	. SCREW, CAP, HEXAGON HEAD	2

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 01 ENGINE ASSEMBLY, DIESEL

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					

GROUP 01 ENGINE
ASSEMBLY, DIESEL

1 PAFHH PAFHH PAFHH 2815-01-465-5993 S4163 L70AE-DEGFR

. ENGINE, DIESEL (SEE TM
9-2815-257-24P FOR PARTS
BREAKDOWN) 1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0101 ENGINE ASSEMBLY, DIESEL/GOVERNOR CONTROL MODULE

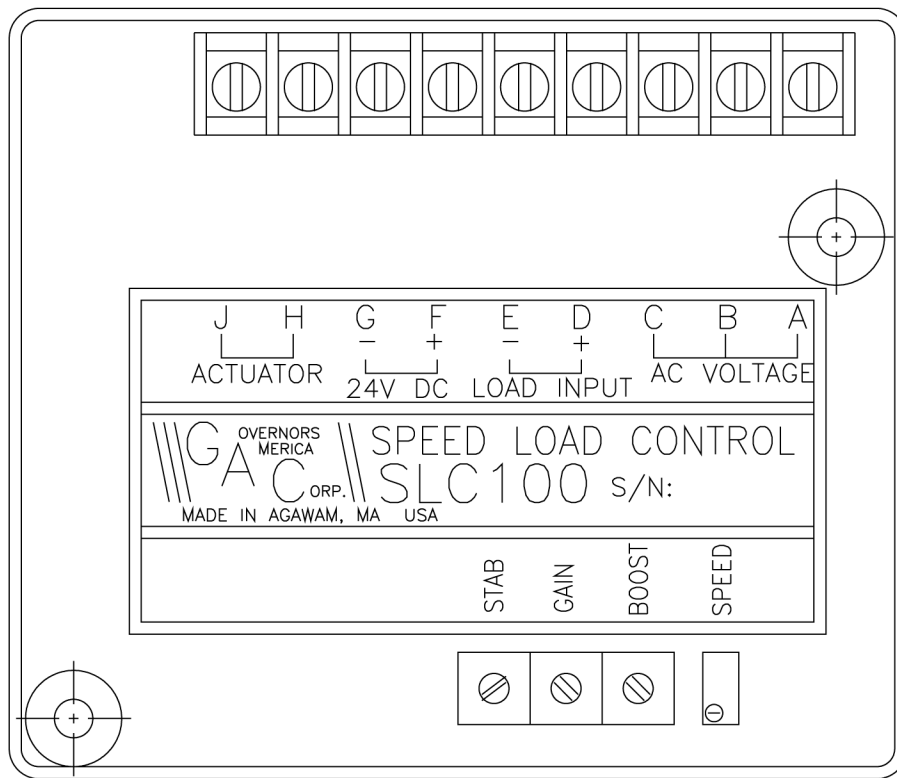


Figure 2. Engine Assembly, Diesel/Governor Control Module.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

GROUP 0101 ENGINE
ASSEMBLY,
DIESEL/GOVERNOR
CONTROL MODULE

FIG. 2 ENGINE ASSEMBLY,
DIESEL/GOVERNOR
CONTROL MODULE

1 PAFZZ PAOZZ PAOZZ 2990-01-477-1371 30554 98-19539

. GOVERNOR CONTROL MOD-
ULE 1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 010101 GOVERNOR ACTUATOR ASSEMBLY

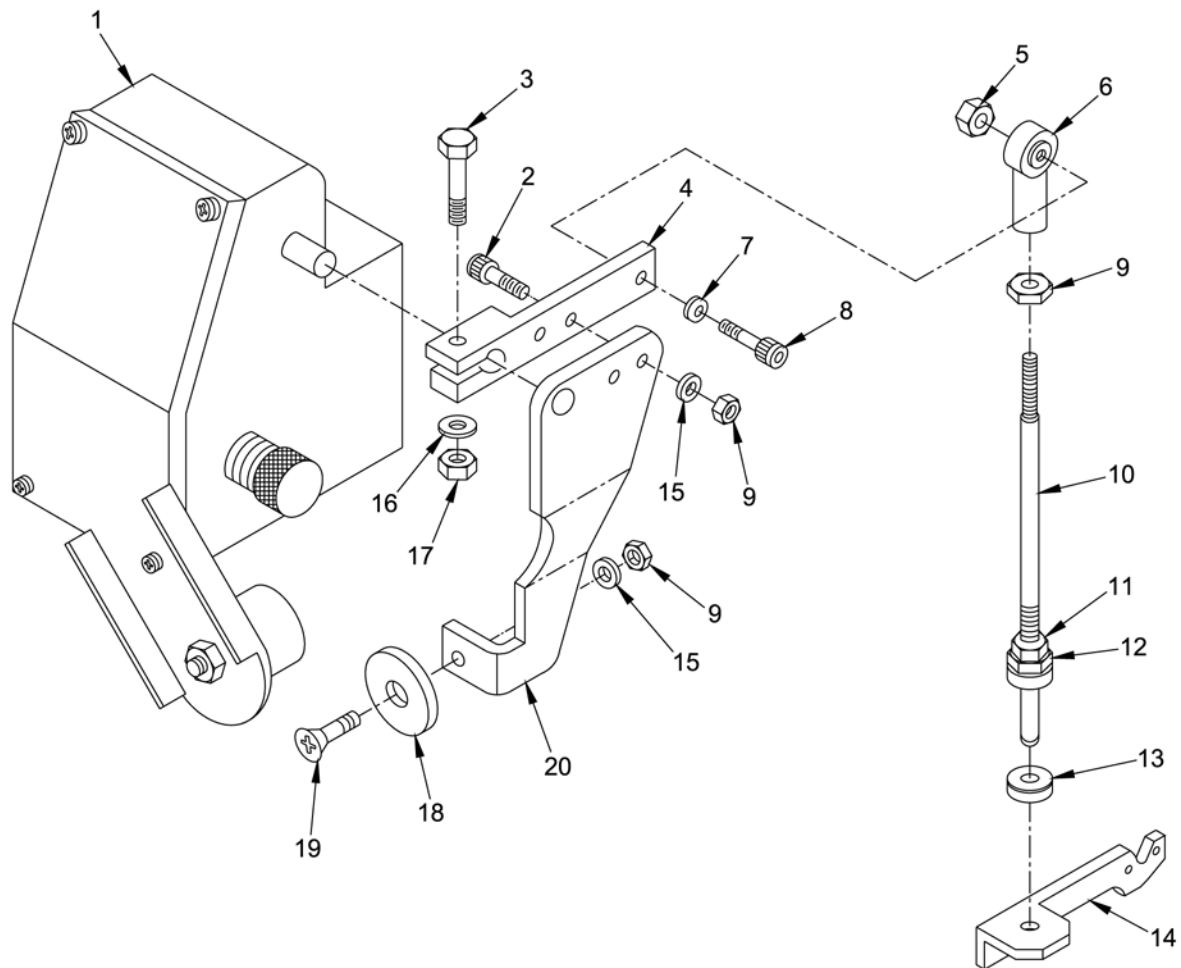


Figure 3. Governor Actuator Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 010101 GOVERNOR ACTUATOR ASSEMBLY								
FIG. 3 GOVERNOR ACTUATOR ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	2920-01-477-1320	0BXW5	ADG150	. ACTUATOR, ELECTRO-ME	1
2	PAFZZ	PAOZZ	PAOZZ	5305-01-476-9231	0BXW5	HW900	. SCREW, CAP, SOCKET HEAD	2
3	PAFZZ	PAOZZ	PAOZZ	5305-01-477-9615	0BXW5	HW106	. SCREW, CAP, HEXAGON HEAD	1
4	XBFZZ	XBOZZ	XBOZZ		0BXW5	LE154	. LEVER	1
5	PAFZZ	PAOZZ	PAOZZ	5310-01-012-3595	81205	2740-0003	. NUT, PLAIN, ASSEMBLED	1
6	PAFZZ	PAOZZ	PAOZZ	3120-01-477-2736	0BXW5	BR100	. BEARING, PLAIN, ROD END	1
7	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9198	0BXW5	HW218	. WASHER, FLAT	1
8	PAFZZ	PAOZZ	PAOZZ	5305-01-477-9616	0BXW5	HW137	. SCREW, CAP, HEXAGON HEAD	1
9	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9206	0BXW5	HW309	. NUT, PLAIN, HEXAGON	4
10	PAFZZ	PAOZZ	PAOZZ	2910-01-476-9751	0BXW5	RD150	. LINKAGE, TELESOPING	1
11	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9196	0BXW5	HW03-303	. NUT, PLAIN, HEXAGON	1
12	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9200	0BXW5	NT102	. NUT, PLAIN, SINGLE BA	1
13	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9201	0BXW5	WA102	. WASHER, CONVEX	1
14	XBFZZ	XBOZZ	XBOZZ		0BXW5	LK150	. BRACKET, LINK	1
15	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9228	0BXW5	HW02-213	. WASHER, LOCK	3
16	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9203	0BXW5	HW206	. WASHER, LOCK	1
17	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9213	0BXW5	HW03-300	. NUT, PLAIN, HEXAGON	1
18	XBFZZ	XBOZZ	XBOZZ		80063	PL152	. PLATE	1
19	PAFZZ	PAOZZ	PAOZZ	5305-01-476-9223	0BXW5	HW198	. SCREW, MACHINE	1
20	XBFZZ	XBOZZ	XBOZZ		0BXW5	LE157	. LEVER	1

END OF FIGURE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 02 PERMANENT MAGNET ALTERNATOR (PMA)

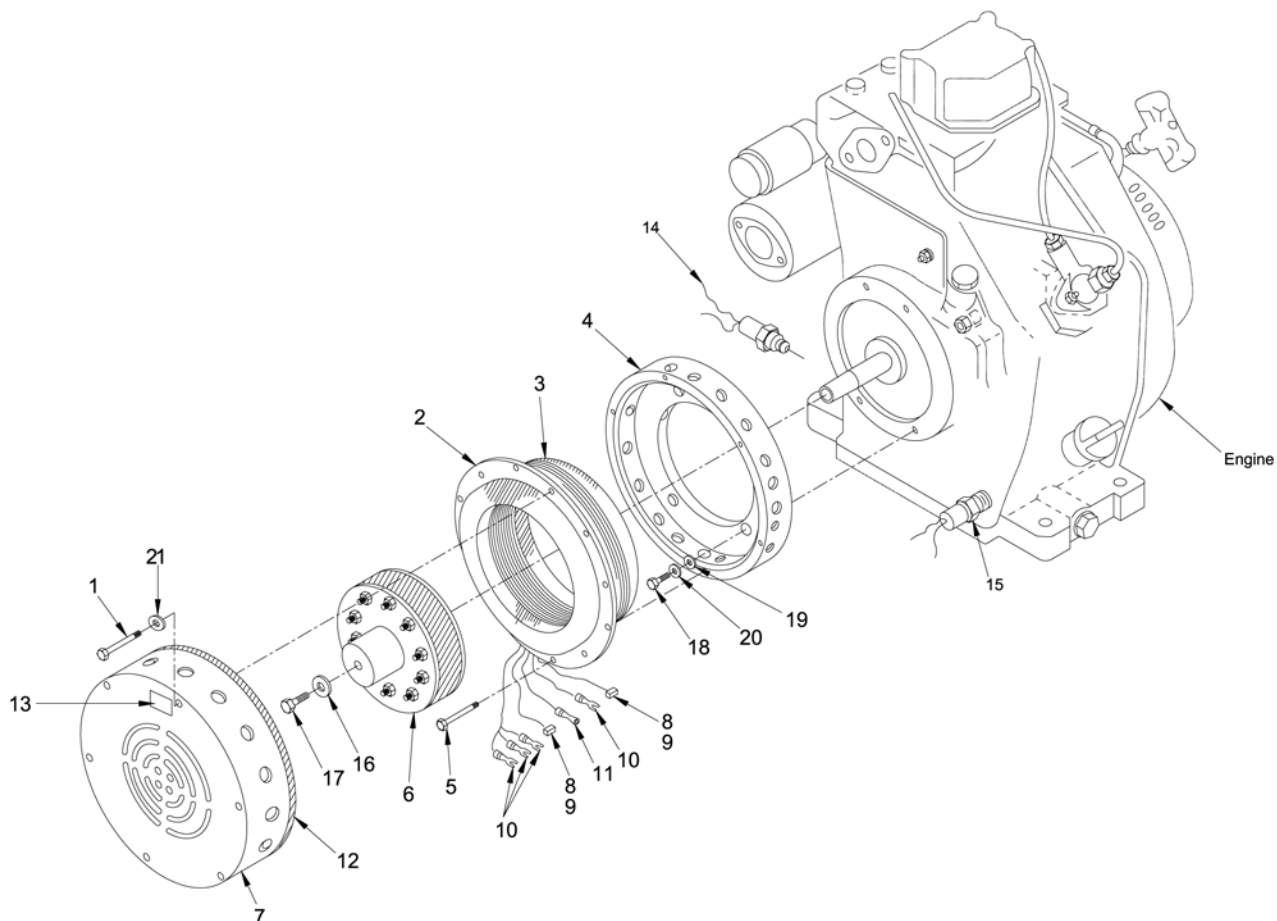


Figure 4. Permanent Magnet Alternator (PMA) (Sheet 1 of 2).

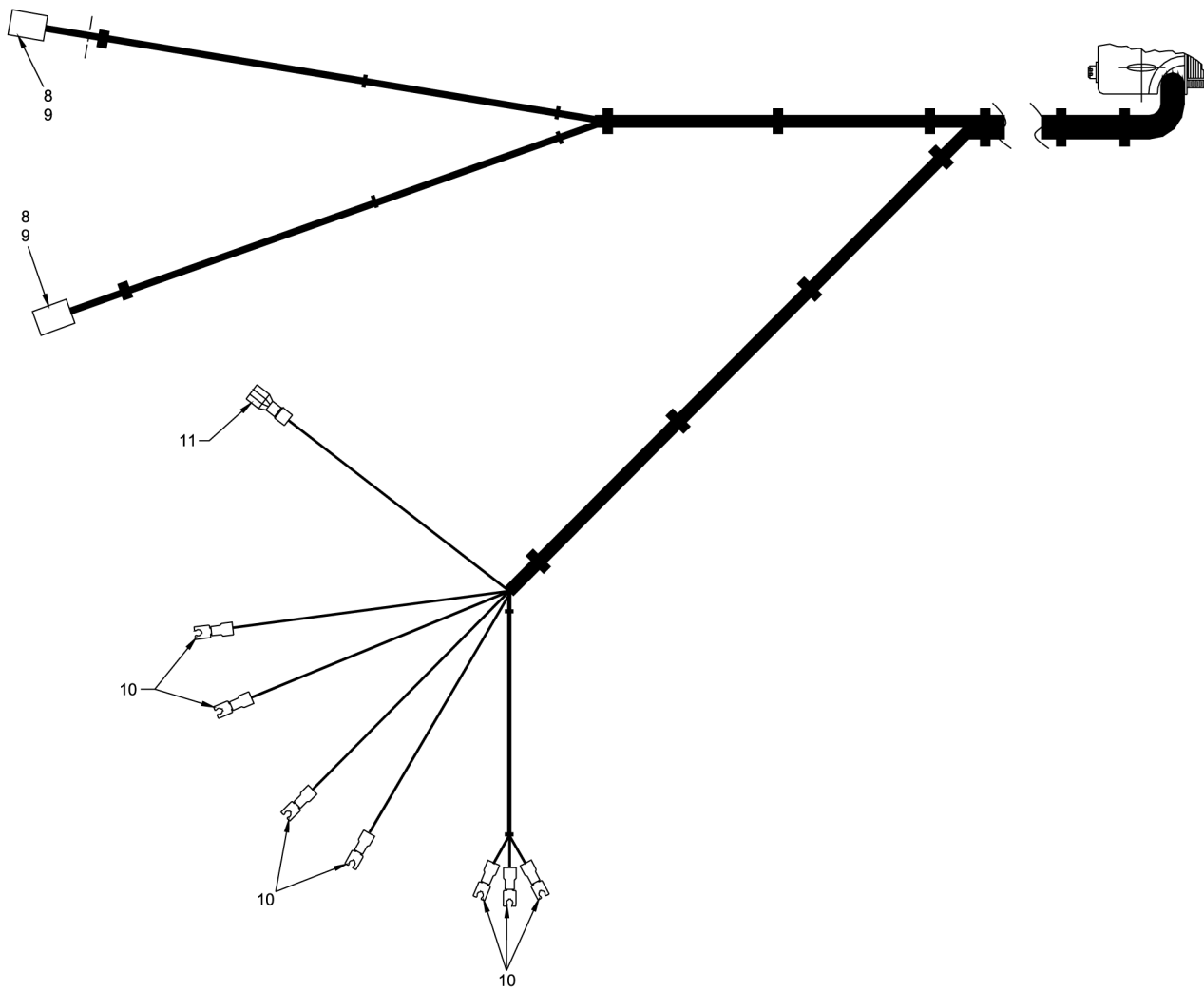


Figure 4. Permanent Magnet Alternator (PMA) (Sheet 2 of 2).

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 02 PERMANENT MAGNET ALTERNATOR (PMA)								
FIG. 4 PERMANENT MAGNET ALTERNATOR (PMA)								
1	PAFZZ	PAFZZ	PAFZZ	5305-01-476-9251	93742	692497-9	. SCREW, CAP, SOCKET HEAD	6
2	PAFZZ	PAFZZ	PAFZZ	3040-01-477-0228	93742	692507	. CLAMP, HUB	1
3	PAFZZ	PAFZZ	PAFZZ	2920-01-477-0238	93742	692499	. STATOR ASSEMBLY	2
4	XBFZZ	XBFZZ	XBFZZ		93742	692500	. ADAPTOR, ENGINE	1
5	PAFZZ	PAFZZ	PAFZZ	5305-01-476-9248	93742	692497-12	. SCREW, CAP, SOCKET HEAD	13
6	PAFZZ	PAFZZ	PAFZZ	6115-01-476-9356	93742	692505	. ROTOR, GENERATOR	1
7	XBFZZ	XBFZZ	XBFZZ		93742	692501	. COVER, END	1
8	PAFZZ	PAFZZ	PAFZZ	5935-01-415-6239	27264	39-01-2060	. CONNECTOR BODY, PLUG	2
9	PAFZZ	PAFZZ	PAFZZ	5999-01-477-0593	27264	39-00-0077	. CONTACT, ELECTRICAL	2
10	PAFZZ	PAFZZ	PAFZZ	5940-01-425-2020	06383	PN18-6LF-C	. TERMINAL, LUG	7
11	XBFZZ	XBFZZ	XBFZZ		00779	93-350816-2	. CONTACT, ELECTRICAL	1
12	PAFZZ	PAFZZ	PAFZZ	5325-00-960-2410	80205	MS21266-1N	. GROMMET, NONMETALLIC	1
13	XBFZZ	XBFZZ	XBFZZ		93742	409316-001	. LABEL	1
14	PAFZZ	PAOZZ	PAOZZ	5930-01-477-9743	30554	98-19720	. SWITCH, THERMOSTATIC	1
15	PAFZZ	PAOZZ	PAOZZ	5930-01-478-0122	85814	SM-2B-15F	. SWITCH, PRESSURE	1
16	PAFZZ	PAFZZ	PAFZZ	5310-01-476-9103	30554	98-19662	. WASHER, FLAT	1
17	PAFZZ	PAFZZ	PAFZZ	5306-00-050-1238	80204	B1821BH031F075N	. BOLT, MACHINE	1
18	PAFZZ	PAFZZ	PAFZZ	5305-01-477-0236	30554	98-19730	. SCREW, CAP, SOCKET HEAD	4
19	PAFZZ	PAOZZ	PAOZZ	5310-00-081-4219	96906	MS27183-12	. WASHER, FLAT, 5/16	4
20	PAFZZ	PAOZZ	PAOZZ	5310-12-125-0056	D8286	DIN127-B8-FST	. WASHER, LOCK	4
21	PAFZZ	PAOZZ	PAOZZ	5310-01-533-6741	30554	88-20033-BA	. WASHER, FLAT	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 03 ELECTRICAL SYSTEM ASSEMBLY

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
---	---	---	---				GROUP 03 ELECTRICAL SYSTEM ASSEMBLY (NOT ILLUSTRATED)	
PAFZZ	PAOZZ	PAOZZ	PAOZZ	6140-01-476-8945	30554	98-19745	. BATTERY CHARGING REGU- LATOR (SEE GROUP 0301 FOR PARTS BREAKDOWN)	
---	---	---	---				. BATTERY (SEE GROUP 0302 FOR PARTS BREAKDOWN)	
---	---	---	---				. BATTERY CABLES (SEE GROUP 030201 FOR PARTS BREAKDOWN)	
---	---	---	---				. CONTACTOR ASSEMBLY (SEE GROUP 0303 FOR PARTS BREAKDOWN)	
PAFDD	PAODD	PAODD	PAODD	5895-01-477-0855	60177	29350	. FREQUENCY CONVERTER (A8) (SEE GROUP 0304 FOR PARTS BREAKDOWN)	
PAFZZ	PAOZZ	PAOZZ	PAOZZ	5945-00-855-7478	16764	1115615	. RELAYS, ELECTROMAG- NETIC (SEE GROUP 0305 FOR PARTS BREAKDOWN)	
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 0301 ELECTRICAL SYSTEM ASSEMBLY/BATTERY CHARGING REGULATOR**

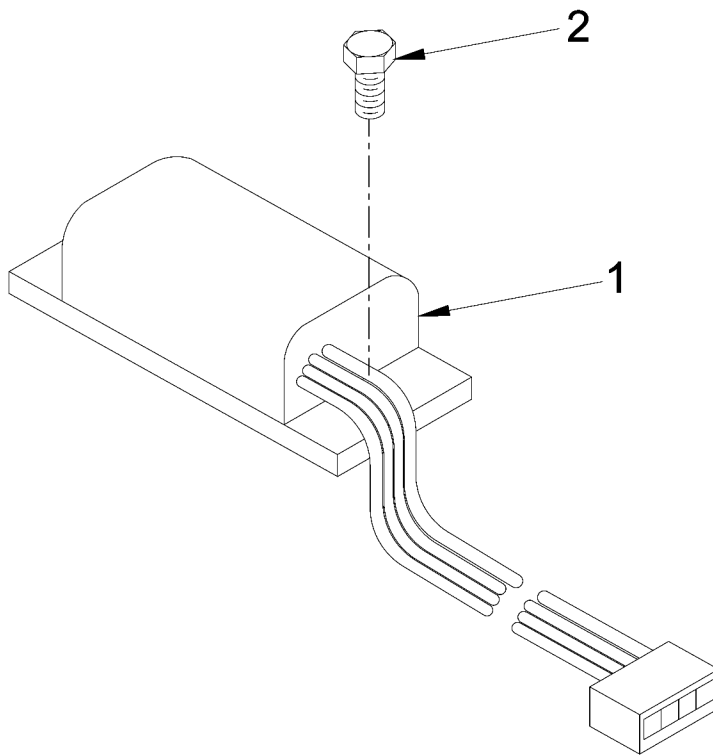


Figure 5. Electrical System Assembly/Battery Charging Regulator.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0301 ELECTRICAL SYSTEM ASSEMBLY/BATTERY CHARGING REGULATOR								
FIG. 5 ELECTRICAL SYSTEM ASSEMBLY/BATTERY CHARGING REGULATOR								
1	PAFZZ	PAOZZ	PAOZZ	6130-01-476-9148	30554	98-19715	. CHARGER, BATTERY	1
2	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEX	2

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0302 ELECTRICAL SYSTEM ASSEMBLY/BATTERY

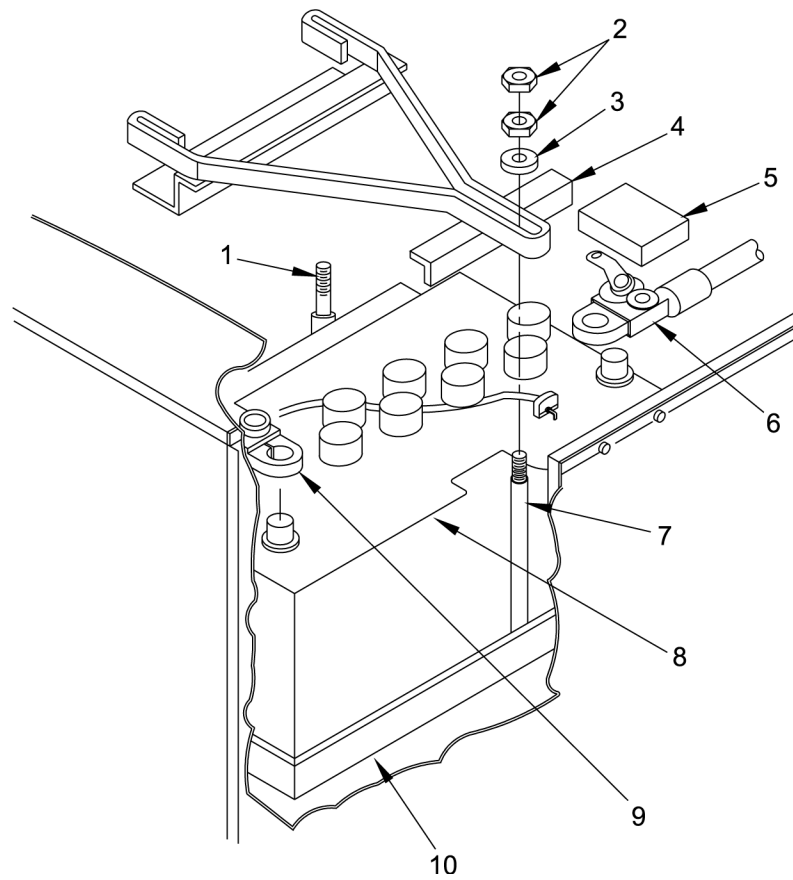


Figure 6. Electrical System Assembly/Battery.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0302 ELECTRICAL SYSTEM ASSEMBLY/BATTERY								
FIG. 6 ELECTRICAL SYSTEM ASSEMBLY/BATTERY								
1	PAFZZ	PAOZZ	PAOZZ	5306-01-519-1696	30554	98-19567-01	. BOLT, HOOK	2
2	PAFZZ	PAOZZ	PAOZZ	5310-00-997-1888	13499	313-0010-00	. NUT, PLAIN, HEXAGON	6
3	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	3
4	XBFZZ	XBOZZ	XBOZZ	6160-01-519-0139	30554	98-19566	. RETAINER, BATTERY	2
5	PAFZZ	PAOZZ	PAOZZ	5940-01-476-9076	93742	98-19699	. COVER, TERMINAL	2
6	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9061	30554	98-19593	. LEAD, STORAGE BAT- TERY (POS)	1
7	PAFZZ	PAOZZ	PAOZZ	5306-01-533-1812	30554	98-19567-02	. ROD, BATTERY HOLDOWN	1
8	PAFZZ	PAOZZ	PAOZZ	6140-01-476-8945	30554	98-19745	. BATTERY, STOR- AGE (PRIMARY BATTERY SEALED)	1
8	PAFZA	PAOZA	PAOZA	6140-00-059-3528	81349	M11188/2-A-24V	. BATTERY, STOR- AGE (ALTERNATE BATTERY SHIPPED WITH ACID)	1
8	PAFZA	PAOZA	PAOZA	6140-01-390-1968	81349	M11188/2-B-24	. BATTERY, STOR- AGE (ALTERNATE BATTERY SHIPPED DRY).....	1
9	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9059	30554	98-19594	. LEAD, STORAGE BAT- TERY (NEG)	1
10	XBFZZ	XBOZZ	XBOZZ		30554	98-19558	. TRAY, BATTERY	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 030201 ELECTRICAL SYSTEM ASSEMBLY/BATTERY CABLES

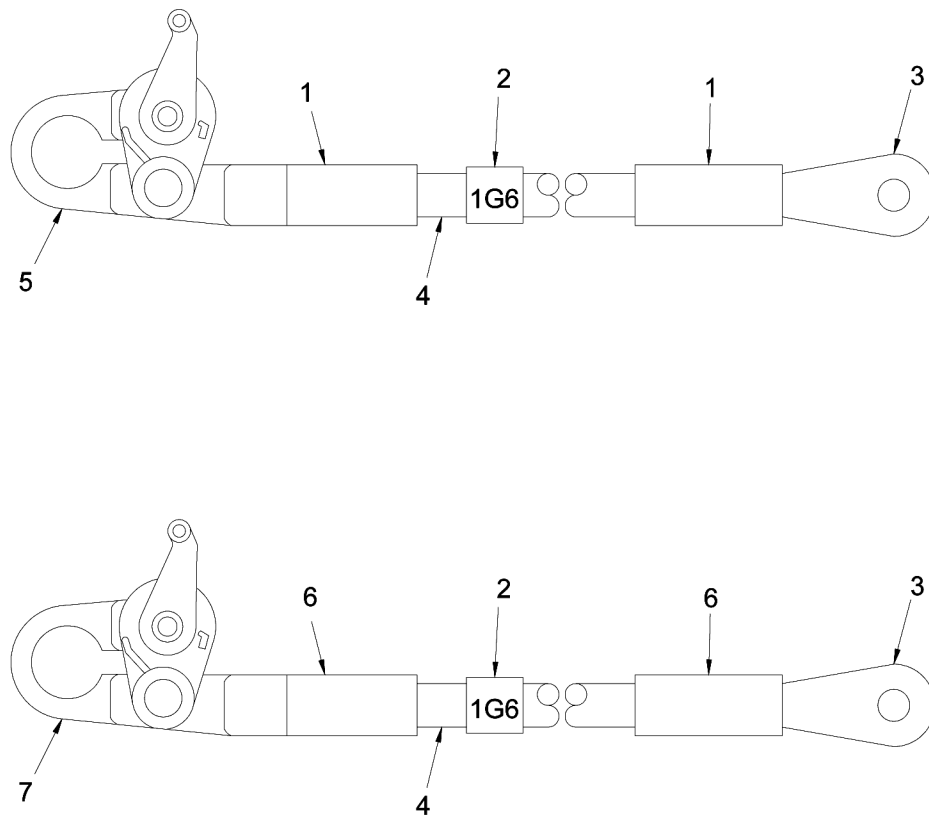


Figure 7. Electrical System Assembly/Battery Cables.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

**GROUP 030201 ELECTRICAL
SYSTEM
ASSEMBLY/BATTERY
CABLES**

**FIG. 7 ELECTRICAL SYSTEM
ASSEMBLY/BATTERY
CABLES**

1	PAFZZ	PAFZZ	PAFZZ	5970-00-915-9186	20999	FP301-11/2IN RED	. INSULATION, SLEEVE	2
2	XBFZZ	XBFZZ	XBFZZ		30554	88-20541-16	. INSULATION, SLEEVING	2
3	PAFZZ	PAFZZ	PAFZZ	5940-00-557-4343	96906	MS25036-121	. TERMINAL, LUG	2
4	PAFZZ	PAFZZ	PAFZZ	6145-01-029-6544	16764	264A	. WIRE, ELECTRICAL	2
5	PAFZZ	PAFZZ	PAFZZ	5940-01-476-8951	93742	98-19518-01	. TERMINAL, QUICK DISCON- NECT	1
6	XBFZZ	XBFZZ	XBFZZ		30554	88-20541-15	. INSULATION, SLEEVING	2
7	PAFZZ	PAFZZ	PAFZZ	5940-01-476-8981	93742	98-19518-02	. TERMINAL, QUICK DISCON- NECT	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0303 ELECTRICAL SYSTEM ASSEMBLY/CONTACTOR ASSEMBLY

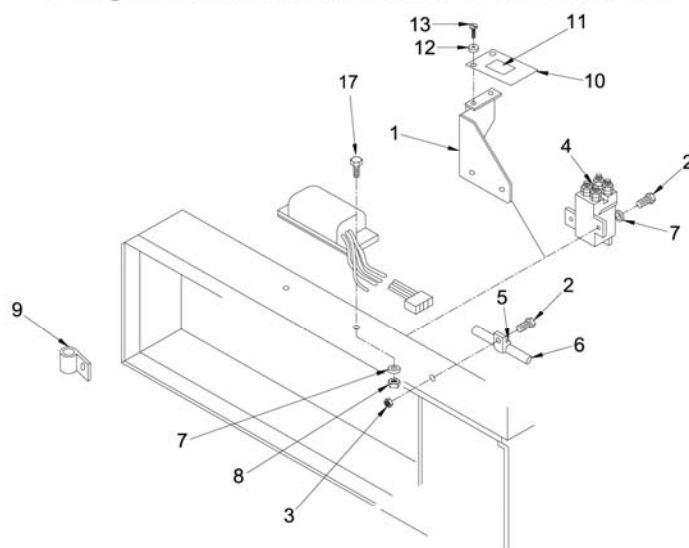
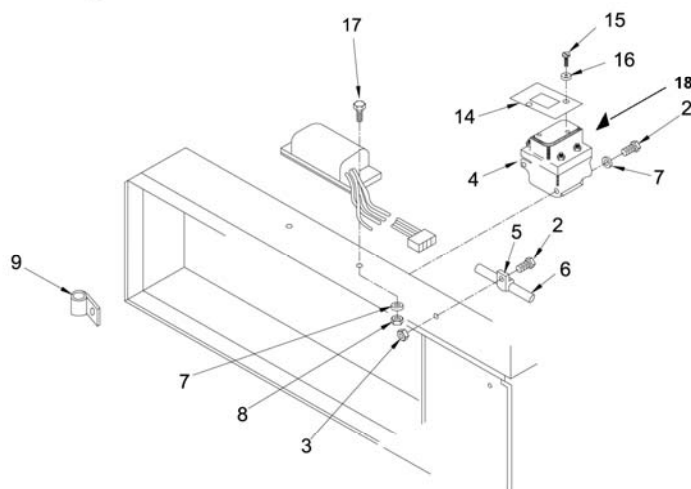
Configuration with Contactor ITEM 4 Part Number JAD-5005**Configuration with Contactor ITEM 4 Part Number CT100D24C1S**

Figure 8. Electrical System Assembly/Contactor Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0303 ELECTRICAL SYSTEM ASSEMBLY/CONTACTOR ASSEMBLY								
FIG. 8 ELECTRICAL SYSTEM ASSEMBLY/CONTACTOR ASSEMBLY								
1	XBFZZ	XBOZZ	XBOZZ		30554	98-19719	. BRACKET, MOUNTING	1
2	PAFZZ	PAOZZ	PAOZZ	5305-01-187-5878	78189	61-101041-90-0142B-0542B	. SCREW, ASSEMBLED, WASHER	3
3	PAFZZ	PAOZZ	PAOZZ	5310-01-477-1368	30554	88-20033-8	. WASHER, FLAT	1
4	PAFZZ	PAOZZ	PAOZZ	6110-01-507-7938	01XD4	CT100D24C1S	. CONTACTOR, MAGNETIC, 2 POLE UOC: LQQ, 60 Hz	1
4	PAFZZ	PAOZZ	PAOZZ	6110-01-477-1175	1R7H6	JAD-5005	. CONTACTOR, MAGNETIC 2 POLE UOC: LQR, 400 Hz.....	1
5	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9004	22175	43LC6-12-SS-R	. STRAP, WEBBING	1
6	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1176	30554	98-19592 (400 Hz)	. WIRING HARNESS 60/400 UOC: LQR, 400 Hz.....	1
6	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1177	30554	98-19592 (60 Hz)	. WIRING HARNESS UOC: LQQ, 60 Hz	1
7	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT #10 NOM STL CAD	4
8	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	2
9	PAFZZ	PAOZZ	PAOZZ	5340-01-477-0133	22175	JM54LC6SS8R	. CLAMP, LOOP	1
10	PAFZZ	PAOZZ	PAOZZ	5999-01-502-6278	30554	98-19726	. COVER, RELAY SWITCH	1
11	XBFZZ	XBOZZ	XBOZZ		15563	98-19709-02	. LABEL, CAUTION	1
12	PAFZZ	PAOZZ	PAOZZ	5310-00-983-8483	96906	MS27183-5	. WASHER, FLAT	2
13	PAFZZ	PAOZZ	PAOZZ	5305-00-036-6968	78189	61-060641-40-0142B0542B	. SCREW, ASSEMBLED WASHER	2
14	XBFZZ	XBOZZ	XBOZZ		01XD4	SHD00007A	. COVER, PROTECTIVE	1
15	XBFZZ	XBOZZ	XBOZZ		01XD4	SCW0632-5	. SCREW	2
16	XBFZZ	XBOZZ	XBOZZ		01XD4	WLK00	. WASHER, LOCK	2
17	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGON HEAD	2
18	PRFFF	PROOO	PROOO	5930-00-422-4948	04426	11-504	.SWITCH, SENSITIVE.....	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0304 ELECTRICAL SYSTEM ASSEMBLY/FREQUENCY CONVERTER (A8)

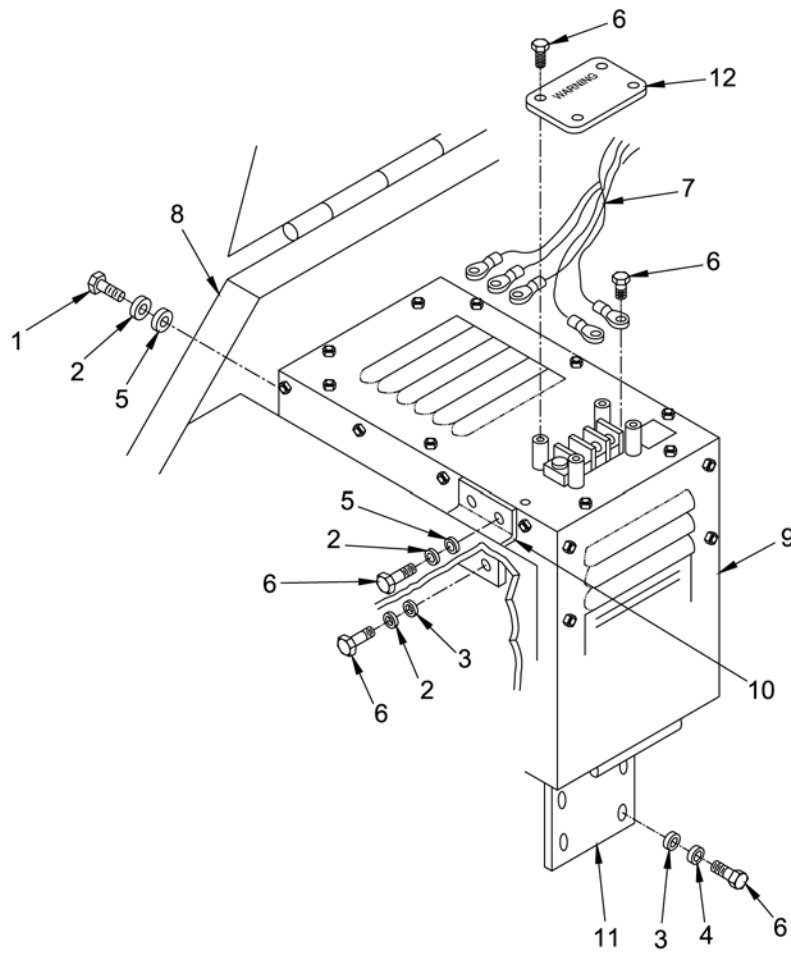


Figure 9. Electrical System Assembly/Frequency Converter (A8).

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0304 ELECTRICAL SYSTEM ASSEMBLY/FREQUENCY CONVERTER (A8)								
FIG. 9 ELECTRICAL SYSTEM ASSEMBLY/FREQUENCY CONVERTER (A8)								
1	PAFZZ	PAOZZ	PAOZZ	5305-01-056-1501	24617	274825	. SCREW, CAP, HEXAGON H	1
2	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	3
3	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK, #6, SPLIT, CADMIUM	2
4	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT, #10 .217 ID x .5 OD	1
5	PAFZZ	PAOZZ	PAOZZ	5310-00-543-2410	80205	MS35338-40	. WASHER, LOCK	2
6	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGO	15
7	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9338	30554	98-19633	. WIRING HARNESS, 60 Hz UOC: LQQ	1
7	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1173	30554	98-19729	. WIRING HARNESS, 400 Hz UOC: LQR.....	1
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19570	. PANEL, LEFT SIDE	1
9	PAFDD	PAODD	PAODD	5985-01-477-0855	60177	29340	. FREQUENCY CONVERTER	1
9	PAFDD	PAODD	PAODD	5895-01-477-0858	30554	98-19604-02	. FREQUENCY CONVERTER	1
10	XBFZZ	XBOZZ	XBOZZ		30554	98-19618	. BRACKET, MOUNTING	1
11	XBFZZ	XBOZZ	XBOZZ		30554	98-19549	. BRACKET, MOUNTING	1
12	XBFZZ	XBOZZ	XBOZZ	7690-01-531-3589	5Y407	5601856	. WARNING PLATE	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0305 ELECTRICAL SYSTEM ASSEMBLY/RELAYS, ELECTROMAGNETIC

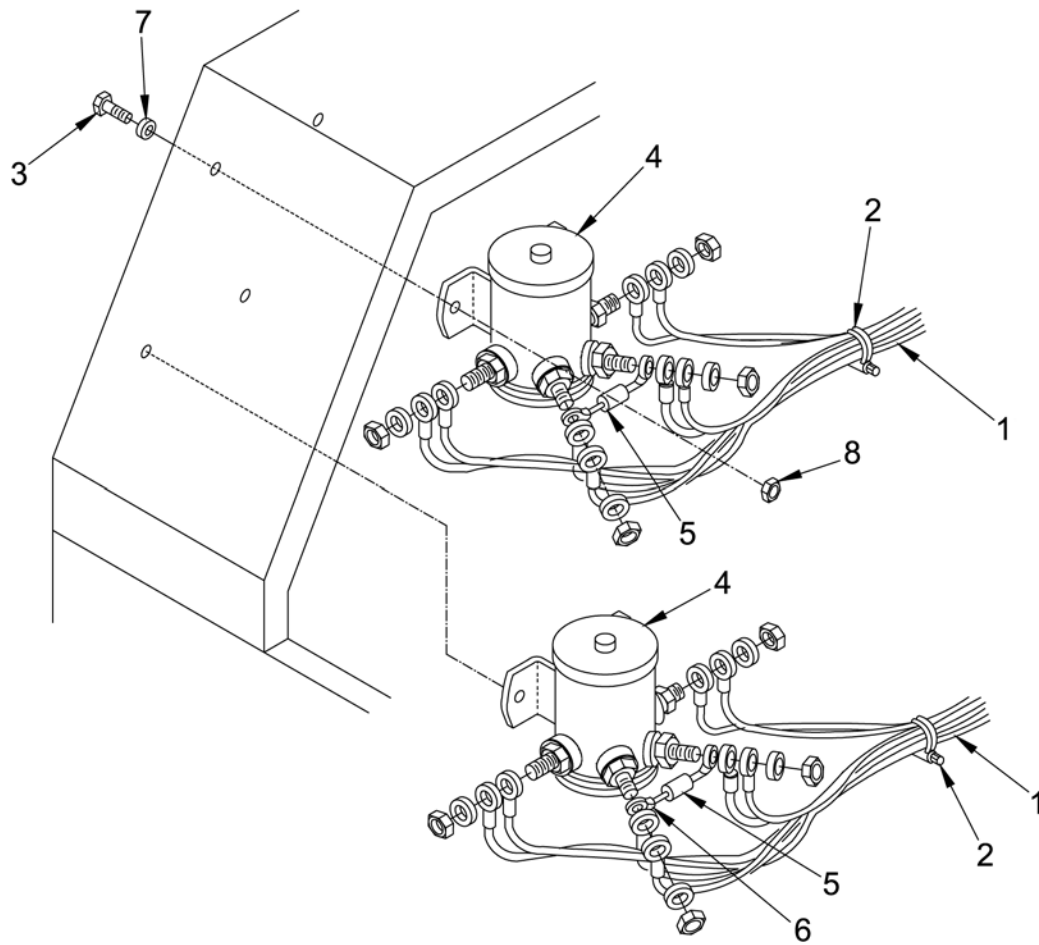


Figure 10. Electrical System Assembly/Relays, Electromagnetic.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0305 ELECTRICAL SYSTEM ASSEMBLY/RELAYS, ELECTROMAGNETIC								
FIG. 10 ELECTRICAL SYSTEM ASSEMBLY/RELAYS, ELECTROMAGNETIC								
1	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1173	30554	98-19729	. WIRING HARNESS UOC: LQQ	1
1	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9335	30554	98-19633	. WIRING HARNESS UOC: LQR.....	1
2	PAFZZ	PAOZZ	PAOZZ	5975-00-111-3208	81343	MS3367-5-9	. STRAP, TIEDOWN, ELEC- TRICAL	2
3	PAFZZ	PAOZZ	PAOZZ	5306-00-484-5730	1UVT5	307608	. BOLT, MACHINE	1
4	PAFZZ	PAOZZ	PAOZZ	5945-00-855-7478	16764	1115615	. RELAY, ELECTROMAGNETIC	2
5	PAFZZ	PAOZZ	PAOZZ	5961-01-172-5982	81349	JANTX1N6056A	. SEMICONDUCTOR DEVICE, DIODE	2
6	PAFZZ	PAOZZ	PAOZZ	5940-01-369-2270	98410	AA-8715-10	. TERMINAL, LUG	4
7	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT	1
8	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HEX	1
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 04 CONTROL BOX ASSEMBLY/LOAD WRENCH ASSEMBLY

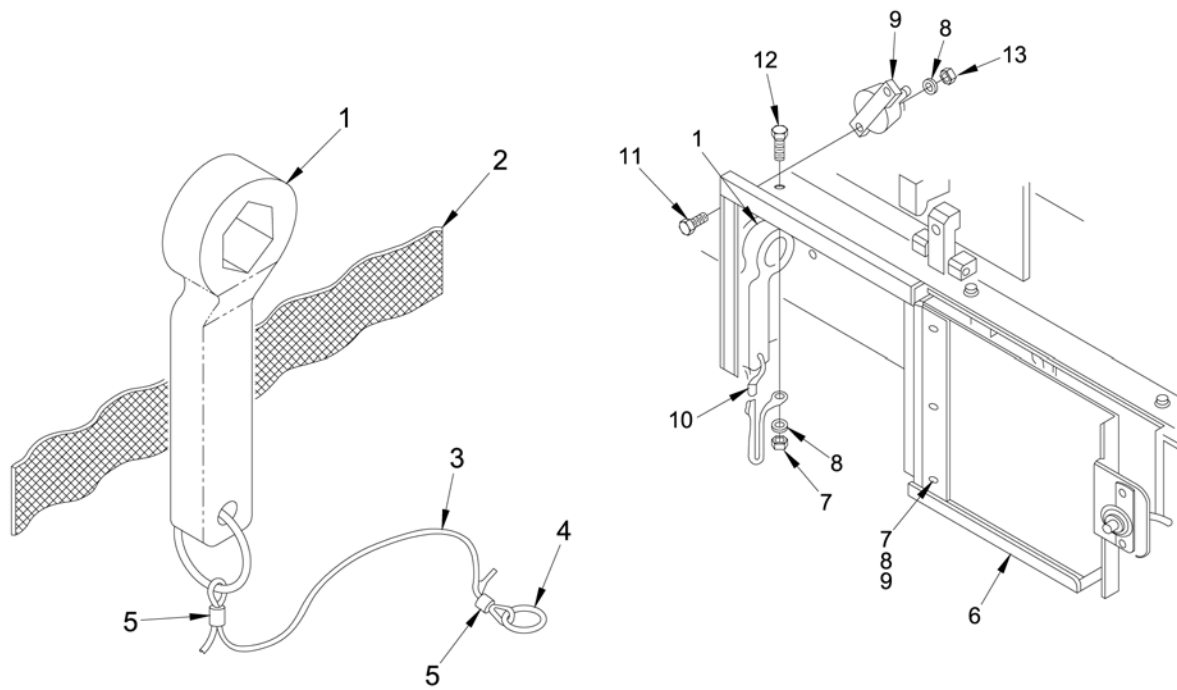


Figure 11. Control Box Assembly/Load Wrench Assembly.

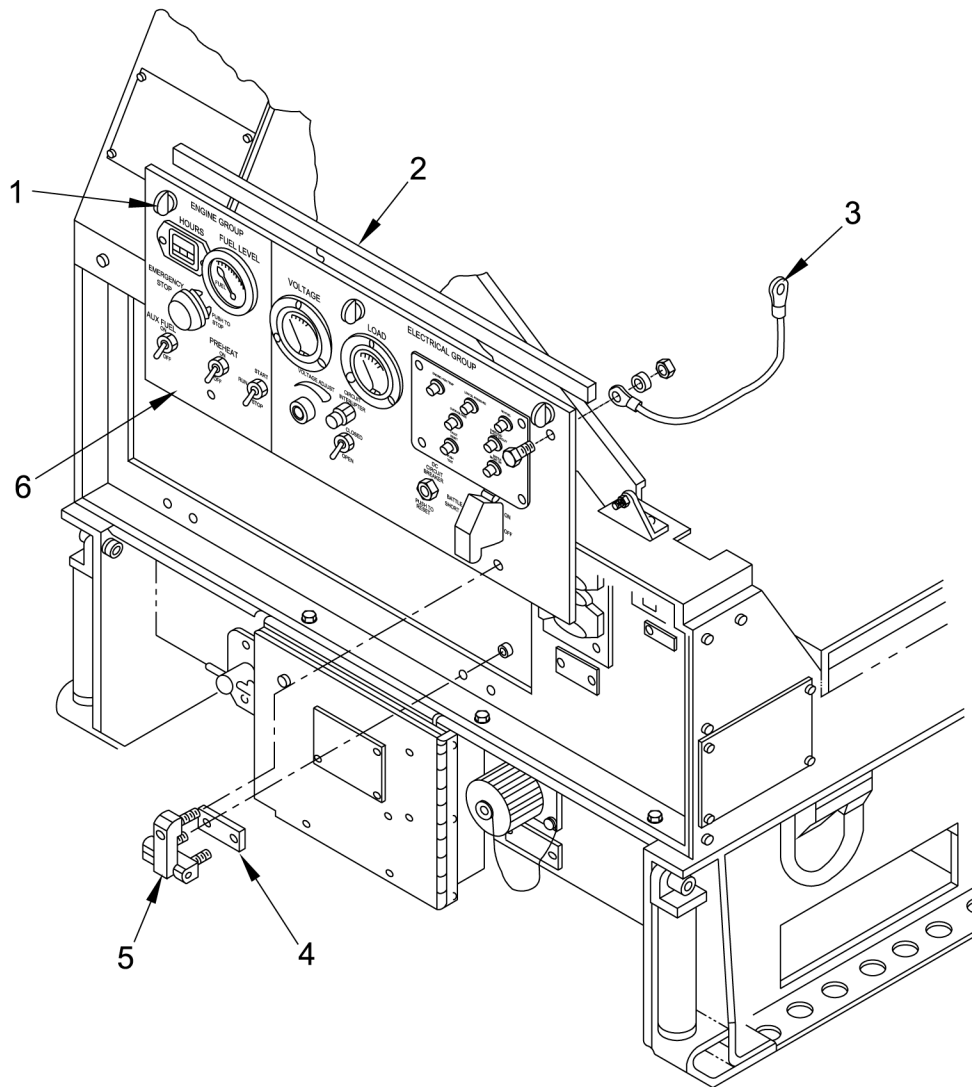
(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 04 CONTROL BOX ASSEMBLY/LOAD WRENCH ASSEMBLY								
FIG. 11 CONTROL BOX ASSEMBLY/LOAD WRENCH ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	5120-01-483-3706	30554	98-19599	. WRENCH, BOX	1
2	XBFZZ	XBOZZ	XBOZZ		52152	SJ3541 TYPE 400	. TAPE, HOOK AND LOOP	1
3	XBFZZ	XBOZZ	XBOZZ		2V507	8936T43	. CORD, POLYESTER	1
4	PAFZZ	PAOZZ	PAOZZ	5940-00-107-1481	96906	MS20659-104	. TERMINAL, LUG	1
5	PAFZZ	PAOZZ	PAOZZ	4030-01-114-3894	96906	MS51844-23	. SWAGING, SLEEVE WIRE	2
6	XBFZZ	XBOZZ	XBOZZ	6115-01-553-8439	30554	98-19568	. COVER, ELECTRICAL GE	1
7	PAFZZ	PAOZZ	PAOZZ	5310-00-982-6814	80205	MS21044C08	. NUT, SELF-LOCKING HEXAGON	3
8	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	3
9	PAFZZ	PAOZZ	PAOZZ	5905-01-293-0175	59656	Z320PA40A	. RESISTOR, VOLTAGE SE	1
10	PAFZZ	PAOZZ	PAOZZ	5325-01-237-2933	52152	SJ-3542	. FASTENER	1
11	PAFZZ	PAOZZ	PAOZZ	5305-01-464-6667	30554	88-22793-4	. SCREW, MACHINE	2
12	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	3
13	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING HE	2

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

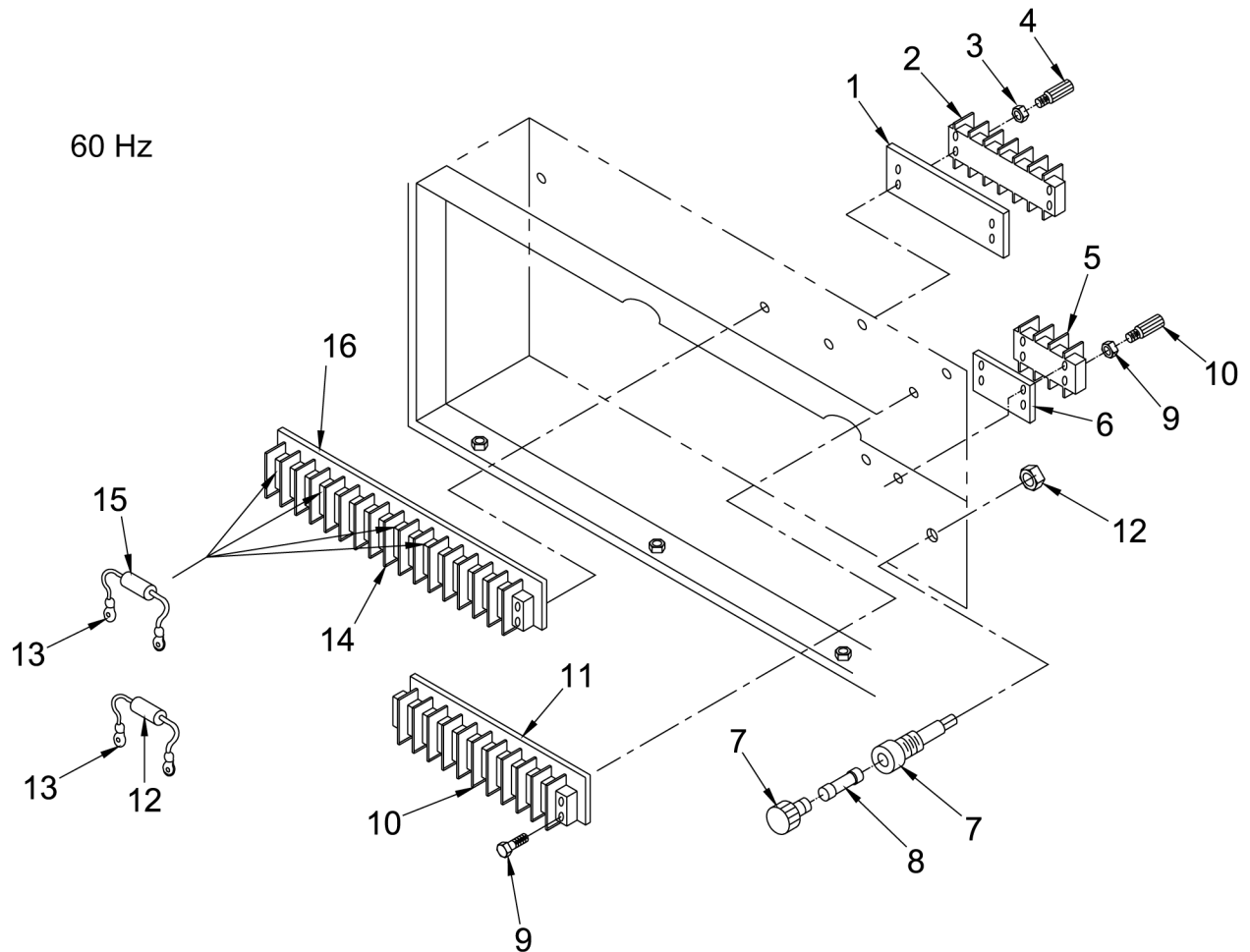
3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0401 CONTROL PANEL ASSEMBLY (60/400 HZ)



(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0401 CONTROL PANEL ASSEMBLY (60/400 Hz)								
FIG. 12 CONTROL PANEL ASSEMBLY (60/400 HZ)								
1	PAFZZ	PAOZZ	PAOZZ	5325-01-301-7903	94222	85-35-309-56	. RECEPTACLE, TURNLOCK	3
2	PAFZZ	PAOZZ	PAOZZ	5330-01-477-9623	30554	98-19645-06	. GASKET, STRIP	3
3	PAFZZ	PAOZZ	PAOZZ	4020-01-476-9072	30554	98-19724	. FIBER ROPE ASSEMBLY	1
4	XBFZZ	XBOZZ	XBOZZ		30554	98-19583	. SPACER	2
5	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9074	0E8J0	1055-U3	. HINGE, BUTT	2
6	XBFFF	XBOOO	XBOOO		30554	98-19509	. CONTROL PANEL ASSEM	1
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 0401 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY, (60/400 HZ)****Figure 13. Control Box Assembly/Control Panel Assembly, (60/400 Hz) (Sheet 1 of 2).**

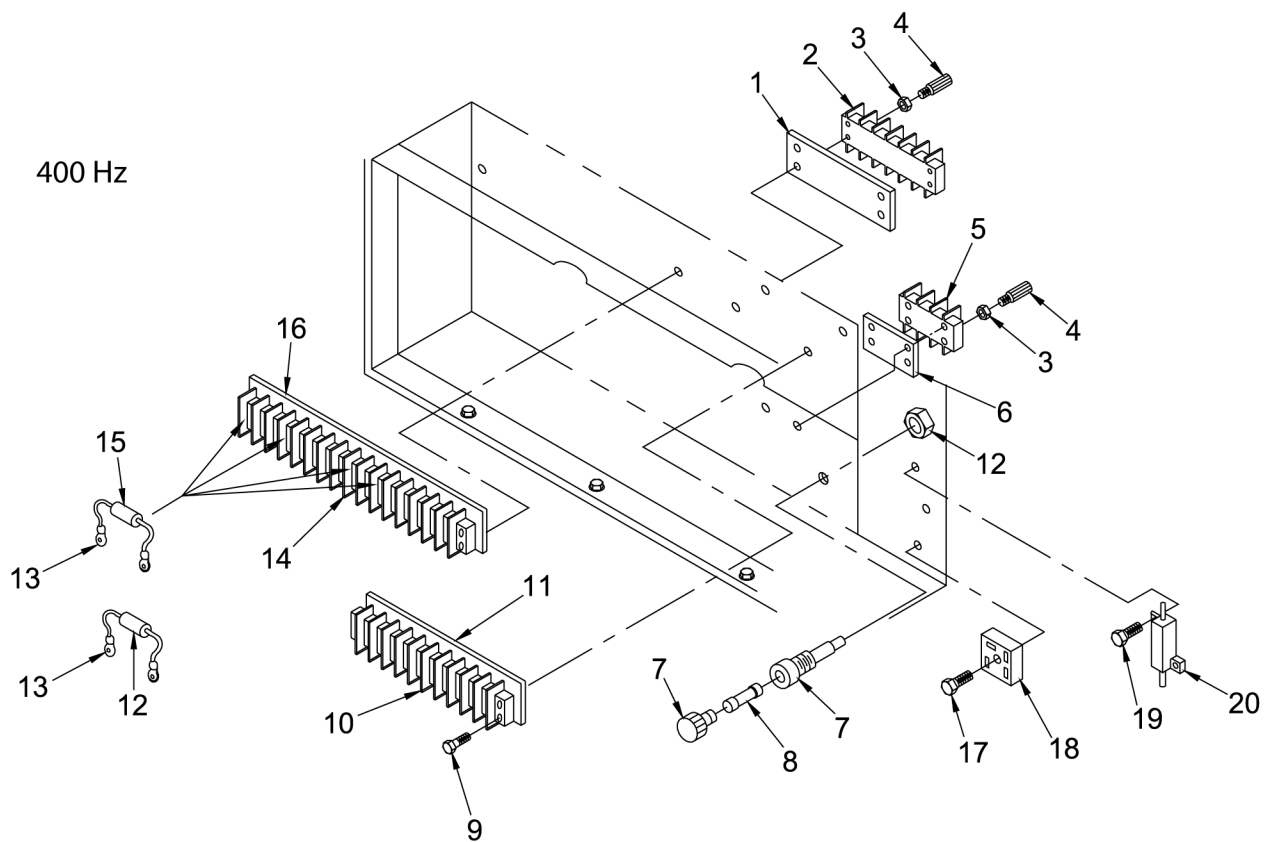


Figure 13. Control Box Assembly/Control Panel Assembly, (60/400 Hz) (Sheet 2 of 2).

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
GROUP 0401 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY, (60/400 Hz) FIG. 13 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY, (60/400 HZ)								
1	XBFZZ	XBOZZ	XBOZZ		9R803	3300-9-XP-74	. PLATE, DESIGNATION	1
2	PAFZZ	PAOZZ	PAOZZ	5940-01-476-9191	9R803	3300-9	. TERMINAL BOARD	1
3	PAFZZ	PAOZZ	PAOZZ	5310-00-045-3296	80205	MS35338-43	. WASHER, LOCK #10, SPLIT, CADMIUM	4
4	PAFZZ	PAOZZ	PAOZZ	5340-01-476-8683	30554	98-19728	. STANDOFF, THREADED	4
5	PAFZZ	PAOZZ	PAOZZ	5940-01-477-1254	9R803	3300-3	. TERMINAL BOARD	1
6	XBFZZ	XBOZZ	XBOZZ		9R803	3300-3-XP-74	. PLATE, DESIGNATION	1
7	PAFZZ	PAOZZ	PAOZZ	5920-01-476-9734	75915	342028PL	. FUSEHOLDER, EXTRACTOR	1
8	PAFZZ	PAOZZ	PAOZZ	5920-00-131-9915	81349	F02A32V20A	. FUSE, CARTRIDGE	1
9	PAFZZ	PAOZZ	PAOZZ	5305-00-038-3103	30554	69-662-35	. SCREW, ASSEMBLED WAS	4
10	PAFZZ	PAOZZ	PAOZZ	5940-01-470-2470	9R803	3300-2	. TERMINAL BOARD	1
11	XBFZZ	XBOZZ	XBOZZ	5940-01-470-3031	9R803	3300-10-XP-74	. PLATE, DESIGNATION	1
12	PAFZZ	PAOZZ	PAOZZ	5940-01-057-3305	81349	JANTX1N6072A	. SEMICONDUCTOR DEVICE	1
13	PAFZZ	PAFZZ	PAFZZ	5940-01-425-2020	06383	PN18-6LF-C	. TERMINAL, LUG	2
14	PAFZZ	PAOZZ	PAOZZ	5940-01-476-9186	9R803	3300-16	. TERMINAL BOARD	1
15	PAFZZ	PAOZZ	PAOZZ	5961-00-484-8041	1MQ07	1N5404	. SEMICONDUCTOR DEVICE	3
16	XBFZZ	XBOZZ	XBOZZ		9R803	3300-16-XP-74	. PLATE, DESIGNATION	1
17	PAFZZ	PAOZZ	PAOZZ	5305-01-187-5878	78189	61-101041-90-014 2B-0542B	. SCREW, ASSEMBLED, WASHER	3
18	PAFZZ	PAOZZ	PAOZZ	5961-01-421-3024	14936	GBPC1204	. RECTIFIER, SEMICONDUCTOR DEVICE	1
19	PAFZZ	PAOZZ	PAOZZ	5305-00-224-1092	45722	P15121-5	. SCREW, ASSEMBLED WASHER	2
20	PAFZZ	PAOZZ	PAOZZ	5905-00-468-5869	81349	RER70F2491R	. RESISTOR, FIXED	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 040101 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY/PANEL METERS, GAUGES,
AND SWITCHES**

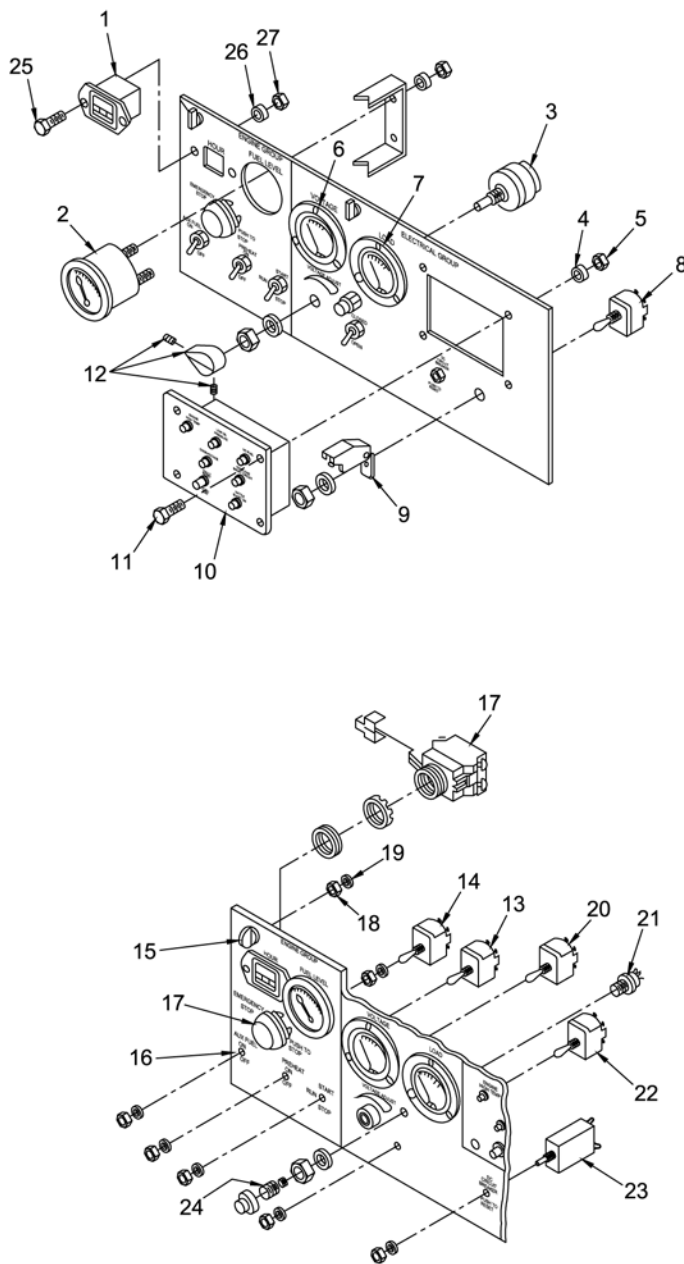


Figure 14. Control Box Assembly/Control Panel Assembly/Panel Meters, Gauges, and Switches.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 040101 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY/PANEL METERS, GAUGES, AND SWITCHES								
FIG. 14 CONTROL BOX ASSEMBLY/CONTROL PANEL ASSEMBLY/PANEL METERS, GAUGES, AND SWITCHES								
1	PAFZZ	PAOZZ	PAOZZ	6645-01-458-7278	74400	85311	. METER, TIME TOTALIZING	1
2	PAFZZ	PAOZZ	PAOZZ	6680-00-933-3600	96906	MS24544-2	. INDICATOR, LIQUID QUANTITY	1
3	PAFZZ	PAOZZ	PAOZZ	5905-00-539-2573	81349	RV4SAYSD502A	. RESISTOR, VARIABLE, N	1
4	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	4
5	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	4
6	PAFZZ	PAOZZ	PAOZZ	6625-01-477-0732	77221	628-20978	. VOLTMETER	1
7	PAFZZ	PAOZZ	PAOZZ	6625-01-515-2404	11707	26.6002	. WATTMETER	1
8	PAFZZ	PAOZZ	PAOZZ	5930-01-368-2891	81640	8906K4533	. SWITCH, TOGGLE	1
9	XAFZZ	XAOZZ	XAOZZ		30554	88-20549-1	. GUARD, SWITCH	1
10	PAFZZ	PAOZZ	PAOZZ	6625-01-477-0634	60177	29390	. INDICATOR, FAULT LOC	1
11	PAFZZ	PAOZZ	PAOZZ	5305-00-989-7435	80205	MS35207-264	. SCREW, MACHINE	4
12	PAFZZ	PAOZZ	PAOZZ	5355-00-559-8943	80205	MS91528-2K2B	. KNOB	1
13	PAFZZ	PAOZZ	PAOZZ	5930-00-683-1626	96906	MS24523-30	. SWITCH, TOGGLE	1
14	PAFZZ	PAOZZ	PAOZZ	5930-00-683-1628	96906	MS24523-22	. SWITCH, TOGGLE	1
15	PAFZZ	PAOZZ	PAOZZ	5325-01-320-8193	94222	85-12-500-16	. STUD, TURNLOCK FASTE	2
16	XBFZZ	XBOZZ	XBOZZ		30554	98-19553	. PANEL, CONTROL BOX	1
17	PAFZZ	PAOZZ	PAOZZ	5930-01-478-0101	60886	HW1B-Y2CO2-R	. SWITCH, PUSH-PULL	1
18	PAFZZ	PAOZZ	PAOZZ	5310-01-365-4381	94222	85-46-103-39	. WASHER, FLAT	2
19	PAFZZ	PAOZZ	PAOZZ	5310-00-822-8525	18876	PMS25086-001-01	. WASHER, SPLIT	2
20	PAFZZ	PAOZZ	PAOZZ	5930-00-906-3477	96906	MS27407-2	. SWITCH, TOGGLE	1
21	PAFZZ	PAOZZ	PAOZZ	6210-00-583-9349	96906	MS25041-5	. LIGHT, INDICATOR	1
22	PAFZZ	PAOZZ	PAOZZ	5930-01-368-2893	81640	890K4519	. SWITCH, TOGGLE	1
23	PAFZA	PAOZA	PAOZA	5925-00-089-3031	77342	W23X1A1G7.5	. CIRCUIT BREAKER	1
24	PAFZZ	PAOZZ	PAOZZ		30554	98-19763	. LIGHT, LED INDICATOR	1
25	PAFZZ	PAOZZ	PAOZZ	5305-01-335-7410	96906	MS51492-02	. SCREW, MACHINE	2
26	PAFZZ	PAOZZ	PAOZZ	5310-01-531-5950	30554	88-20033-6A	. WASHER, FLAT	2
27	PAFZZ	PAOZZ	PAOZZ	5310-01-531-7609	30554	95-8125-2	. NUT, SELF-LOCKING, HE	2

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 0402 CONTROL BOX ASSEMBLY/RECEPTACLE, FILTERS, TERMINALS, AND VOLTAGE
RESISTORS

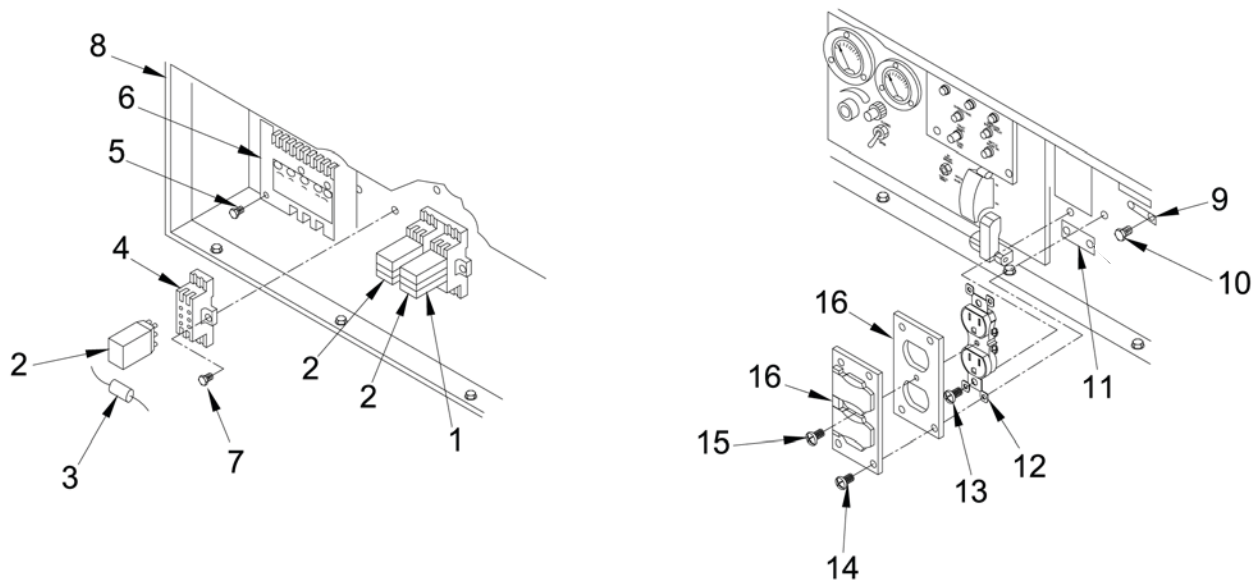


Figure 15. Control Box Assembly/Receptacle Filters,Terminals, Voltage Resistors.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0402 CONTROL BOX ASSEMBLY/RECEPTACLE, FILTERS, TERMINALS, AND VOLTAGE RESISTORS								
FIG. 15 CONTROL BOX ASSEMBLY/RECEPTACLE, FILTERS, TERMINALS, VOLTAGE RESISTORS								
1	PAFZZ	PAOZZ	PAOZZ	5360-01-260-0317	60886	SY4S-02F1	. SPRING, HELICAL, EXTE	3
2	PAFZZ	PAOZZ	PAOZZ	5945-01-461-2084	60886	RH2B-ULDC24	. RELAY, ELECTROMAGNET	3
3	PAFZZ	PAOZZ	PAOZZ	5961-01-172-5982	81349	JANTX1N6056A	. SEMICONDUCTOR DEVICE	1
4	PAFZZ	PAOZZ	PAOZZ	5935-01-477-9883	042U1	SH2B-05	. SOCKET, PLUG-IN ELEC	4
5	PAFZZ	PAOZZ	PAOZZ	5305-01-247-6829	78189	61-081441-40-C1428-0542B	. SCREW, ASSEMBLED WASHER	2
6	PAFZZ	PAOZZ	PAOZZ	2990-01-477-1371	0BXW5	SLC100	. CONTROL UNIT, GOVERN	1
7	PAFZZ	PAOZZ	PAOZZ	5303-01-201-8979	30554	69-662-24	. SCREW, ASSEMBLED, WASHER	6
8	XBFZZ	XBOZZ	XBOZZ		30554	69-19554	. CONTROL BOX, 60 Hz UOC: LQQ	1
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19710	. CONTROL BOX, 400 Hz UOC: LQR.....	1
9	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-08	. PLATE, IDENTIFICATION	1
10	PAFZZ	PAOZZ	PAOZZ	5320-00-932-1972	81349	M24243/6-A402H	. RIVET, BLIND	4
11	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-04	. PLATE, IDENTIFICATION	1
12	PAFZZ	PAOZZ	PAOZZ	5935-01-367-7814	74545	CR15	. CONNECTOR, BODY, RECE	1
13	PAFZZ	PAOZZ	PAOZZ	5305-00-036-6972	78189	61-060841-40-0142B-0542B	. SCREW, ASSEMBLED, WASHER	2
14	PAFZZ	PAOZZ	PAOZZ	5305-00-036-6976	97403	13214E3290-21	. SCREW, ASSEMBLED, WASHER	4
15	PAFZZ	PAOZZ	PAOZZ	5305-01-467-1561	30554	88-22791-2	. SCREW, MACHINE	1
16	PAFZZ	PAOZZ	PAOZZ	5975-00-879-7234	74545	HBL5206WO	. PLATE, WALL, ELECTRIC	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 05 COOLING SYSTEM

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					

GROUP 05 COOLING
SYSTEM

(NOT ILLUSTRATED)

. COOLING FAN ASSY (SEE
GROUP 0501 FOR PARTS
BREAKDOWN)

. HI/LO TEMP SWITCHES (SEE
GROUP 0502 FOR PARTS
BREAKDOWN)

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0501 COOLING SYSTEM/COOLING FAN ASSEMBLY

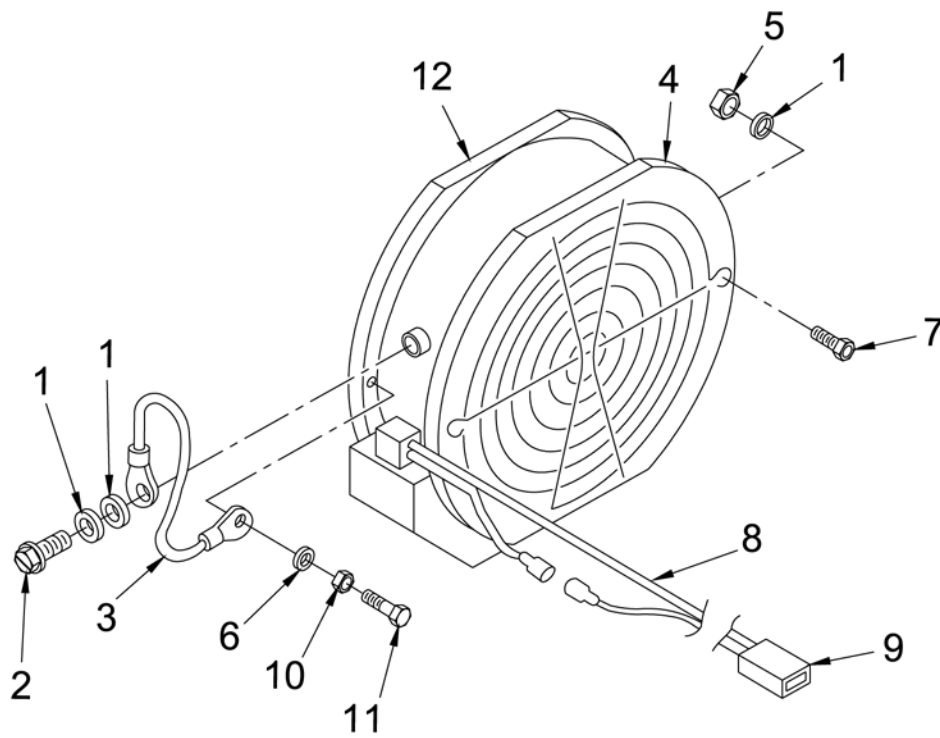


Figure 16. Cooling System/Cooling Fan Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0501 COOLING SYSTEM/COOLING FAN ASSEMBLY								
FIG. 16 COOLING SYSTEM/COOLING FAN ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT	3
2	PAFZZ	PAOZZ	PAOZZ	5305-01-470-6197	30554	69-662-63	. SCREW, ASSEMBLED WAS	1
3	PAFZZ	PAOZZ	PAOZZ	5920-01-477-0598	30554	98-19734	. FUSE LINK, THERMAL	2
4	PAFZZ	PAOZZ	PAOZZ	4140-01-476-9063	5Y921	559262	. GUARD, FAN IMPELLER	2
5	PAFZZ	PAOZZ	PAOZZ	5310-00-982-6814	80205	MS21044C08	. NUT, SELF-LOCKING, HE	1
6	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT	1
7	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	4
8	PAFZZ	PAOZZ	PAOZZ	6150-01-478-1124	93742	98-19714-01	. CABLE ASSEMBLY, POWE	1
9	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9315	30554	98-19714-02	. CABLE ASSEMBLY, POWE	1
10	PAFZZ	PAOZZ	PAOZZ	5310-00-407-9566	80205	MS35338-45	. WASHER, LOCK	1
11	PAFZZ	PAOZZ	PAOZZ	3305-01-470-1425	30554	88-20260-11	. SCREW, MACHINE	1
12	PAFZZ	PAOZZ	PAOZZ	4140-01-503-3160	30554	98-19512-01	. FAN TUBEAXIAL UOC: LQQ	1
12	PAFZZ	PAOZZ	PAOZZ	4140-01-476-9068	30554	98-19512-02	. FAN VENTILATING, 400 Hz UOC: LQR.....	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0502 COOLING SYSTEM/HI/LO TEMPERATURE SWITCHES

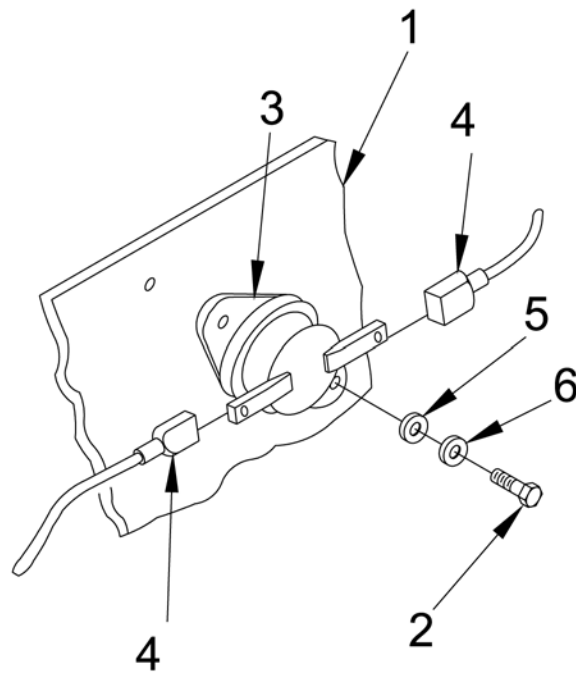


Figure 17. Cooling System/Hi/Lo Temperature Switches.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0502 COOLING SYSTEM/HI/LO TEMPERATURE SWITCHES								
FIG. 17 COOLING SYSTEM/HI/LO TEMPERATURE SWITCHES								
1	PAFZZ	PAOZZ	PAOZZ	5930-01-477-0617	59270	CA-110	. SWITCH, THERMOSTATIC	1
2	PAFZZ	PAOZZ	PAOZZ	5305-00-889-2997	80205	MS35206-215	. SCREW, MACHINE	1
3	PAFZZ	PAOZZ	PAOZZ	5930-01-436-4959	59270	CA-85	. SWITCH, THERMOSTATIC	1
4	PAFFF	PAOOO	PAOOO	6150-01-476-9338	30554	98-19633	. WIRING HARNESS, 60 Hz UOC: LQQ	1
4	PAFFF	PAOFF	PAOFF	6150-01-477-1173	30554	98-19729	. WIRING HARNESS, 400 Hz UOC: LQR.....	1
5	PAFZZ	PAOZZ	PAOZZ	5310-00-582-5965	06845	HK799G16M	. WASHER, LOCK, #1/4, SPLIT CADMIUM	4
6	PAFZZ	PAOZZ	PAOZZ	5310-00-951-4679	96906	MS27183-3	. WASHER, FLAT	4

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 06 FUEL SYSTEM

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

GROUP 06 FUEL SYSTEM

(NOT ILLUSTRATED)

. . FUEL TANK STRAINER
 ASSEMBLY (SEE GROUP 0601
 FOR PARTS BREAKDOWN)
 . . FUEL TANK (SEE GROUP 0602
 FOR PARTS BREAKDOWN)
 . . FUEL-LEVEL ASSEMBLY (SEE
 GROUP 060201 FOR PARTS
 BREAKDOWN)
 . . FUEL-LEVEL SWITCH (SEE
 GROUP 060202 FOR PARTS
 BREAKDOWN)
 . . FUEL TANK PICKUP
 TUBE (SEE GROUP 060203 FOR
 PARTS BREAKDOWN)
 . . PRIMARY FUEL PUMP (SEE
 GROUP 0603 FOR PARTS
 BREAKDOWN)
 . . AUXILIARY FUEL PUMP (SEE
 GROUP 0604 FOR PARTS
 BREAKDOWN)
 . . FUEL FILTER/WATER SEPAR-
 ATOR (SEE GROUP 0605 FOR
 PARTS BREAKDOWN)
 . . AIR CLEANER
 ASSEMBLY (SEE GROUP 0606
 FOR PARTS BREAKDOWN)

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0601 FUEL SYSTEM ASSEMBLY/FUEL TANK STRAINER ASSEMBLY

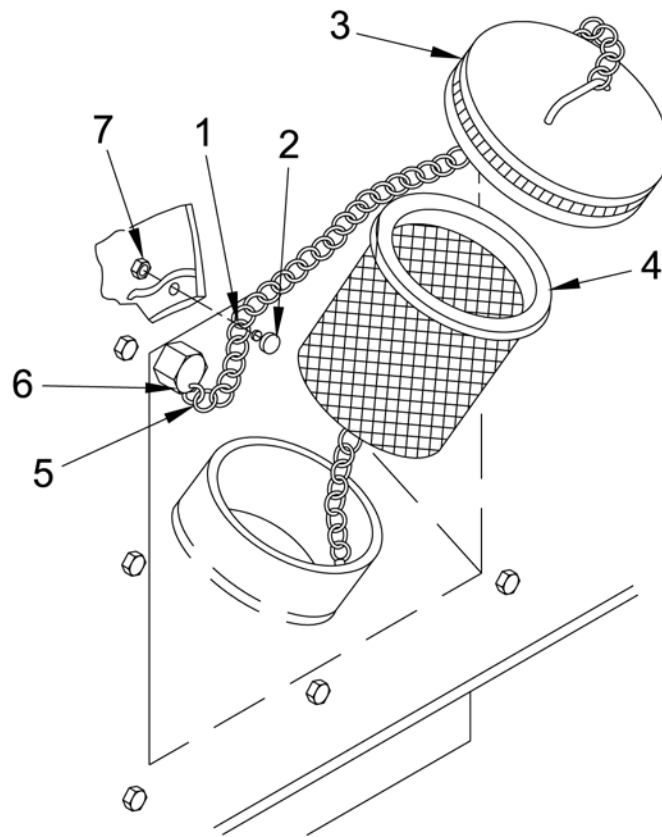


Figure 18. Fuel System Assembly/Fuel Tank Strainer Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

**GROUP 0601 FUEL SYSTEM
ASSEMBLY/FUEL
TANK STRAINER
ASSEMBLY**

**FIG. 18 FUEL SYSTEM
ASSEMBLY/FUEL
TANK STRAINER
ASSEMBLY**

1	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT	1
2	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGON H	1
3	PAFZZ	PAOZZ	PAOZZ	5342-01-198-7569	30554	98-19516	. CAP, FILLER OPENING	1
4	PAFZZ	PAOZZ	PAOZZ	4730-01-476-9855	30554	98-19515	. STRAINER ELEMENT, SE	1
5	XBFZZ	XBOZZ	XBOZZ		81348	SFSIZE1	. CHAIN, SASH	1
6	PAFZZ	PAOZZ	PAOZZ	4030-00-270-5436	96906	MS87006-3	. HOOK, CHAIN S	1
7	PAFZZ	PAOZZ	PAOZZ	5310-00-982-6814	80205	MS21044C08	. NUT, SELF-LOCKING, HE	4

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0602 FUEL SYSTEM ASSEMBLY/FUEL TANK

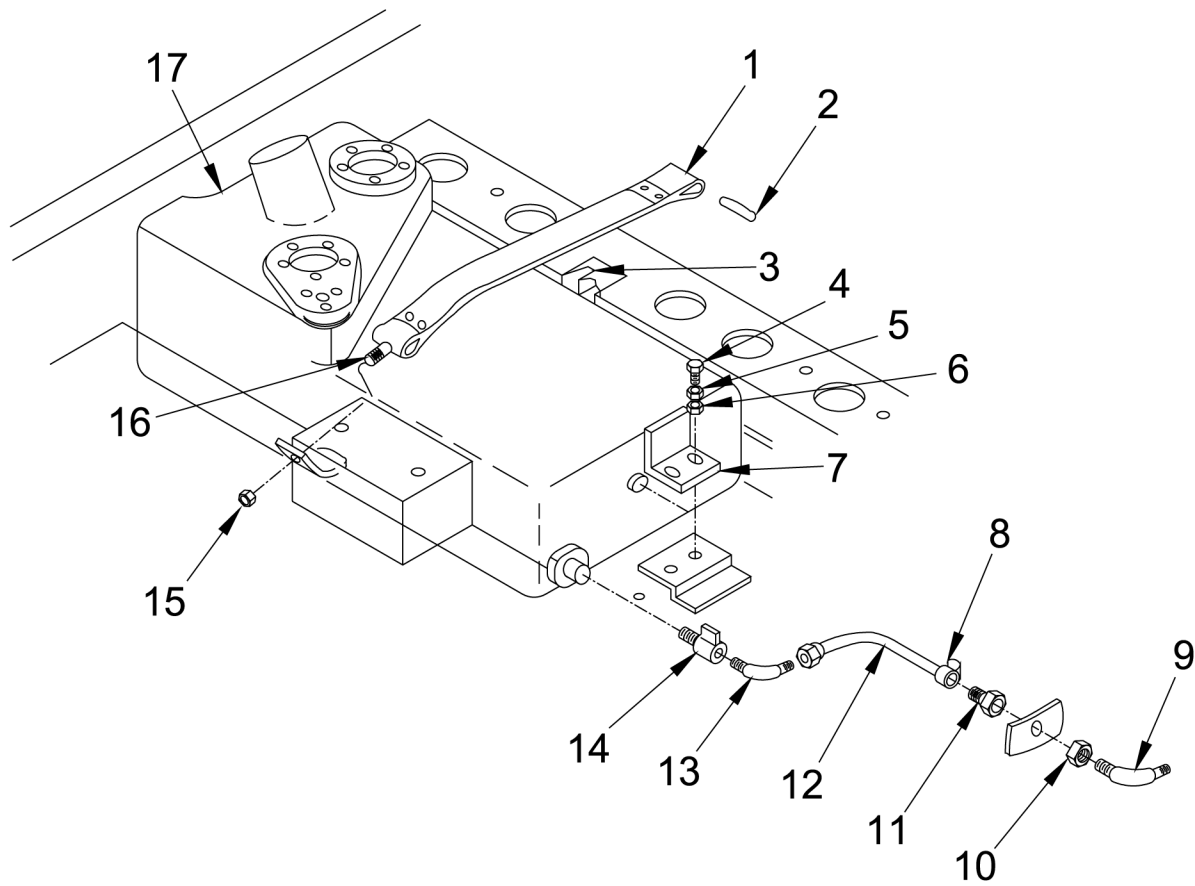


Figure 19. Fuel System Assembly/Fuel Tank.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
GROUP 0602 FUEL SYSTEM ASSEMBLY/FUEL TANK								
FIG. 19 FUEL SYSTEM ASSEMBLY/FUEL TANK								
1	PAFZZ	PAFZZ	PAFZZ	5340-01-476-9144	30554	98-19613	. STRAP, RETAINING	1
2	PAFZZ	PAFZZ	PAFZZ	5315-01-476-9086	30554	98-19703	. PIN, STRAIGHT, HEADLE	1
3	PAFZZ	PAFZZ	PAFZZ	5340-01-476-9147	30554	98-19702	. CLIP, ROD RETAINER	1
4	PAFZZ	PAOZZ	PAOZZ	5306-00-484-5730	1UVT5	307608	. BOLT, MACHINE	2
5	PAFZZ	PAOZZ	PAOZZ	5310-00-543-2410	80205	MS35338-40	. WASHER, LOCK	2
6	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT	2
7	XBFZZ	XBFZZ	XBFZZ		30554	98-19611	. ANGLE, FUEL TANK STO	1
8	PAFZZ	PAFZZ	PAFZZ	4730-01-476-9775	81343	J514	. ELBOW, HOSE	1
9	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1626	30554	88-20561-1	. CLAMP, HOSE	1
10	PAFZZ	PAFZZ	PAFZZ	4730-01-020-5607	96906	MS51860-54	. LOCKNUT, TUBE FITTIN	1
11	PAFZZ	PAOZZ	PAOZZ	4730-00-073-2151	01276	4797-5-4B	. ADAPTER, STRAIGHT, TU	1
12	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98411	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 9.5 INCHES	1
13	PAFZZ	PAFZZ	PAFZZ	4730-01-476-9101	81343	4-4-430260C	. ELBOW, HOSE	1
14	PAFZZ	PAFZZ	PAFZZ	4820-01-477-2791	93061	MV608-4	. VALVE, BALL	1
15	PAFZZ	PAOZZ	PAOZZ	5310-00-997-1888	13499	313-0010-00	. NUT, PLAIN, HEXAGON	1
16	PAFZZ	PAFZZ	PAFZZ	5305-00-984-6218	96906	MS35206-271	. SCREW, MACHINE	1
17	PAFZZ	PAFZZ	PAFZZ	2910-01-557-2674	30554	98-19557	. TANK, FUEL, ENGINE	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 060201 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL-TANK PICKUP TUBE

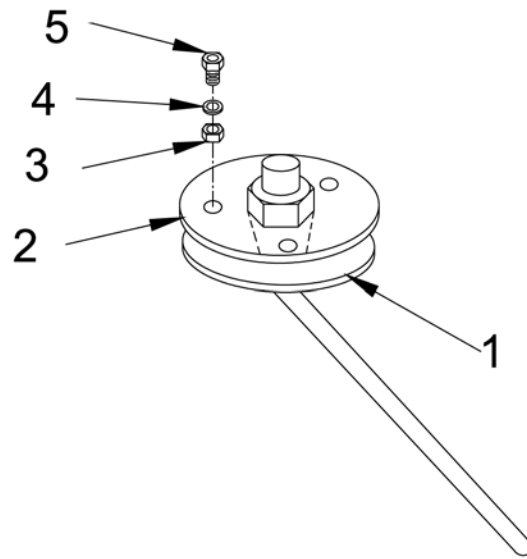


Figure 20. Fuel System Assembly/Fuel Tank/Fuel Tank Pick-Up Tube.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 060201 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL TANK PICK-UP TUBE								
FIG. 20 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL TANK PICK-UP TUBE								
1	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9140	30554	98-19610	. GASKET	1
2	PAFZZ	PAOZZ	PAOZZ	4710-01-478-3637	30554	98-19609	. TUBE ASSY, METAL	1
3	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK	3
4	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	3
5	PAFZZ	PAOZZ	PAOZZ	5305-00-984-6210	05047	ASME B18.6.3	. SCREW, MACHINE	3

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 060202 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL-LEVEL SWITCH

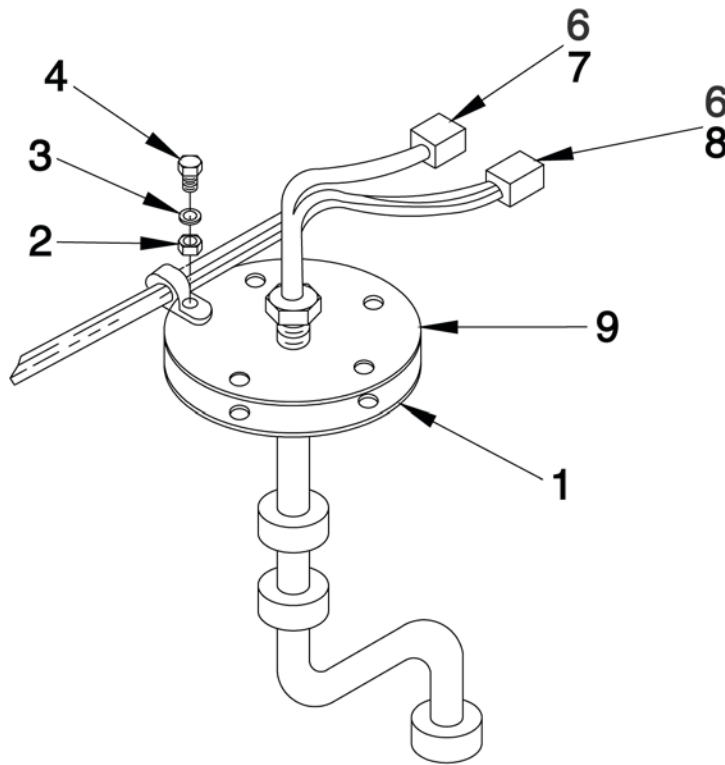


Figure 21. Fuel System Assembly/Fuel Tank/Fuel-Level Switch.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 060202 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL-LEVEL SWITCH								
FIG. 21 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL-LEVEL SWITCH								
1	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9140	30554	98-19610	. GASKET	2
2	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	1
3	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK	1
4	PAFZZ	PAOZZ	PAOZZ	5305-00-984-6210	05047	ASME B18.6.3	. SCREW, MACHINE	1
5	PAFZZ	PAFZZ	PAFZZ	2910-01-476-9779	30554	98-19722	. SWITCH, LIQUID LEVEL (NOT ILLUSTRATED).....	1
6	XBFZZ	XBOZZ	XBOZZ		30554	88-20476	. . CONTACT, ELECTRICAL	2
7	PAFZZ	PAFZZ	PAFZZ	5935-01-053-1955	97403	13229E4181-1	. . CONNECTOR BODY, PLUG	1
8	PAFZZ	PAOZZ	PAOZZ	5935-00-482-7721	27264	03-09-2022	. . CONNECTOR BODY, ELEC	1
9	XBFZZ	XBOZZ	XBOZZ		30554	98-19519	. . CONTACT, ELECTRICAL	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 060203 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL TANK LEVEL SENDER

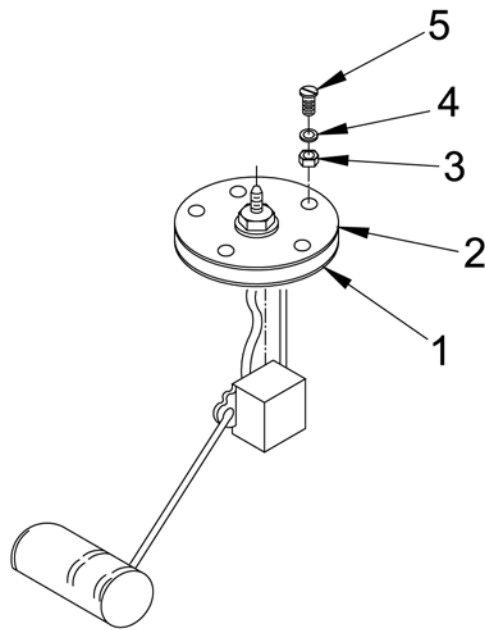


Figure 22. Fuel System Assembly/Fuel Tank/Fuel Tank Level Sender.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 060203 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL TANK LEVEL SENDER								
FIG. 22 FUEL SYSTEM ASSEMBLY/FUEL TANK/FUEL TANK LEVEL SENDER								
1	PAFZZ	PAOZZ	PAOZZ	5330-01-366-2836	30554	88-20286	. GASKET	2
2	PAFZZ	PAOZZ	PAOZZ	6680-01-476-9362	09527	LS4082	. TRANSMITTER, LIQUID	1
3	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	1
4	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK	1
5	PAFZZ	PAOZZ	PAOZZ	5305-00-984-6210	05047	ASME B18.6.3	. SCREW, MACHINE	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0603 FUEL SYSTEM ASSEMBLY/PRIMARY FUEL PUMP

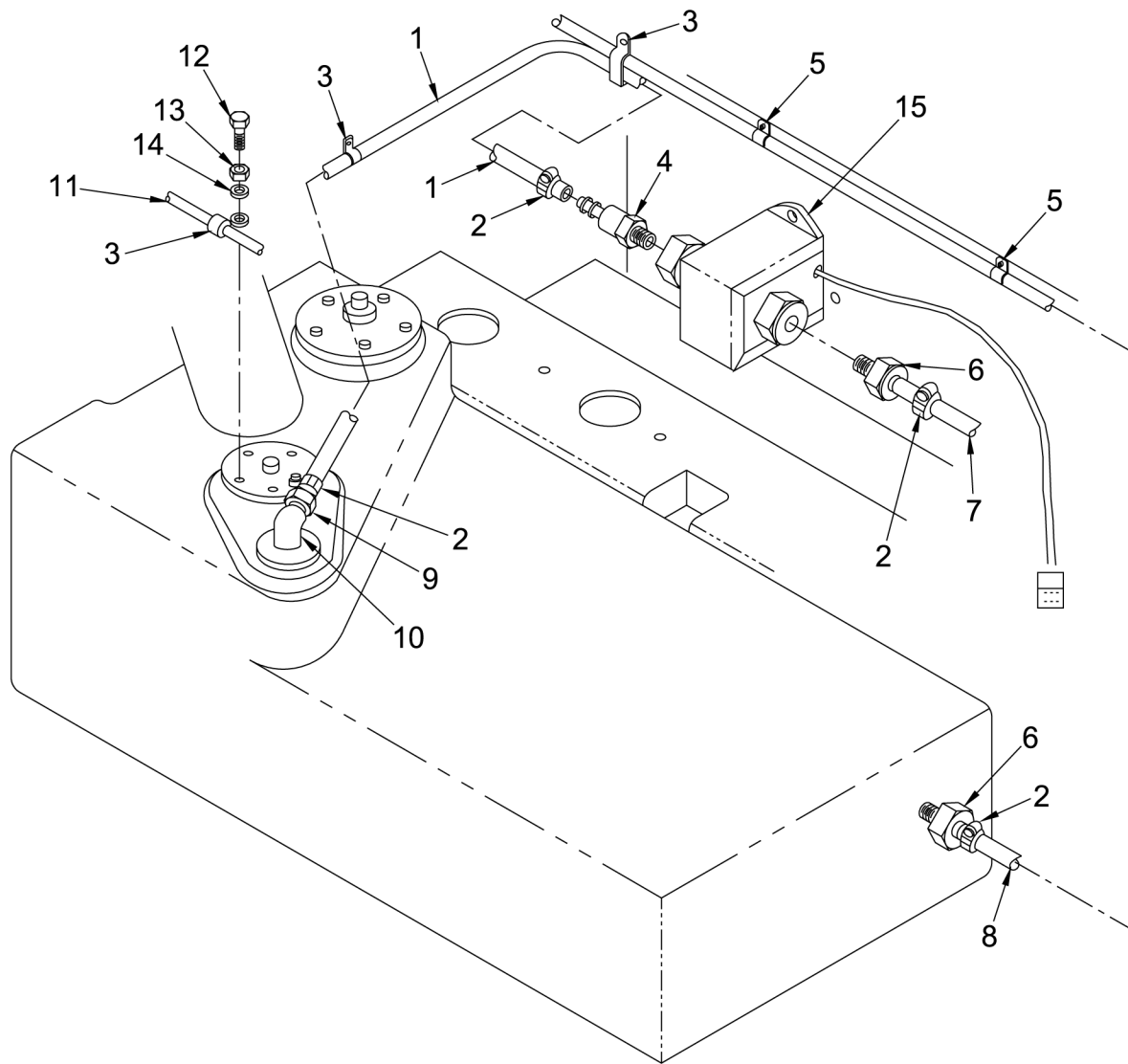


Figure 23. Fuel System Assembly/Primary Fuel Pump.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0603 FUEL SYSTEM ASSEMBLY/PRIMARY FUEL PUMP								
FIG. 23 FUEL SYSTEM ASSEMBLY/PRIMARY FUEL PUMP								
1	MOFZZ	MOOZZ	MOOZZ	4720-01-470-6230	98441	208-5	. HOSE, NONMETALLIC MAKE FROM P/N 208-5 (98441), 18.0 INCHES	1
2	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1626	30554	88-20561-1	. CLAMP, HOSE	4
3	PAFZZ	PAOZZ	PAOZZ	5340-00-929-1794	80205	MS21334-31	. CLAMP, LOOP	2
4	PAFZZ	PAOZZ	PAOZZ	2940-01-365-6535	30554	88-22755	. FILTER BODY, FLUID	1
5	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9004	22175	43LC6-12-SS-R	. STRAP, WEBBING	1
6	PAFZZ	PAOZZ	PAOZZ	4730-00-277-7904	93061	125HBL-5-2	. ADAPTER, STRAIGHT, PI	2
7	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98411	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 14.2 INCHES	1
8	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98411	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 40.0 INCHES	1
9	PAFZZ	PAOZZ	PAOZZ	4730-01-571-1767	30554	98-19744-03	. ADAPTER, STRAIGHT, TUBE TO HOSE	1
10	PAFZZ	PAOZZ	PAOZZ	4730-00-432-2860	81343	SAE J515 4-4 070221	. ELBOW,TUBE	1
11	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1173	30554	98-19729	. WIRING HARNESS	1
12	PAFZZ	PAOZZ	PAOZZ	5305-00-984-6210	05047	ASME B18.6.3	. SCREW, MACHINE	1
13	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	1
14	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK	1
15	PAFZZ	PAOZZ	PAOZZ	2910-01-517-8606	30554	98-19749	. PUMP, FUEL, ELECTRICA	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0604 FUEL SYSTEM ASSEMBLY/AUXILIARY FUEL PUMP

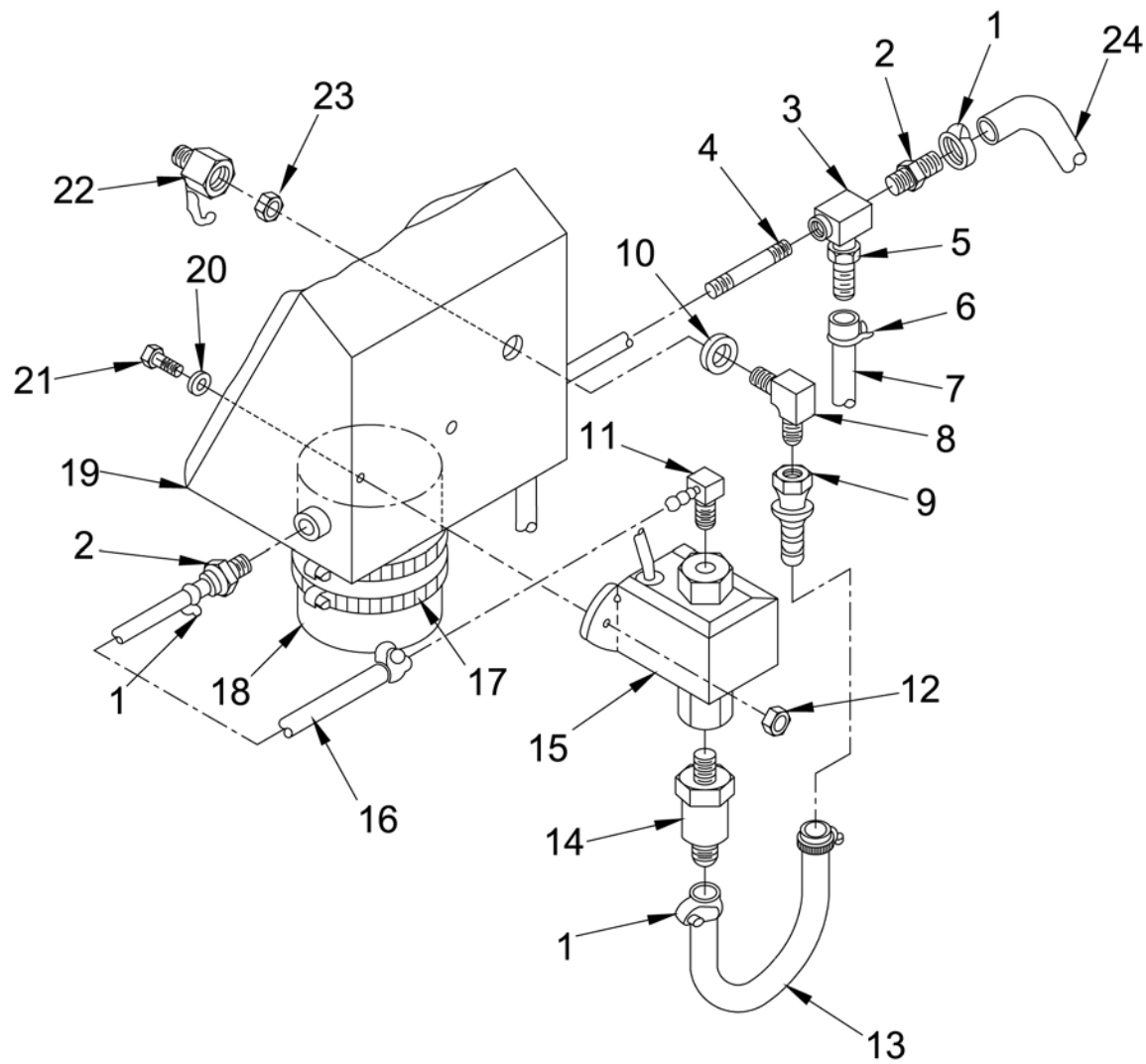


Figure 24. Fuel System Assembly/Auxiliary Fuel Pump.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0604 FUEL SYSTEM ASSEMBLY/AUXILIARY FUEL PUMP								
FIG. 24 FUEL SYSTEM ASSEMBLY/AUXILIARY FUEL PUMP								
1	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1626	30554	88-20561-1	. CLAMP, HOSE	14
2	PAFZZ	PAOZZ	PAOZZ	4730-00-277-7904	93061	125HBL-5-2	. ADAPTER, STRAIGHT, PI	1
3	PAFZZ	PAOZZ	PAOZZ	4730-00-595-1887	81343	J514	. TEE, PIPE	2
4	PAFZA	PAOZA	PAOZA	4730-00-817-6194	81346	ASTM-A733	. NIPPLE, PIPE	1
5	PAFZZ	PAOZZ	PAOZZ	4730-01-463-2091	93061	125 HB-2-2	. ADAPTER, STRAIGHT, PI	1
6	PAFZZ	PAOZZ	PAOZZ	4730-01-476-9921	2V507	5324K81	. CLAMP, HOSE	6
7	XBFZZ	XBOZZ	XBOZZ		30554	98-19736-01	. HOSE, NON-METALLIC	1
8	PAFZZ	PAOZZ	PAOZZ	4730-01-476-9775	81343	J514	. ELBOW, HOSE	1
9	XBFZZ	XBOZZ	XBOZZ	7730-01-407-0649	30554	88-22765	. ADAPTER, STRAIGHT, TU	2
10	PAFZZ	PAOZZ	PAOZZ	5310-01-399-2044	96906	MS14226-64YC816	. WASHER, FLAT	1
11	PAFZZ	PAOZZ	PAOZZ	4730-01-102-6544	81343	SAE J1231-42 431460C	. ELBOW, PIPE TO HOSE	2
12	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	2
13	MOFZZ	MOOZZ	MOOZZ	4720-01-470-6230	98441	208-5	. HOSE, NONMETALLIC MAKE FROM P/N 208-5 (98441), 10.0 INCHES	1
14	PAFZZ	PAOZZ	PAOZZ	2940-01-365-6535	30554	88-22755	. FILTER BODY, FLUID	2
15	PAFFZ	PAOOZ	PAOOZ	2910-01-517-8606	30554	98-19749	. PUMP, FUEL, ELECTRICAL	1
16	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98441	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 12.0 INCHES	1
17	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1423	30554	88-20561-5	. CLAMP, HOSE	1
18	PAFZZ	PAOZZ	PAOZZ	4730-01-553-7181	30554	98-19544	. COLLAR, FLARED, PIPE FIT- TING	1
19	XBFZZ	XBOZZ	XBOZZ		30554	98-19608	. POCKET, FUEL FILL	1
20	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT	1
21	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	1
22	PAFZZ	PAOZZ	PAOZZ	4730-00-812-1333	30554	69-539-2	. CAP, TUBE	1
23	PAFZZ	PAOZZ	PAOZZ	4730-01-020-5607	96906	MS51860-54	. LOCKNUT, TUBE FITTING	1
24	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98441	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 9.0 INCHES	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0605 FUEL SYSTEM ASSEMBLY/FUEL FILTER/WATER SEPARATOR

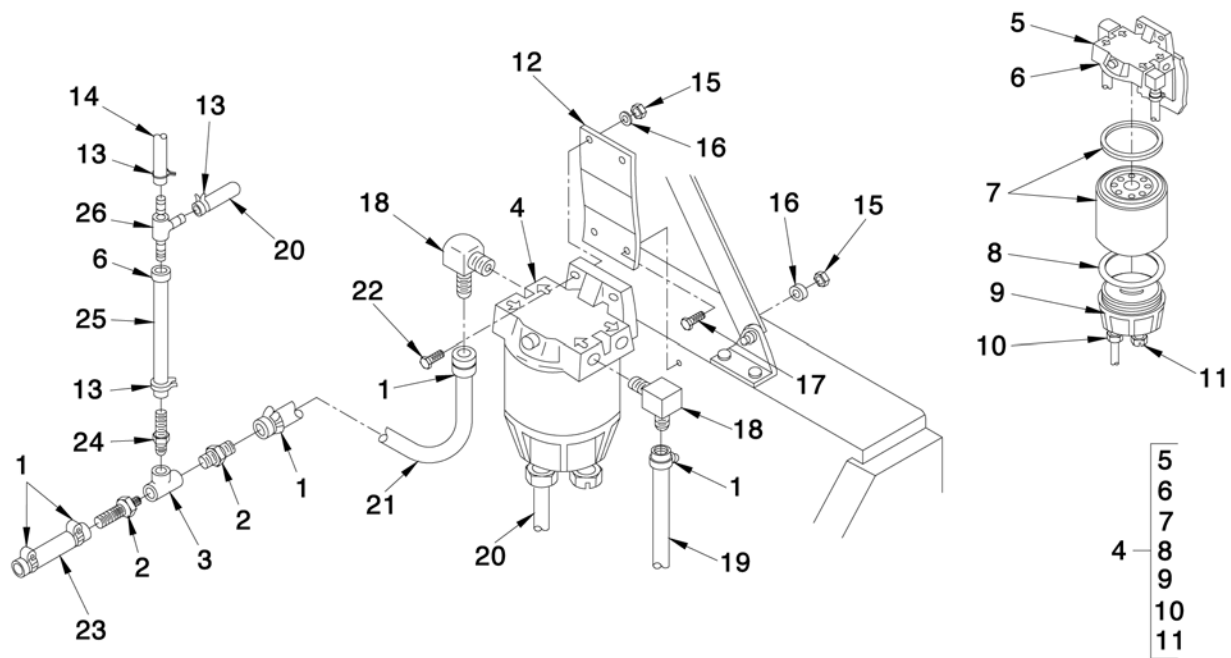


Figure 25. Fuel System Assembly/Fuel Filter/Water Separator.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0605 FUEL SYSTEM ASSEMBLY/FUEL FILTER/WATER SEPARATOR								
FIG. 25 FUEL SYSTEM ASSEMBLY/FUEL FILTER/WATER SEPARATOR								
1	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1626	30554	88-20561-1	. CLAMP, HOSE	5
2	PAFZZ	PAOZZ	PAOZZ	4730-00-277-7904	93061	125HBL-5-2	. ADAPTER, STRAIGHT, PI	2
3	PAFZZ	PAOZZ	PAOZZ	4730-00-595-1887	81343	J514	. TEE, PIPE	1
4	PAFZZ	PAOZZ	PAOZZ	2910-01-477-0840	30554	98-19535	. FILTER, FLUID.....	1
5	XBFZZ	XBOZZ	XBOZZ		55752	RK10214	. . FILTER HEAD	1
6	PAFZZ	PAOZZ	PAOZZ	5305-01-428-6791	55752	RK10110	. . SCREW, MACHINE	1
7	PAFZA	PAOZA	PAOZA	4330-01-374-9147	79396	33583	. . FILTER, ELEMENT, FLUI	1
8	PAFZZ	PAOZZ	PAOZZ	5330-01-373-3649	55752	RK10012	. . GASKET	1
9	PAFZZ	PAOZZ	PAOZZ	2910-01-506-3912	55752	RK10215	. . BOWL, SEDIMENT	1
10	PAFZZ	PAOZZ	PAOZZ	4820-01-474-6910	55752	RK30476	. . DISK, VALVE	1
11	PAFZZ	PAOZZ	PAOZZ	5365-01-395-4744	55752	RK20126	. . PLUG, MACHINE THREAD	1
12	XBFZZ	XBOZZ	XBOZZ		30554	98-19598	. BRACKET, MOUNTING	1
13	PAFZZ	PAOZZ	PAOZZ	4730-01-476-9921	2V507	5324K81	. CLAMP, HOSE	4
14	XBFZZ	XBOZZ	XBOZZ		30554	98-19736-01	. HOSE, NONMETALLIC	4
15	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HE	2
16	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	2
17	PAFZZ	PAOZZ	PAOZZ	5306-00-484-5730	1UVT5	307608	. BOLT, MACHINE	1
18	PAFZZ	PAFZZ	PAFZZ	4730-01-476-9101	81343	4-4-430260C	. ELBOW, HOSE	2
19	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98441	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 14.2 INCHES	1
20	MOFZZ	MOOZZ	MOOZZ	4720-01-470-6230	98441	208-5	. HOSE, NONMETALLIC MAKE FROM P/N 208-5 (98441), 15.7 INCHES	1
21	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98441	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 3.6 INCHES	1
22	PAFZZ	PAOZZ	PAOZZ	5305-01-381-9970	30554	88-20260-34	. SCREW, CAP, HEXAGON HEAD	2
23	MOFZZ	MOOZZ	MOOZZ	4730-01-490-3929	98441	208-4	. HOSE, NONMETALLIC MAKE FROM P/N 208-4 (98441), 3.0 INCHES	1
24	PAFZZ	PAFZZ	PAFZZ	4730-01-463-2091	93061	125 HB-2-2	. ADAPTER, STRAIGHT, PIPE TO PIPE	1
25	XBFZZ	XBOZZ	XBOZZ		30554	98-19736-02	. HOSE, NONMETALLIC	1
26	PAFZZ	PAOZZ	PAOZZ	4730-01-476-9224	0DJN2	0412TEEN	. TEE, TUBE	1
27	PAFZZ	PAOZZ	PAOZZ	4720-01-531-7274	30554	98-19736-03	. HOSE, NONMETALLIC	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0606 FUEL SYSTEM ASSEMBLY/AIR CLEANER ASSEMBLY

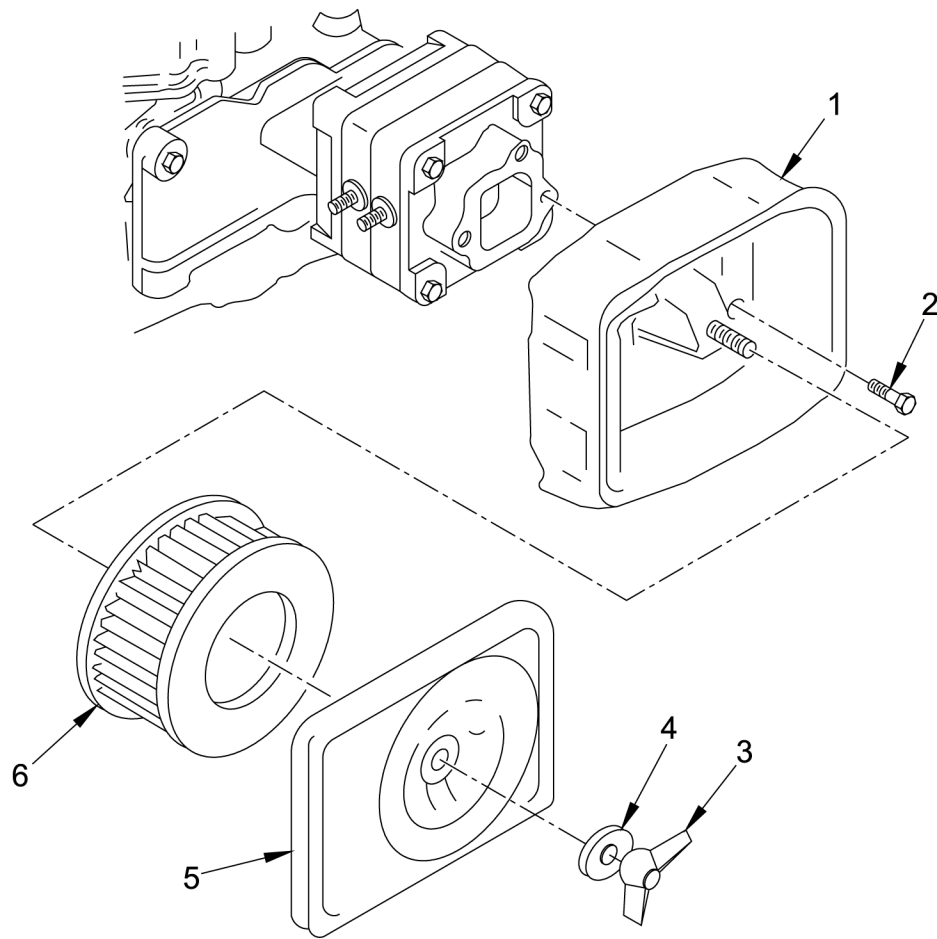


Figure 26. Fuel System Assembly/Air Cleaner Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0606 FUEL SYSTEM ASSEMBLY/AIR CLEANER ASSEMBLY								
FIG. 26 FUEL SYSTEM ASSEMBLY/AIR CLEANER ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	2940-01-389-9942	0AK42	114250-12530	. CASE, AIR CLEANER IN	1
2	PAFZZ	PAOZZ	PAOZZ	5305-01-300-6264	19207	12485434-074	. SCREW, CAP, HEXAGON H	1
3	PAFZZ	PAOZZ	PAOZZ	5310-01-327-0778	0AK42	114250-12550	. NUT, PLAIN, HEXAGON	1
4	PAFZZ	PAOZZ	PAOZZ	5310-01-322-8747	0AK42	114250-12560	. WASHER, SEAL	1
5	PAFZZ	PAOZZ	PAOZZ	5340-01-323-7879	0AK42	114250-12520	. COVER, ACCESS	1
6	PAFZZ	PAOZZ	PAOZZ	2940-01-310-4495	0AK42	114250-12581	. FILTER, ELEMENT, INTA	1
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 07 FRAME AND HOUSING ASSEMBLY

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

GROUP 07 FRAME AND
HOUSING ASSEMBLY

(NOT ILLUSTRATED)

. MAIN ACCESS COVER (SEE
GROUP 0701 FOR PARTS
BREAKDOWN)

. FRAME AND HOUSING PAN-
ELS (SEE GROUP 0702 FOR
PARTS BREAKDOWN)

. FRAME AND LIFTING
HANDLES, LIFTING RINGS (SEE
GROUP 0703 FOR PARTS
BREAKDOWN)

. NATO SLAVE RECEPT-
ACLE (SEE GROUP 0704 FOR
PARTS BREAKDOWN)

. SKID BASE (SEE GROUP 0705
FOR PARTS BREAKDOWN)

. ID PLATES (SEE GROUP 0706
FOR PARTS BREAKDOWN)

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0701 FRAME AND HOUSING ASSEMBLY/MAIN ACCESS COVER

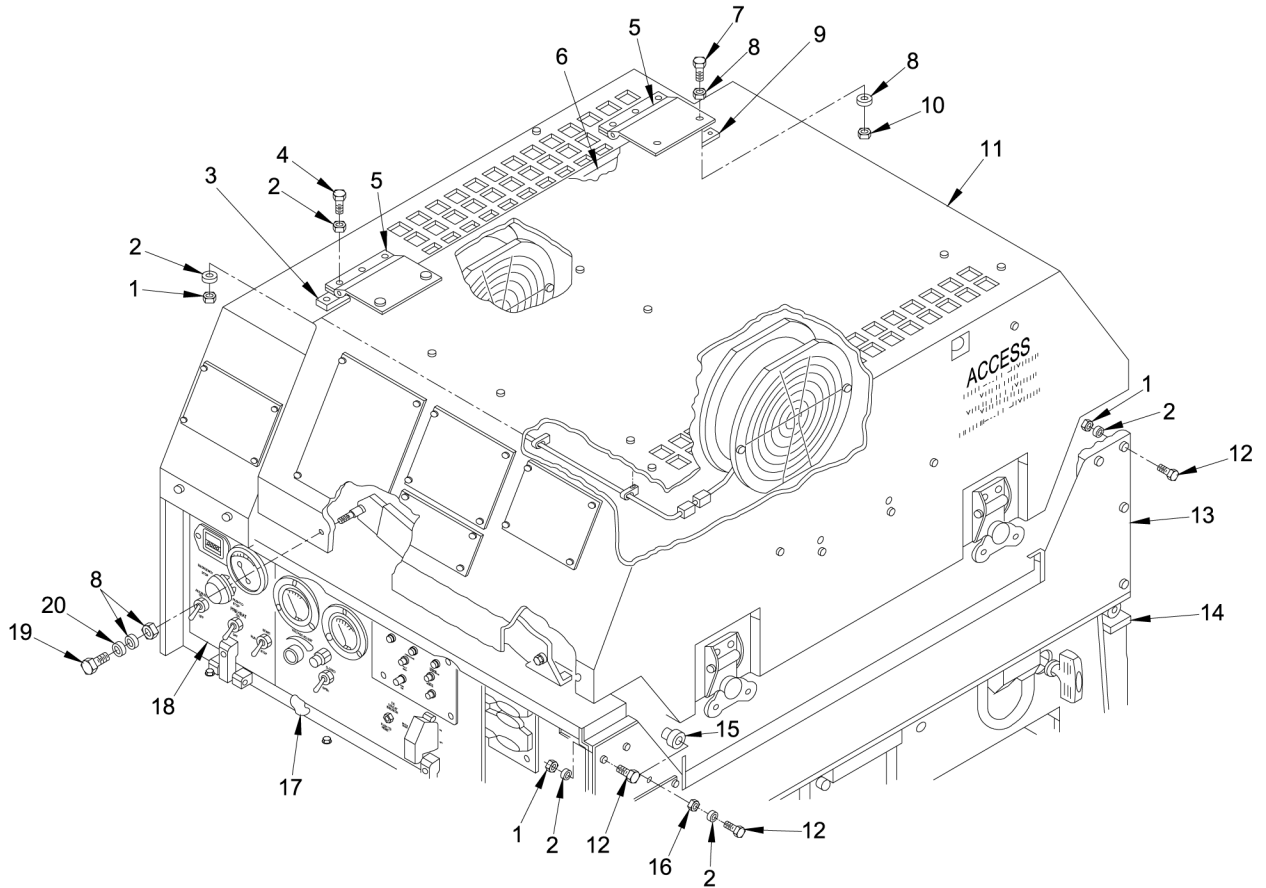


Figure 27. Frame and Housing Assembly/Main Access Cover (Sheet 1 of 4).

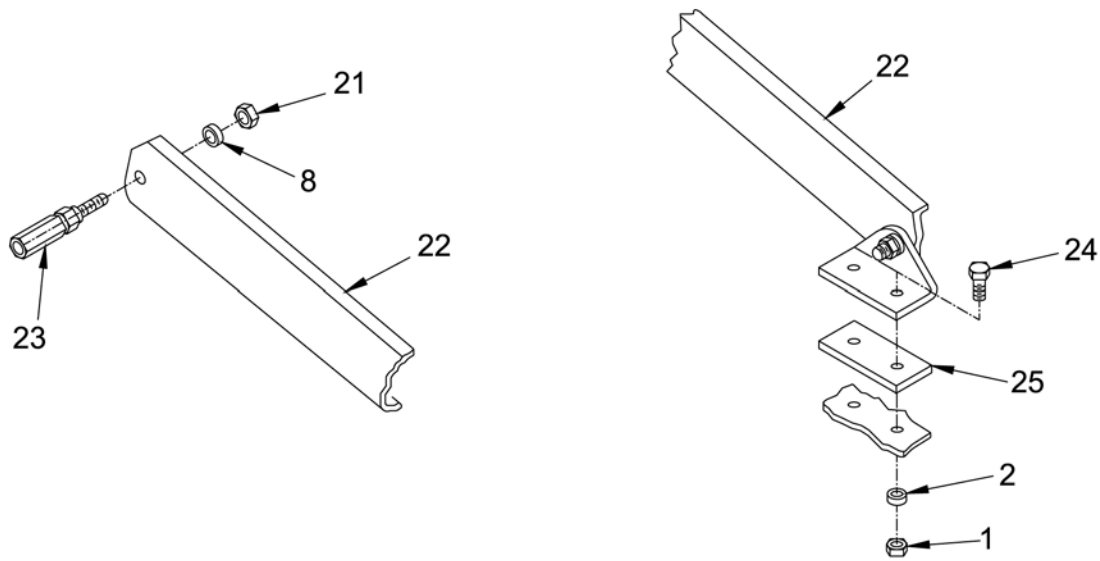


Figure 27. Frame and Housing Assembly/Main Access Cover (Sheet 2 of 4).

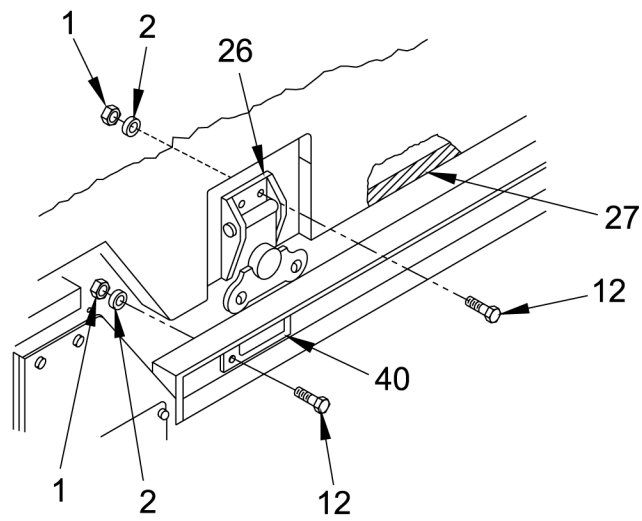


Figure 27. Frame and Housing Assembly/Main Access Cover (Sheet 3 of 4).

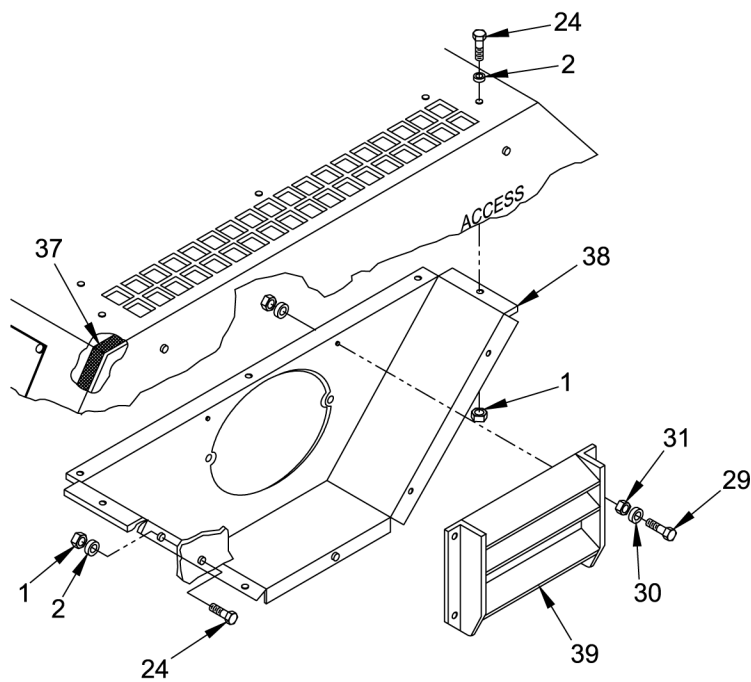
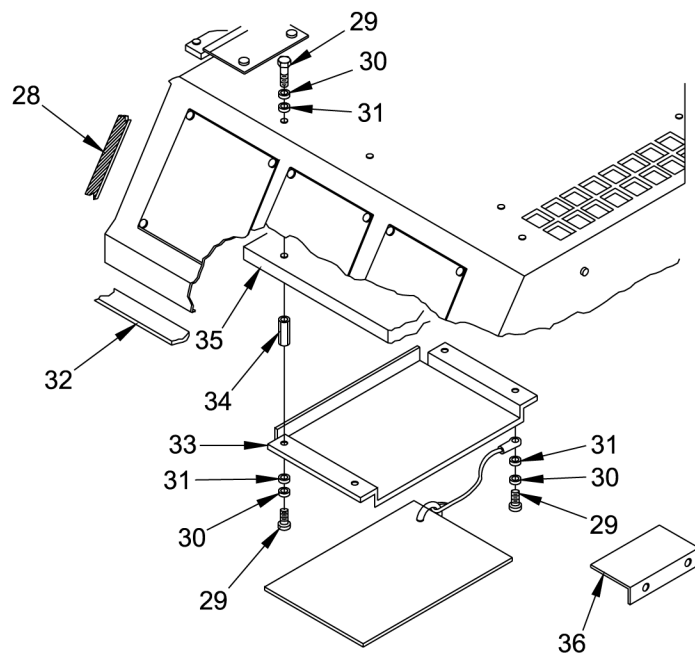


Figure 27. Frame and Housing Assembly/Main Access Cover (Sheet 4 of 4).

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0701 FRAME AND HOUSING ASSEMBLY/MAIN ACCESS COVER (4 SHEETS)								
FIG. 27 FRAME AND HOUSING ASSEMBLY/MAIN ACCESS COVER								
1	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	76
2	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT, .217 ID x .5 OD	128
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19576-01	. GASKET	2
4	PAFZZ	PAOZZ	PAOZZ	5305-01-365-6313	30554	88-20260-23	. SCREW, CAP, HEXAGON HEAD	10
5	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9071	03007	511811-0297	. HINGE, BUTT	2
6	PAFZZ	PAOZZ	PAOZZ	5330-01-367-6329	56329	20941	. SEAL, NONMETALLIC SP	1
7	PAFZZ	PAOZZ	PAOZZ	5305-01-056-1501	24617	274825	. SCREW, CAP, HEXAGON H	1
8	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	58
9	XBFZZ	XBOZZ	XBOZZ		30554	98-19576-02	. GASKET	2
10	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HEXAGON	26
11	XBFZZ	XBOZZ	XBOZZ		30554	98-19560	. COVER, MAIN ACCESS	1
12	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	49
13	XBFZZ	XBOZZ	XBOZZ		30554	98-19578	. PANEL, RIGHT SIDE	1
14	XBFFF	XBFFF	XBFFF		30554	98-19505	. ENGINE/GEN/BASE ASSY (SEE FIG. 30 FOR PARTS BREAKDOWN)	1
15	PAFZZ	PAOZZ	PAOZZ	5940-01-476-9272	30554	98-19718-01	. BATTERY TERMINAL, STUD	1
16	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK, #6, SPLIT, CADMIUM	4
17	PAFZZ	PAOZZ	PAOZZ	5365-01-477-2738	30554	98-19701	. SPACER, PLATE	1
18	XBFFF	XBOOO	XBOOO		30554	98-19509	. CONTROL PANEL ASSEMBLY 60 Hz (SEE FIG. 13 FOR PARTS BREAKDOWN)	1
18	PAFZZ	PAOZZ	PAOZZ	5305-00-993-2738	30554	98-19508	. CONTROL BOX ASSY 400 Hz (SEE FIG. 13 FOR PARTS BREAKDOWN)	2
19	PAFZZ	PAOZZ	PAOZZ	5305-00-993-2738	80205	MS35207-280	. SCREW, MACHINE	2
20	PAFZZ	PAOZZ	PAOZZ	5310-00-543-2410	80205	MS35338-40	. WASHER, LOCK CADMIUM	10
21	PAFZZ	PAOZZ	PAOZZ	5310-00-889-2589	80205	MS21044C4	. NUT, SELF-LOCKING, -28 UNC	2
22	XBFZZ	XBOZZ	XBOZZ		30554	98-19548	. PLATE, METAL	2
23	PAFZZ	PAOZZ	PAOZZ	3040-00-374-5732	04627	120456	. BALL JOINT	2
24	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGON H	54
25	XBFZZ	XBOZZ	XBOZZ		30554	98-19621	. SPACER	2
26	PAFZZ	PAOZZ	PAOZZ	5340-01-464-8407	94222	K5-285752	. CATCH, CLAMPING	2
27	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9106	30554	98-19645-03-201	. GASKET	2
28	PAFZZ	PAOZZ	PAOZZ	5330-01-477-9623	59502	4119NX0108E05	. GASKET	1

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
29	PAFZZ	PAOZZ	PAOZZ	5305-01-470-1425	30554	88-20260-11	. SCREW, MACHINE	18
30	PAFZZ	PAOZZ	PAOZZ	5310-00-407-9566	80205	MS35338-45	. WASHER, LOCK	22
31	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT	30
32	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9106	30554	98-19645-03-201	. GASKET	2
33	XBFZZ	XBOZZ	XBOZZ		30554	98-19548	. PLATE, METAL	1
34	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9030	30554	98-19727	. STANDOFF, THREADED, S	4
35	XBFZZ	XBOZZ	XBOZZ		30554	98-19603	. INSULATION, ACOUSTIC	1
36	PAFZZ	PAOZZ	PAOZZ	5340-01-477-9625	30554	98-19735	. BRACKET, MOUNTING	1
37	XBFZZ	XBOZZ	XBOZZ		30554	98-19603	. INSULATION, ACOUSTIC	1
38	XBFZZ	XBOZZ	XBOZZ		30554	98-19561	. PANEL, AIR, OUTLET	1
39	XBFZZ	XBOZZ	XBOZZ		30554	98-19584	. LOUVER, RAIN, DEFLECT	2
40	XBFZZ	XBOZZ	XBOZZ		30554	98-19577	. PLATE, METAL	2

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0702 FRAME AND HOUSING ASSEMBLY/FRAME AND HOUSING PANELS

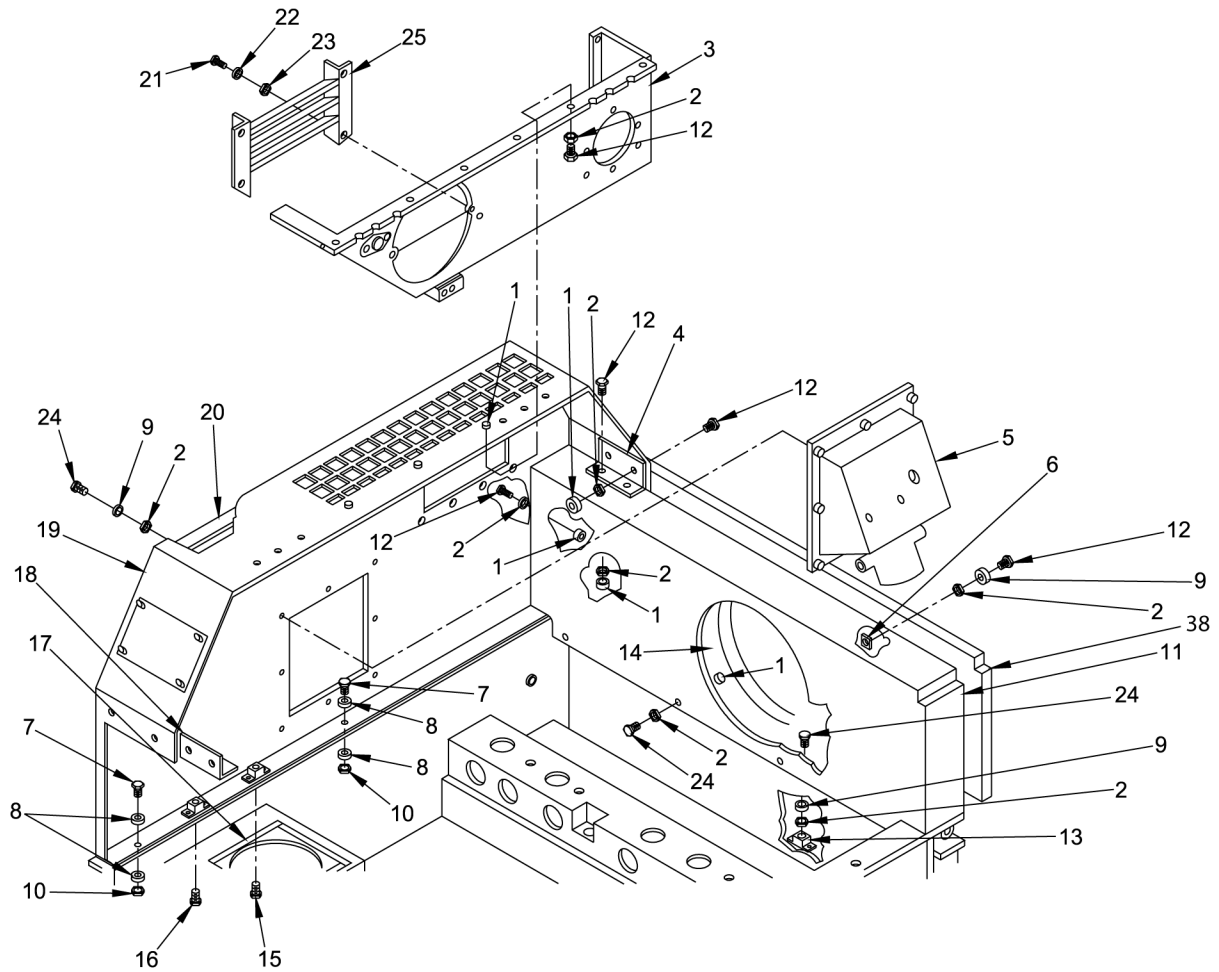


Figure 28. Frame and Housing Assembly/Frame and Housing Panels (Sheet 1 of 2).

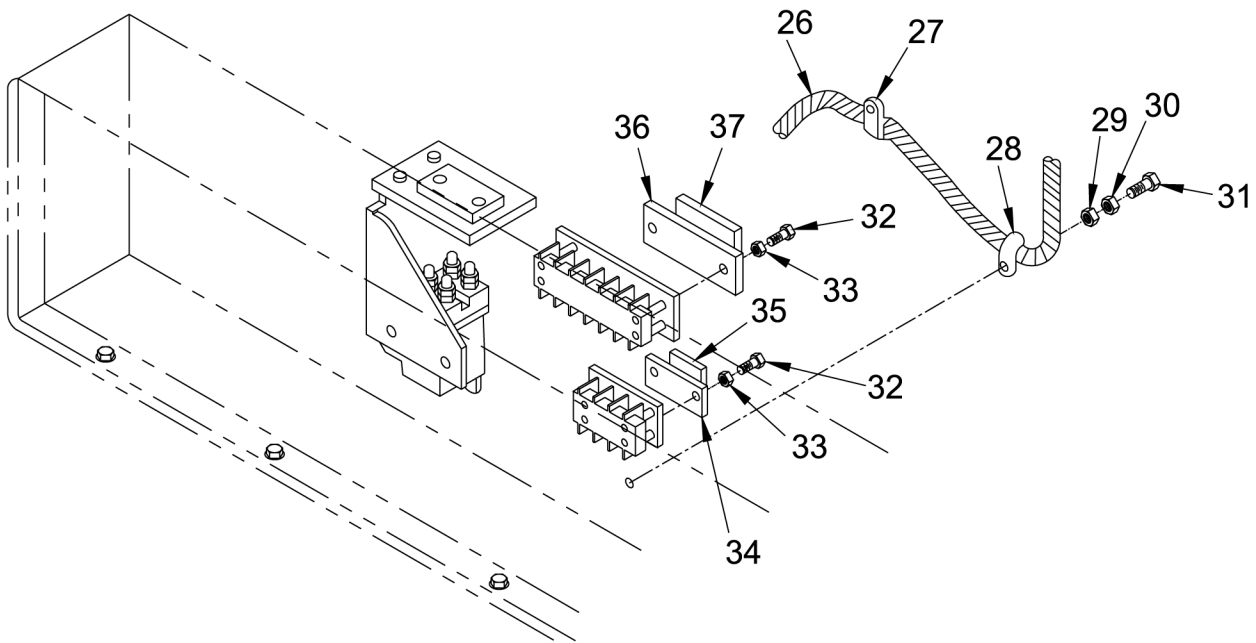


Figure 28. Frame and Housing Assembly/Frame and Housing Panels (Sheet 2 of 2).

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0702 FRAME AND HOUSING ASSEMBLY/FRAME AND HOUSING PANELS (2 SHEETS)								
FIG. 28 FRAME AND HOUSING ASSEMBLY/FRAME AND HOUSING PANELS								
1	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	5
2	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT	8
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19573	. PANEL, AIR, OUTLET	1
4	XBFZZ	XBOZZ	XBOZZ		30554	98-19581-02	. BRACKET, MOUNTING	1
5	XBFZZ	XBOZZ	XBOZZ		30554	98-19608	. POCKET, FUEL FILL	1
6	PAFZZ	PAOZZ	PAOZZ	5310-00-903-8595	78553	D07931-1032-3B	. NUT, PLAIN, CINCH	90
7	PAFZZ	PAOZZ	PAOZZ	5305-01-056-1501	24617	274825	. SCREW, CAP, HEXAGON HEAD	2
8	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	4
9	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK, #6, SPLIT, CAD	3
10	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HEAD	2
11	XBFZZ	XBOZZ	XBOZZ		30554	98-19564	. PANEL, AIR INLET	1
12	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	5
13	PAFZZ	PAOZZ	PAOZZ	5310-01-366-8134	78553	C7941-1032-3B	. NUT, PLAIN, SQUARE	4
14	XBFZZ	XBOZZ	XOZZ		30554	98-19564	. PANEL, AIR INLET	1
15	PAFZZ	PAOZZ	PAOZZ	5306-00-484-5730	1UVT5	307608	. BOLT, MACHINE	1
16	PAFZZ	PAOZZ	PAOZZ	5305-01-470-6197	30554	69-662-63	. SCREW, ASSEMBLED, WASHER	2
17	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9106	30554	98-19645-03-201	. GASKET	4
18	XBFZZ	XBOZZ	XBOZZ		30554	98-19581-01	. BRACKET, MOUNTING	1
19	XBFZZ	XBOZZ	XBOZZ		30554	98-19570	. PANEL, LEFT SIDE	1
20	XBFZZ	XBOZZ	XBOZZ		30554	98-19623	. INSULATION, ACOUSTIC	1
21	PAFZZ	PAOZZ	PAOZZ	5305-01-470-1425	30554	88-20260-11	. SCREW, MACHINE	1
22	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT	1
23	PAFZZ	PAOZZ	PAOZZ	5310-00-407-9566	80205	MS35338-45	. WASHER, LOCK	1
24	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGON HEAD	2
25	XBFZZ	XBOZZ	XBOZZ		30554	98-19584	. LOUVER, RAIN, DEFLECT	1
26	PAFZZ	PAOZZ	PAOZZ	6150-01-476-9338	30554	98-19633	. HARNESS, WIRING, 60 Hz UOC: LQQ	1
26	PAFZZ	PAOZZ	PAOZZ	6150-01-477-1173	30554	98-19729	. HARNESS, WIRING (400 Hz) UOC: LQR.....	1
27	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9006	22175	43LC6-8-SZ-R	. CLAMP, LOOP	1
28	PAFZZ	PAOZZ	PAOZZ	5340-00-843-7825	80205	MS21333-68	. CLAMP, LOOP	1
29	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT	1
30	PAFZZ	PAOZZ	PAOZZ	5310-00-407-9566	80205	MS35338-45	. WASHER, LOCK	1
31	PAFZZ	PAOZZ	PAOZZ	5305-01-470-1425	30554	88-20260-11	. SCREW, MACHINE	1

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
32	PAFZZ	PAOZZ	PAOZZ	5305-00-036-6968	78189	61-060641-40-0142B0542B	. WASHER, FLAT	4
33	PAFZZ	PAOZZ	PAOZZ	5310-00-983-8489	96906	MS21783-5	. WASHER, FLAT	4
34	XBFZZ	XBOZZ	XBOZZ		30554	98-19709-01	. LABEL, CAUTION	1
35	XBFZZ	XBOZZ	XBOZZ		30554	98-19725-01	. COVER, PROTECTIVE	1
36	XBFZZ	XBOZZ	XBOZZ		30554	98-19725-02	. COVER, PROTECTIVE	1
37	XBFZZ	XBOZZ	XBOZZ		15563	98-19709-02	. LABEL, CAUTIONS	1
38	XBFZZ	XBOZZ	XBOZZ		30554	98-19565	. COVER, AIR INLET	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)
GROUP 0703 FRAME AND HOUSING ASSEMBLY/FRAME AND LIFTING HANDLES, LIFTING RINGS

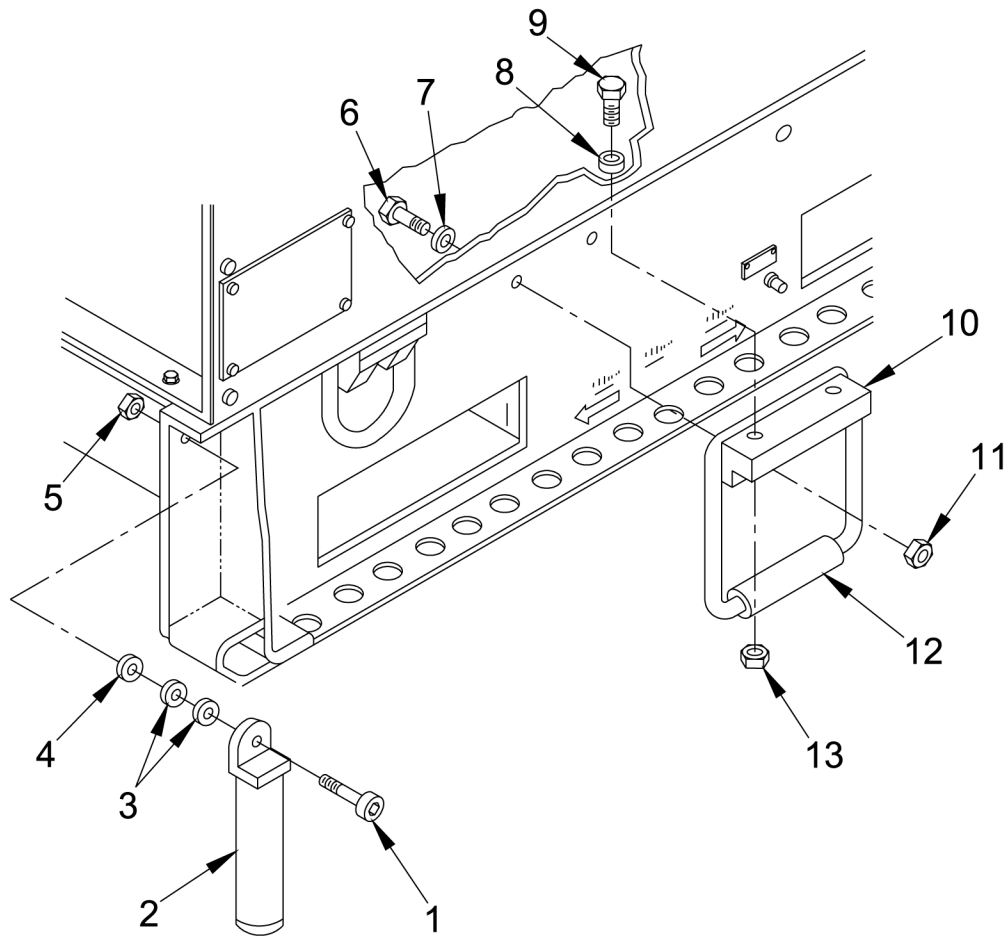


Figure 29. Frame and Housing Assembly/Frame and Lifting Handles, Lifting Rings.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0703 FRAME AND HOUSING ASSEMBLY/FRAME AND LIFTING HANDLES, LIFTING RINGS								
FIG. 29 FRAME AND HOUSING ASSEMBLY/FRAME AND LIFTING HANDLES, LIFTING RINGS								
1	PAFZZ	PAOZZ	PAOZZ	5305-01-476-9077	2V507	90298A709	. SCREW, SHOULDER	4
2	XBFZZ	XBOZZ	XBOZZ		30554	98-19615	. HANDLE, LIFTING	4
3	PAFZZ	PAOZZ	PAOZZ	5310-01-243-9441	39428	92161A033	. WASHER, SPRING TENSION	4
4	PAFZZ	PAOZZ	PAOZZ	5310-01-306-1624	96906	MS27183-58	. WASHER, FLAT	4
5	PAFZZ	PAOZZ	PAOZZ	5310-01-366-4412	08928	21NTE616	. NUT, SELF-LOCKING, HEAD	4
6	PAFZZ	PAOZZ	PAOZZ	5305-01-365-6313	30554	88-20260-23	. SCREW, CAP, HEXAGON, HEAD	4
7	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	4
8	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	4
9	PAFZZ	PAOZZ	PAOZZ	5310-01-056-1501	24617	274825	. SCREW, CAP, HEXAGON, HEAD	4
10	XBFZZ	XBOZZ	XBOZZ		30554	98-19556	. BRACKET, MOUNTING	2
11	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HE	4
12	XBFZZ	XBOZZ	XBOZZ		30554	98-19555	. HANDLE, LIFTING, SIDE	2
13	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HEX	4

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0704 FRAME AND HOUSING ASSEMBLY/NATO SLAVE RECEPTACLE

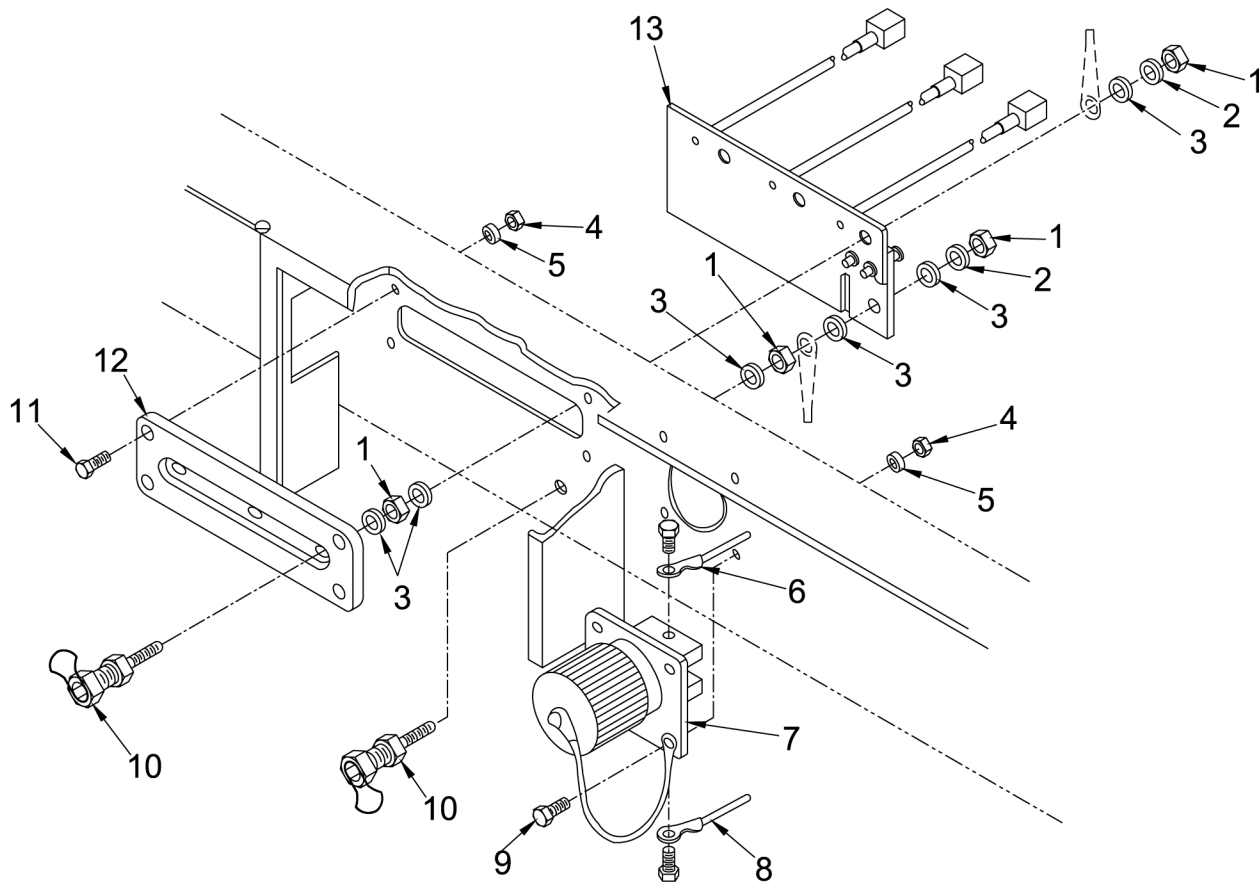


Figure 30. Frame and Housing Assembly/NATO Slave Receptacle.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0704 FRAME AND HOUSING ASSEMBLY/NATO SLAVE RECEPTACLE								
FIG. 30 FRAME AND HOUSING ASSEMBLY/NATO SLAVE RECEPTACLE								
1	PAFZZ	PAOZZ	PAOZZ	5310-00-850-6855	96906	MS35691-12	. NUT, PLAIN HEXAGON	4
2	PAFZZ	PAOZZ	PAOZZ	5310-01-477-9621	30554	88-20556-6	. WASHER, LOCK	4
3	PAFZZ	PAOZZ	PAOZZ	5310-00-081-4219	96906	MS27183-12	. WASHER, FLAT	5
4	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	8
5	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	8
6	PAFZZ	PAOZZ	PAOZZ	6150-01-476-8666	30554	98-19596	. LEAD, ELECTRICAL	1
7	PAFZZ	PAOZZ	PAOZZ	5935-01-097-9974	19207	11674728	. CONNECTOR RECEPTACLE	1
8	PAFZZ	PAOZZ	PAOZZ	6150-01-476-8673	30554	98-19595	. LEAD, ELECTRICAL	1
9	PAFZZ	PAOZZ	PAOZZ	5305-01-464-6667	30554	88-22793-4	. SCREW, MACHINE	8
10	PAFZZ	PAOZZ	PAOZZ	5940-00-234-3383	30554	69-692-6	. TERMINAL STUD	4
11	PAFZZ	PAOZZ	PAOZZ	5305-00-993-1848	80205	MS35207-265	. SCREW, MACHINE	4
12	XBFZZ	XBOZZ	XBOZZ		30554	19740	. BOARD, LOAD	1
13	PAFZZ	PAOZZ	PAOZZ	5915-01-477-9756	60177	29440	. FILTER, ASSEMBLY, ELE	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0705 FRAME AND HOUSING ASSEMBLY/SKID BASE

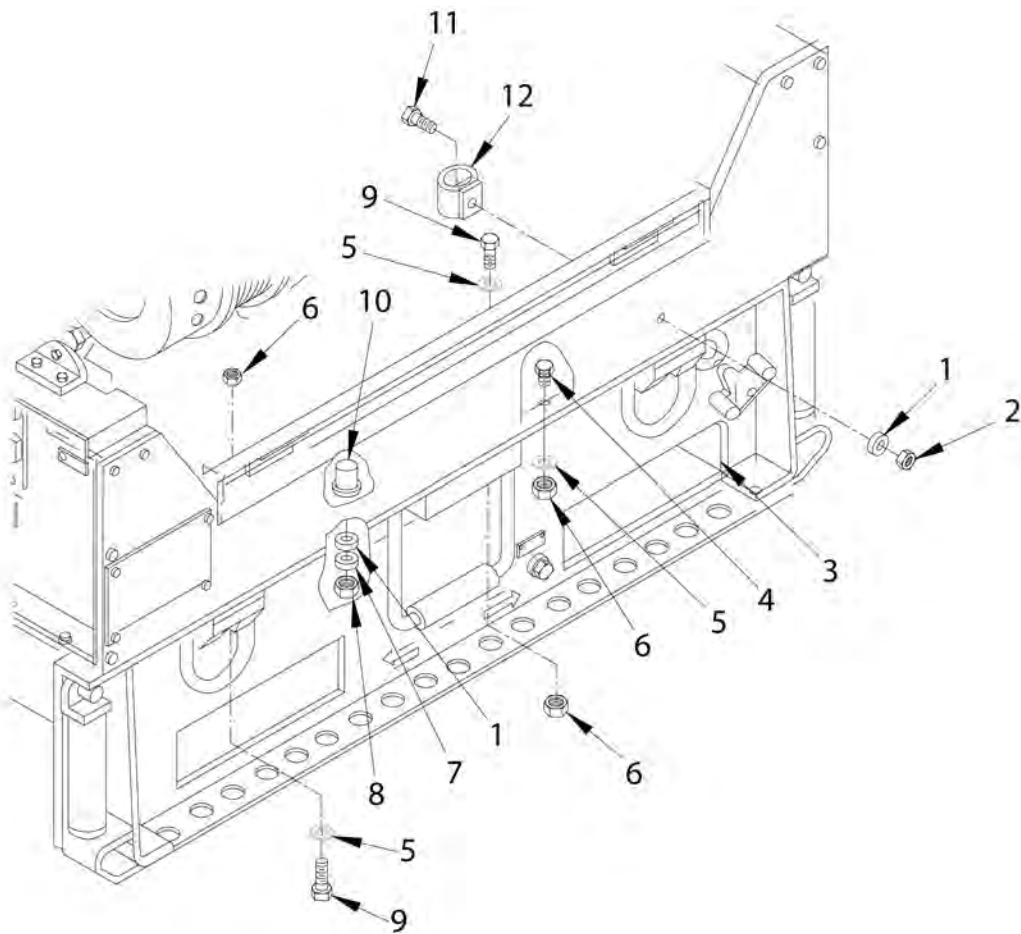


Figure 31. Frame and Housing Assembly/Skid Base.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0705 FRAME AND HOUSING ASSEMBLY/SKID BASE								
FIG. 31 FRAME AND HOUSING ASSEMBLY/SKID BASE								
1	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-2	. WASHER, FLAT	2
2	PAFZZ	PAOZZ	PAOZZ	5310-00-208-9255	80205	MS21044C3	. NUT, SELF-LOCKING, HEXAGON	1
3	PAFZZ	PAOZZ	PAOZZ		30554	98-19655	. INSULATION, ACOUSTIC	1
4	PAFZZ	PAOZZ	PAOZZ	5305-01-056-1501	24617	274825	. SCREW, CAP, HEXAGON HEAD	1
5	PAFZZ	PAOZZ	PAOZZ	5310-00-809-4058	96906	MS27183-10	. WASHER, FLAT, CAD	3
6	PAFZZ	PAOZZ	PAOZZ	5310-00-685-2973	94135	12Z2007-260	. NUT, SELF-LOCKING, HEX	3
7	PAFZZ	PAOZZ	PAOZZ	5320-00-932-1972	81349	M24243/6A-402H	. RIVET, BLIND	2
8	PAFZZ	PAOZZ	PAOZZ	5940-01-476-9267	93742	98-19718-02	. TERMINAL, STUD	1
9	PAFZZ	PAOZZ	PAOZZ	5305-01-476-9033	30554	88-20260-36	. SCREW, CAP, HEXAGON H	8
10	XBFZZ	XBOZZ	XBOZZ		30554	98-19717	. INSULATION	1
11	PAFZZ	PAOZZ	PAOZZ	5306-01-156-7663	19207	12325869	. BOLT, MACHINE	1
12	PAFZZ	PAOZZ	PAOZZ	5340-01-476-9028	30554	98-19546	. STRAP, WEBBING	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0706 FRAME AND HOUSING ASSEMBLY/ID PLATES

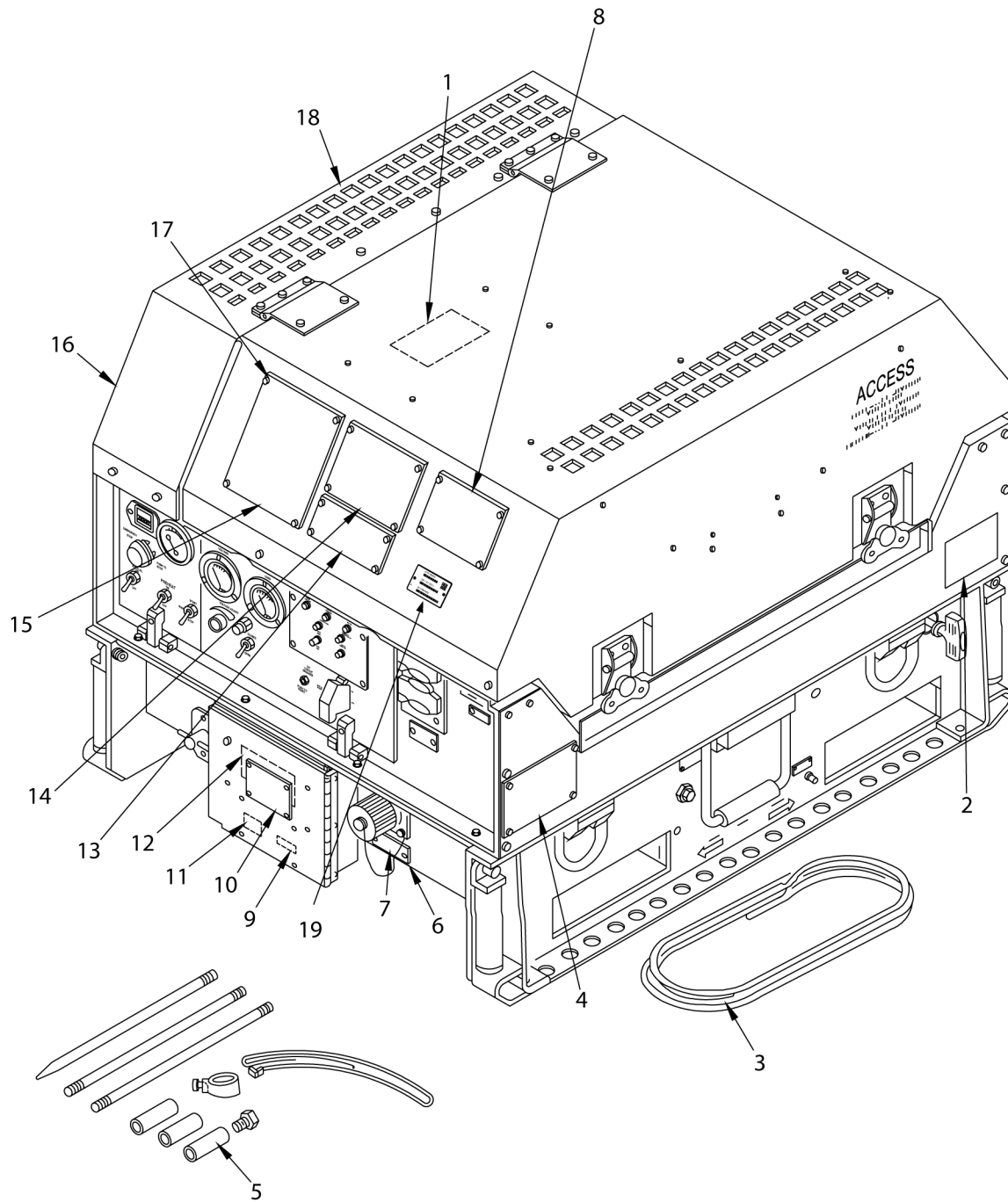


Figure 32. Frame and Housing Assembly/ID Plates.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0706 FRAME AND HOUSING ASSEMBLY/ID PLATES								
FIG. 32 FRAME AND HOUSING ASSEMBLY/ID PLATES								
1	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-11	. PLATE, IDENTIFICATION	1
2	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-23	. PLATE, IDENTIFICATION	1
3	PAFZZ	PAOZZ	PAOZZ	4720-00-021-3320	00624	FA1493FFF3000	. HOSE ASSEMBLY, NONMETAL- LIC	1
4	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-12	. PLATE, IDENTIFICATION	1
5	PAFZZ	PAOZZ	PAOZZ	5975-00-878-3791	58536	AA55804-3B9FT	. ROD, GROUND	1
6	PAFZZ	PAOZZ	PAOZZ	5320-00-882-8388	81349	M24243/6-A403H	. RIVET, BLIND	24
7	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-03	. PLATE, IDENTIFICATION	1
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-16	. PLATE, IDENTIFICATION UOC: LQQ	1
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19589-17	. PLATE, IDENTIFICATION UOC: LQR.....	1
9	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-05	. PLATE, IDENTIFICATION	1
10	XBFZZ	XBOZZ	XBOZZ		30554	98-19709-01	. LABEL, CAUTION	1
11	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-20	. PLATE, IDENTIFICATION	1
12	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-25	. PLATE, IDENTIFICATION	1
13	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-09	. PLATE, CAUTION	1
14	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-21	. PLATE, IDENTIFICATION UOC: LQQ	1
14	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-22	. PLATE, IDENTIFICATION UOC: LQR.....	1
15	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-15	. PLATE, INSTRUCTION	1
16	XCFFF	XCOFF	XCOFF		30554	98-19503	. GENERATOR SET ASSEM 60 Hz UOC: LQQ	1
16	XCFFF	XCOFF	XCOFF		30554	98-19504	. GENERATOR SET ASSEM 400 Hz, UOC: LQR.....	1
17	PAFZZ	PAOZZ	PAOZZ	5320-00-932-1972	81349	M24243/6-A402H	. RIVET, BLIND	34
18	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-07	. PLATE, IDENTIFICATION	1
19	XBFZZ	XBOZZ	XBOZZ		30554	88-22842-17	. PLATE, IDENTIFICATION, 60 Hz UOC: LQQ	1
19	XBFZZ	XBOZZ	XBOZZ		30554	88-22842-18	. PLATE, IDENTIFICATION, 400 Hz UOC: LQR.....	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 08 LUBRICATION SYSTEM

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

GROUP 08 LUBRICATION
SYSTEM

(NOT ILLUSTRATED)

. OIL DRAIN ASSEMBLY (SEE
GROUP 0801 FOR PARTS
BREAKDOWN)

. OIL PRESSURE SWITCH (SEE
GROUP 0802 FOR PARTS
BREAKDOWN)

. ENGINE OIL TEMPERATURE
SWITCH (SEE GROUP 0803 FOR
PARTS BREAKDOWN)

. OIL FILTER (SEE GROUP 0804
FOR PARTS BREAKDOWN)

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0801 LUBRICATION SYSTEM/OIL DRAIN ASSEMBLY

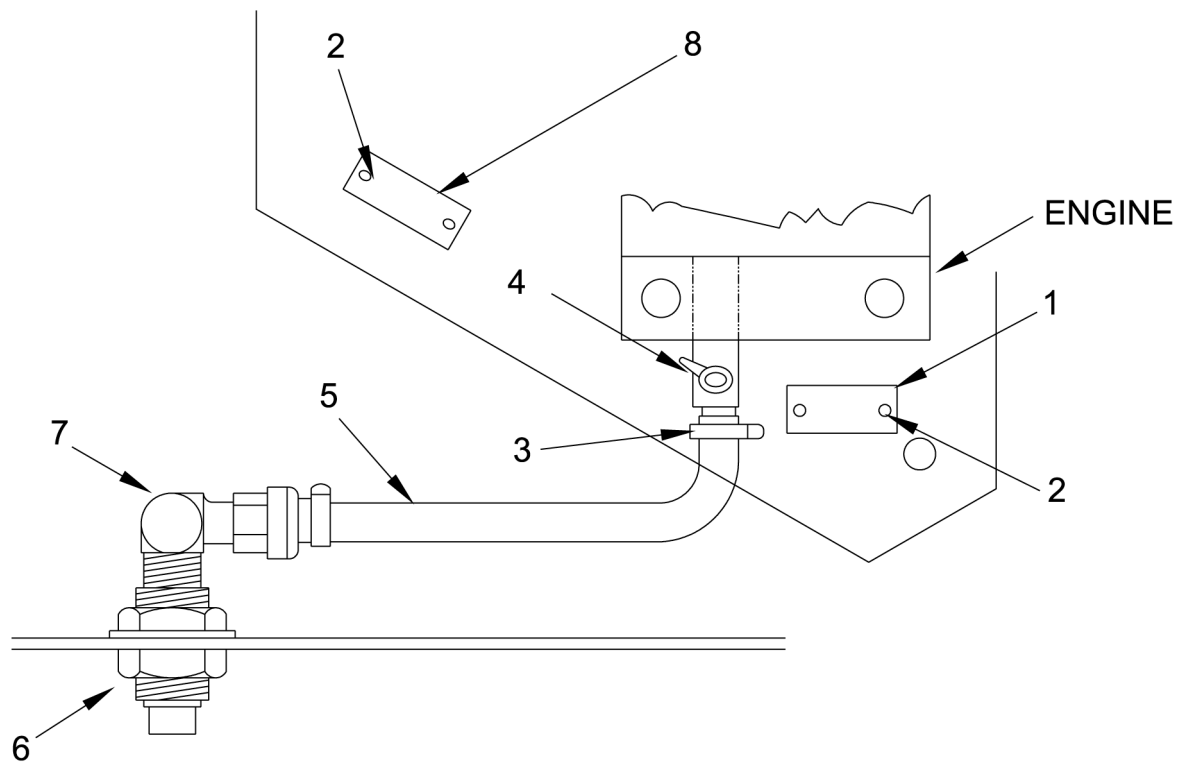


Figure 33. Lubrication System/Oil Drain Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0801 LUBRICATION SYSTEM/OIL DRAIN ASSEMBLY								
FIG. 33 LUBRICATION SYSTEM/OIL DRAIN ASSEMBLY								
1	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-02	. PLATE, IDENTIFICATION	1
2	PAFZZ	PAOZZ	PAOZZ	5320-00-882-8386	81349	M24243/6-A403H	. RIVET, BLIND	4
3	PAFZZ	PAOZZ	PAOZZ	4730-01-470-1626	30554	88-20561-1	. CLAMP, HOSE	1
4	PAFZZ	PAOZZ	PAOZZ	4820-01-476-9731	046Z0	F108N	. COCK, POPPET DRAIN	1
5	MOFZZ	MOOZZ	MOOZZ		30554	88-20579-5	. HOSE, NONMETALLIC (MAKE FROM P/N 208-6 (98441), 11.0 INCHES).....	1
6	PAFZZ	PAOZZ	PAOZZ	4730-01-360-6217	01276	W17709	. COUPLING, PIPE	1
7	XBFZZ	XBOZZ	XBOZZ		81343	6-6-430260C	. FITTING, ELBOW	1
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19586-24	. PLATE, IDENTIFICATION	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0802 LUBRICATION SYSTEM/OIL PRESSURE SWITCH

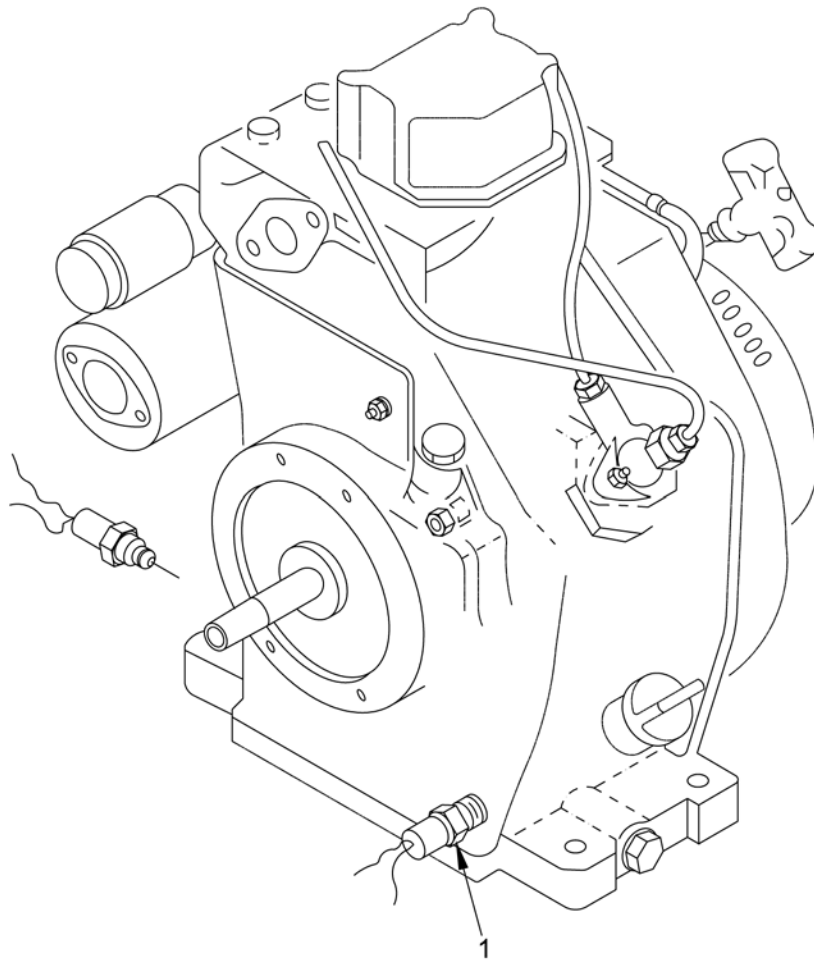


Figure 34. Lubrication System/Oil Pressure Switch.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					
GROUP 0802 LUBRICATION SYSTEM/OIL PRESSURE SWITCH								
FIG. 34 LUBRICATION SYSTEM/OIL PRESSURE SWITCH								
1	PAFZZ	PAOZZ	PAOZZ	5930-01-478-0122	85814	SM-2B-15F	. SWITCH, PRESSURE, OIL	1
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0803 LUBRICATION SYSTEM/ENGINE OIL TEMPERATURE SWITCH

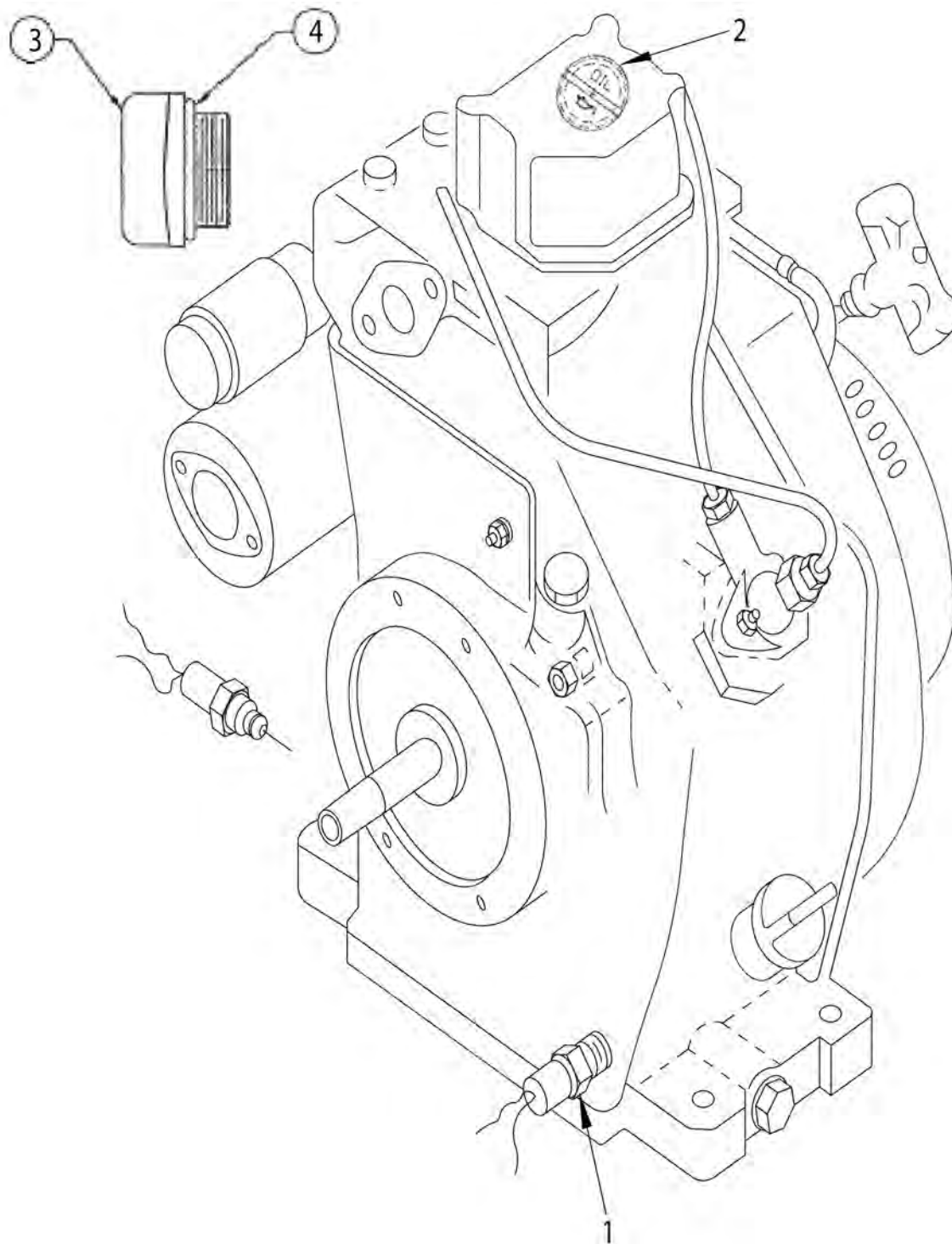


Figure 35. Lubrication System/Engine Oil Temperature Switch.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0803 LUBRICATION SYSTEM/ENGINE OIL TEMPERATURE SWITCH								
FIG. 35 LUBRICATION SYSTEM/ENGINE OIL TEMPERATURE SWITCH								
1	PAFZZ	PAOZZ	PAOZZ	5930-01-477-9743	30554	98-19720	. SWITCH, THERMOSTATIC	1
2	PAFZZ	PAOZZ	PAOZZ	2590-01-567-5873	30554	98-19762	. OIL CAP ASSEMBLY	1
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19760	. OIL CAP	1
4	XBFZZ	XBOZZ	XBOZZ		30554	98-19761	. O-RING, OIL CAP	1
END OF FIGURE								

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0804 LUBRICATION SYSTEM/OIL FILTER

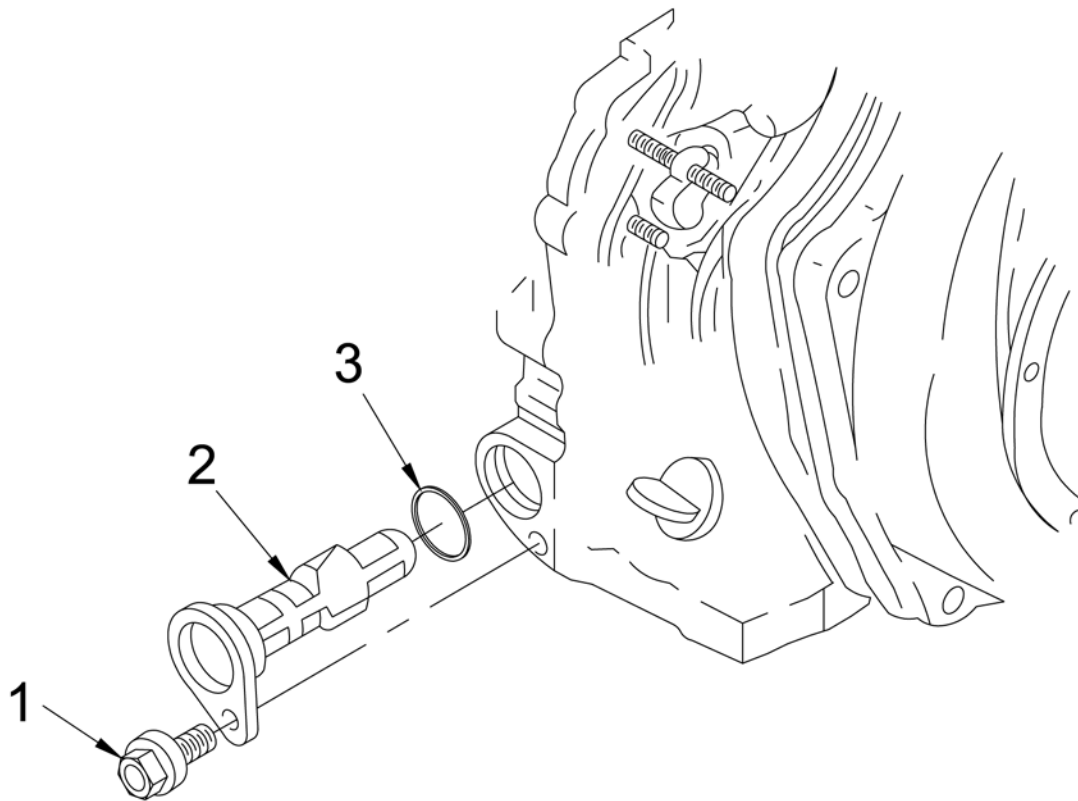


Figure 36. Lubrication System/Oil Filter.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					

**GROUP 0804 LUBRICATION
SYSTEM/OIL FILTER**

**FIG. 36 LUBRICATION
SYSTEM/OIL FILTER**

1	PAFZZ	PAOZZ	PAOZZ	5305-01-388-6229	0AK42	26106-060162	. SCREW, CAP, HEXAGON H	1
2	PAFZZ	PAOZZ	PAOZZ	2815-01-353-7523	0GUY0	114250-35070	. STRAINER, OIL PUMP	1
3	PAFZZ	PAOZZ	PAOZZ	5331-01-326-8017	0AK42	24341-000224	. O-RING	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 09 EXHAUST SYSTEM ASSEMBLY

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					

GROUP 09 EXHAUST
SYSTEM ASSEMBLY

(NOT ILLUSTRATED)

. MUFFLER ASSEMBLY (SEE
GROUP 0901 FOR PARTS
BREAKDOWN)

. BELLOWS ASSEMBLY (SEE
GROUP 0902 FOR PARTS
BREAKDOWN)

. DUCT ASSEMBLY (SEE GROUP
0903 FOR PARTS
BREAKDOWN)

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0901 EXHAUST SYSTEM ASSEMBLY/MUFFLER ASSEMBLY

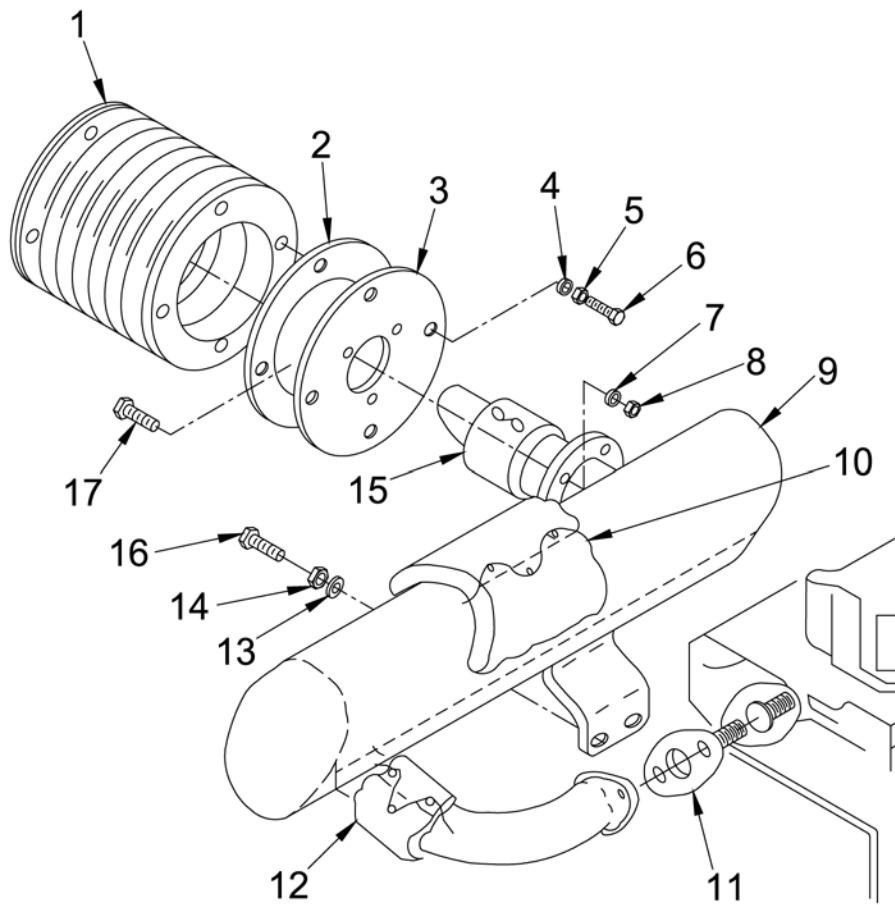


Figure 37. Exhaust System Assembly/Muffler Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0901 EXHAUST SYSTEM ASSEMBLY/MUFFLER ASSEMBLY								
FIG. 37 EXHAUST SYSTEM ASSEMBLY/MUFFLER ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	4720-01-476-9875	30554	98-19585	. HOSE, NON METALLIC	1
2	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9137	30554	98-19614	. GASKET	1
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19711	. SPACER	1
4	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8546	96906	MS27183-8	. WASHER, FLAT	4
5	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK, CADMIUM	4
6	PAFZZ	PAOZZ	PAOZZ	5305-00-004-3164	80204	B1821BH044C475N	. SCREW, CAP, HEXAGON	4
7	PAFZZ	PAOZZ	PAOZZ	5310-00-809-8544	96906	MS27183-7	. WASHER, FLAT, #8	3
8	PAFZZ	PAOZZ	PAOZZ	5310-00-982-6814	80205	MS21044C08	. NUT, SELF-LOCKING #8	3
9	PAFZZ	PAOZZ	PAOZZ	2990-01-477-2195	30554	98-19607	. MUFFLER, EXHAUST	1
10	PAFZZ	PAOZZ	PAOZZ	2540-01-478-3630	61277	98-19545-01	. INSULATION, THERMAL	1
11	XBFZZ	XBOZZ	XBOZZ		S4163	114250-13201	. GASKET, EXHAUST	10
12	PAFZZ	PAOZZ	PAOZZ	2540-01-477-4776	61277	98-19545-02	. INSULATION, THERMAL	1
13	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9079	30554	98-19664-03	. WASHER, LOCK	2
14	PAFZZ	PAOZZ	PAOZZ	5310-01-476-9081	30554	88-20033-19A	. WASHER, FLAT	2
15	PAFZZ	PAOZZ	PAOZZ	2540-01-477-4775	30554	98-19545-03	. INSULATION, THERMAL	1
16	PAFZZ	PAOZZ	PAOZZ	5305-01-300-6266	80204	B18231B06020N	. SCREW, CAP, HEXAGON H	2
17	PAFZZ	PAOZZ	PAOZZ	5305-00-068-0508	80204	B1821BH025C075N	. SCREW, CAP, HEXAGON H	3

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0902 EXHAUST SYSTEM ASSEMBLY/BELLOWS ASSEMBLY

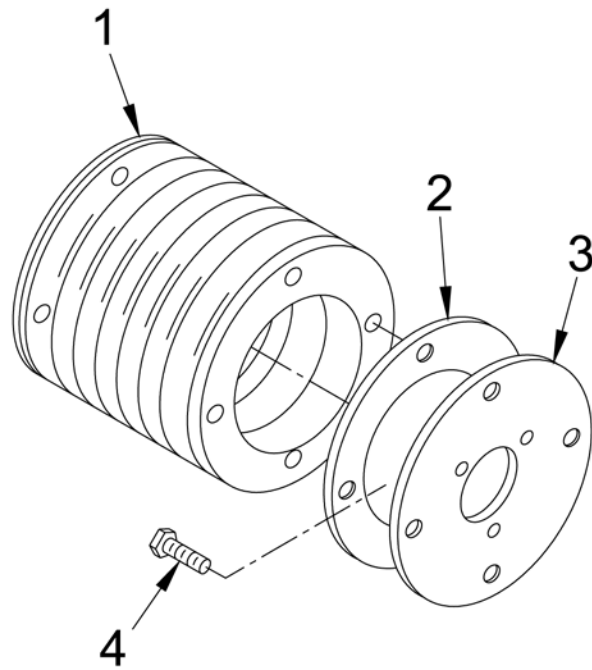


Figure 38. Exhaust System Assembly/Bellows Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0902 EXHAUST SYSTEM ASSEMBLY/BELLOWS ASSEMBLY								
FIG. 38 EXHAUST SYSTEM ASSEMBLY/BELLOWS ASSEMBLY								
1	PAFZZ	PAOZZ	PAOZZ	4720-01-476-9875	30554	98-19585	. HOSE, NON METALLIC	1
2	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9137	30554	98-19614	. GASKET	1
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19711	. SPACER	1
4	PAFZZ	PAOZZ	PAOZZ	5305-00-068-0508	80204	B1821BH025C075N	. SCREW, CAP, HEXAGON H	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 0903 EXHAUST SYSTEM ASSEMBLY/DUCT ASSEMBLY

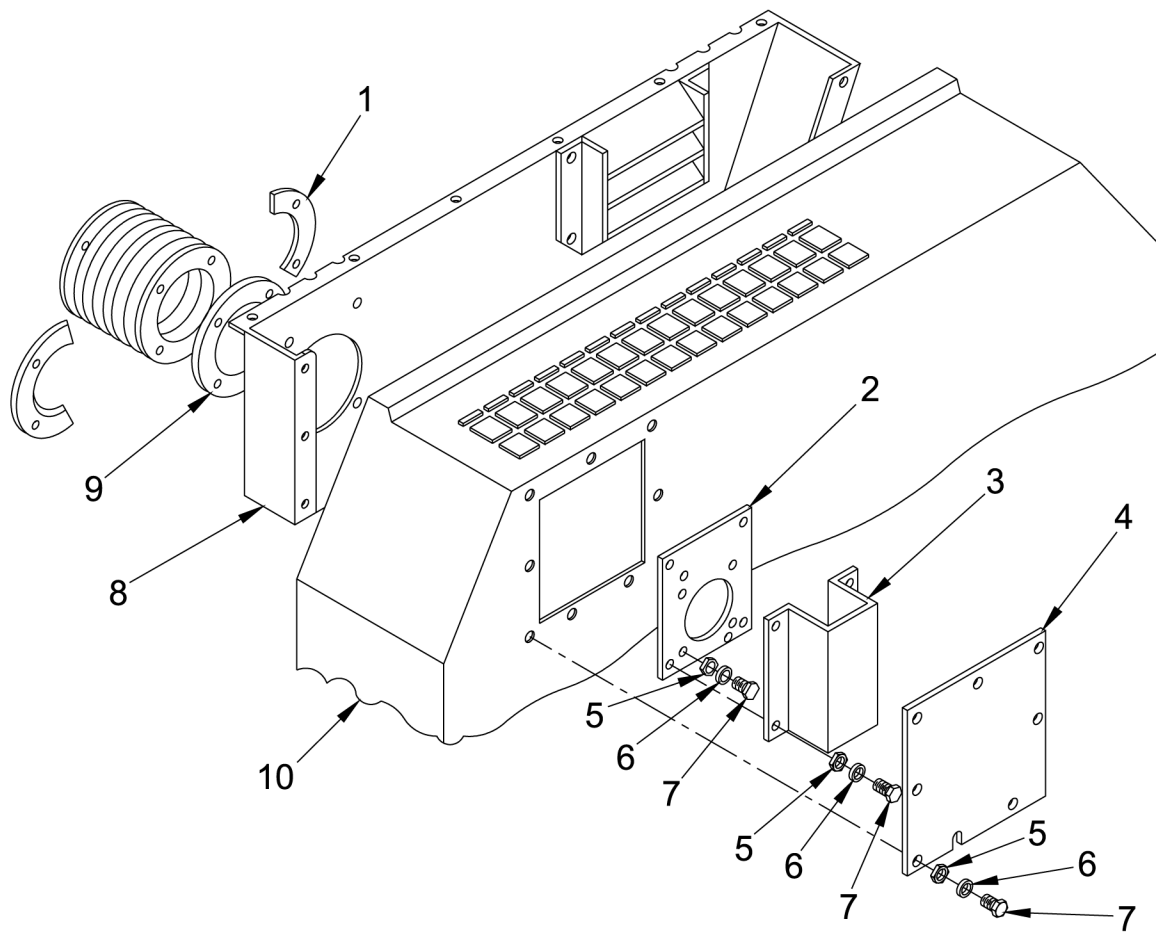


Figure 39. Exhaust System Assembly/Duct Assembly.

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a. ARMY	b. AIR FORCE	c. USMC					
GROUP 0903 EXHAUST SYSTEM ASSEMBLY/DUCT ASSEMBLY								
FIG. 39 EXHAUST SYSTEM ASSEMBLY/DUCT ASSEMBLY								
1	XBFZZ	XBOZZ	XBOZZ		30554	98-19737	. FLANGE, EXHAUST	1
2	XBFZZ	XBOZZ	XBOZZ		30554	98-19738	. PLATE, MOUNTING	1
3	XBFZZ	XBOZZ	XBOZZ		30554	98-19574	. PANEL, DEFLECTOR	1
4	XBFZZ	XBOZZ	XBOZZ		30554	98-19739	. PLATE, ACCESS	10
5	PAFZZ	PAOZZ	PAOZZ	5310-00-014-5850	96906	MS27183-42	. WASHER, FLAT	3
6	PAFZZ	PAOZZ	PAOZZ	5310-00-045-4007	80205	MS35338-41	. WASHER, LOCK,	3
7	PAFZZ	PAOZZ	PAOZZ	5305-01-378-7899	30554	88-20260-22	. SCREW, CAP, HEXAGON H	3
8	XBFZZ	XBOZZ	XBOZZ		30554	98-19573	. PANEL, AIR OUTLET	1
9	PAFZZ	PAOZZ	PAOZZ	5330-01-476-9069	30554	98-19712	. GASKET	1
10	PAFZZ	PAOZZ	PAOZZ	5342-01-198-7569	30554	98-19516	. CAP, FILLER, OPENING	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

GROUP 99 BULK ITEMS

(1)	(2)			(3)	(4)	(5)	(6)	(7)
ITEM NO	SMR CODE			NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
	a.	b.	c.					
	ARMY	AIR FORCE	USMC					

GROUP 99 BULK MATERIAL

1	MOFZZ	MOOZZ	MOOZZ	4720-01-470-3929	98441	208-4	HOSE, NONMETALLIC	1
2	MOFZZ	MOOZZ	MOOZZ	4720-01-470-6230	98441	208-5	HOSE, NONMETALLIC	1

END OF FIGURE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

SPECIAL TOOLS LIST

NOT APPLICABLE

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE

3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

NSN INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-004-3164	37	6	5310-00-081-4219	1	10
5310-00-014-5850	9	4		4	19
	16	1		30	3
	18	1	5925-00-089-3031	14	23
	24	20	5940-00-107-1481	11	4
	27	2	5975-00-111-3208	10	2
	27	3	5920-00-131-9915	13	8
	28	2	5310-00-208-9255	8	8
	28	3		11	13
	28	4		14	5
	28	5		24	12
	31	1		27	1
	39	5		28	1
4720-00-021-3320	32	3		29	11
5305-00-036-6968	8	13		29	12
	8	14		30	4
	28	32		31	2
5305-00-036-6972	15	13		31	3
5305-00-036-6976	15	14	5305-00-224-1092	13	19
5305-00-038-3103	13	9	5940-00-234-3383	30	10
5310-00-045-3296	13	3	4030-00-270-5436	1	24
5310-00-045-4007	9	3		18	6
	20	3	4730-00-277-7904	23	6
	21	3		24	2
	22	4		25	2
	23	14	3040-00-374-5732	27	23
	27	16	5310-00-407-9566	16	10
	28	9		27	30
	37	5		28	23
	39	6		28	30
5306-00-050-1238	4	17	5930-00-422-4948	8	18
5310-00-050-6646	1	12	4730-00-432-2860	23	10
6140-00-059-3528	6	8	5905-00-468-5869	13	20
5305-00-068-0508	37	17	5935-00-482-7721	21	7
	38	4	5306-00-484-5730	10	3
	39	1		19	4
	39	2		25	10
	39	3		28	15
4730-00-073-2151	19	11			

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5961-00-484-8041	13	15	5310-00-809-8546	8	7
	13			11	8
5905-00-539-2573	14	3		14	4
5310-00-543-2410	9	5		20	4
	19	5		21	2
	27	20		22	3
5940-00-557-4343	7	3		23	13
5355-00-559-8943	14	12		29	7
5310-00-582-5965	17	5		30	5
6210-00-583-9349	14	21		37	4
4730-00-595-1887	24	3	4730-00-812-1333	1	19
	25	3		24	22
5930-00-683-1626	14	13	4730-00-817-6194	24	4
5930-00-683-1628	14	14	5310-00-822-8525	14	19
5310-00-685-2973	10	8	5340-00-843-7825	28	28
	25	8	5310-00-850-6855	30	1
	27	10	5945-00-855-7478	10	4
	27	11	5975-00-878-3791	32	5
	28	10	5975-00-879-7234	15	16
	28	11	5320-00-882-8386	33	2
	29	13	5320-00-882-8388	32	6
	31	6	5310-00-889-2589	27	21
5310-00-809-4058	6	3	5305-00-889-2997	17	2
	9	2	5310-00-903-8595	28	6
	10	7	5930-00-906-3477	14	20
	19	6	5970-00-915-9186	7	1
	19	7	5340-00-929-1794	23	3
	25	9	5320-00-932-1972	15	10
	27	8		31	7
	27	9		32	17
	28	8			
	29	8	6680-00-933-3600	14	2
	31	5	5310-00-951-4679	17	6
5310-00-809-8544	1	17	5325-00-960-2410	4	12
	16	6		4	13
	27	31	5310-00-982-6814	1	25
	28	22		1	26
	28	29		11	7
	37	7		16	5
				18	7
				37	8
			5310-00-983-8483	8	12
				28	33

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-984-3806	1	16	5325-01-237-2933	11	10
5305-00-984-6210	20	5	5305-01-247-6829	15	5
	21	4	5360-01-260-0317	15	1
	22	5	5310-01-280-5796	1	5
	23	12	5905-01-293-0175	11	9
5305-00-984-6218	19	16	5305-01-300-6264	26	2
5305-00-989-7435	14	11	5305-01-300-6266	1	7
5305-00-993-1848	30	11		37	16
5305-00-993-2738	27	19	5325-01-301-7903	12	1
5310-00-997-1888	6	2	5310-01-306-1624	29	4
	19	15	2940-01-310-4495	26	6
5310-01-012-3595	3	5	5325-01-320-8193	1	23
4730-01-020-5607	19	10		14	15
	24	23	5310-01-322-8747	26	4
6145-01-029-6544	7	4	5340-01-323-7879	26	5
5935-01-053-1955	21	6	5331-01-326-8017	36	3
5305-01-056-1501	9	1	5310-01-327-0778	26	3
	27	7	5305-01-335-7410	14	25
	28	7	2815-01-353-7523	36	2
	31	4	4730-01-360-6217	33	6
5310-01-056-1501	29	9	5310-01-365-4381	14	18
5961-01-057-3305	13	12	5305-01-365-6313	27	4
5305-01-068-0508	1	18		29	6
5935-01-097-9974	30	7	2940-01-365-6535	23	4
4730-01-102-6544	24	11		24	14
4030-01-114-3894	11	5	5330-01-366-2836	22	1
5306-01-156-7663	11	12	5310-01-366-4412	29	5
	16	7	5310-01-366-8134	28	13
	24	21	5330-01-367-6329	27	6
	27	12	5935-01-367-7814	15	12
	27	13	5930-01-368-2891	14	8
	27	14	5930-01-368-2893	14	22
	28	12	5940-01-369-2270	10	6
	31	11	5330-01-373-3649	25	24
5961-01-172-5982	10	5	4330-01-374-9147	25	23
	15	3			
5305-01-187-5878	8	2			
	13	17			
5342-01-198-7569	18	3			
	39	10			
5975-01-199-9033	1	14			
5303-01-201-8979	15	7			

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-01-378-7899	5	2	4730-01-470-1626	19	9
	8	17		23	2
	9	6		24	1
	18	2		25	1
	27	24		33	3
	28	24	5940-01-470-2470	13	10
	28	25	5940-01-470-3031	13	11
	39	7	4720-01-470-3929	19	12
5305-01-380-3395	1	4		23	7
5305-01-381-1202	1	28		23	8
5305-01-381-9970	25	15		24	16
5310-01-387-2150	1	6		24	24
5305-01-388-6229	36	1		25	12
2940-01-389-9942	26	1		25	14
6140-01-390-1968	6	8		99	1
5365-01-395-4744	25	27	5305-01-470-6197	16	2
5310-01-399-2044	24	10		28	16
7730-01-407-0649	24	9	4720-01-470-6230	23	1
5935-01-415-6239	4	8		24	13
5961-01-421-3024	13	18		25	13
5940-01-425-2020	4	10		99	2
	13	13	4820-01-474-6910	25	26
5305-01-428-6791	25	22	6150-01-476-8666	30	6
5930-01-436-4959	17	3	6150-01-476-8673	30	8
6645-01-458-7278	14	1	5340-01-476-8683	13	4
5945-01-461-2084	15	2	6140-01-476-8945	6	8
4730-01-463-2091	24	5	5940-01-476-8951	7	5
5305-01-464-6667	11	11	5940-01-476-8981	7	7
	30	9		8	1
5340-01-464-8407	27	26	5340-01-476-9004	8	5
2815-01-465-5993	1	1		23	5
5305-01-467-1561	15	15	5340-01-476-9006	28	27
4730-01-470-1423	24	17	5340-01-476-9028	31	12
3305-01-470-1425	16	11	5340-01-476-9030	27	34
5305-01-470-1425	27	29	5305-01-476-9033	31	9
	28	21	6150-01-476-9059	6	9
	28	31		6	10
			6150-01-476-9061	6	6
			4140-01-476-9063	16	4
			4140-01-476-9068	16	12
			5340-01-476-9071	27	5
			4020-01-476-9072	12	3

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5340-01-476-9074	12	5	5305-01-476-9251	4	1
5940-01-476-9076	6	5	5940-01-476-9267	31	8
5305-01-476-9077	29	1	5940-01-476-9272	27	15
5310-01-476-9079	37	13	6150-01-476-9315	16	9
5310-01-476-9081	37	14	6150-01-476-9338	9	7
5315-01-476-9086	19	2		10	1
5305-01-476-9095	1	13		28	26
5330-01-476-9096	39	9	6115-01-476-9356	4	6
5305-01-476-9099	1	9	6680-01-476-9362	22	2
4730-01-476-9101	19	13	4820-01-476-9731	33	4
	25	11		33	5
5310-01-476-9103	4	16	5920-01-476-9734	13	7
5330-01-476-9106	27	27	2910-01-476-9751	3	10
	27	32	4730-01-476-9767	25	17
	27	33	4730-01-476-9775	19	8
	28	17		24	8
5330-01-476-9137	37	2	2910-01-476-9779	21	9
	38	2	4720-01-476-9814	1	2
5330-01-476-9140	20	1	4730-01-476-9855	18	4
	21	1	4720-01-476-9875	37	1
5340-01-476-9144	19	1		38	1
5340-01-476-9147	19	3	4730-01-476-9921	24	6
6130-01-476-9148	5	1		25	6
5940-01-476-9186	13	14		25	7
5940-01-476-9191	13	2	5340-01-477-0133	8	9
5310-01-476-9196	3	11	3040-01-477-0228	4	2
5310-01-476-9198	3	7	5305-01-477-0236	4	18
5310-01-476-9200	3	12	2920-01-477-0238	4	3
5310-01-476-9201	3	13	5999-01-477-0593	4	9
	3	14	5920-01-477-0598	16	3
5310-01-476-9203	3	16	5930-01-477-0617	17	1
5310-01-476-9206	3	9	6625-01-477-0634	14	10
5310-01-476-9213	3	17	6625-01-477-0732	14	6
5305-01-476-9223	3	19	2910-01-477-0840	25	4
	3	20	5895-01-477-0855	9	9
4730-01-476-9224	25	19	6150-01-477-1173	9	7
5310-01-476-9228	3	15		10	1
5305-01-476-9231	3	2		17	4
5305-01-476-9248	4	5		23	11
				28	26

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
6110-01-477-1175	8	4	6625-01-515-2404	14	7
6150-01-477-1177	8	6	2910-01-517-8606	23	15
5940-01-477-1254	13	5		24	15
2920-01-477-1320	3	1	6160-01-519-0139	6	4
5310-01-477-1368	8	3	5306-01-519-1696	6	1
2990-01-477-1371	2	1	7690-01-531-3589	9	12
	15	6	5330-01-531-5591	12	2
5340-01-477-1375	1	11	5310-01-531-5950	14	26
2990-01-477-2195	37	9	4720-01-531-7274	25	20
3120-01-477-2736	3	6	5310-01-531-7609	14	27
5365-01-477-2738	27	17	5306-01-533-1812	6	7
4820-01-477-2791	19	14	6115-01-553-8439	11	6
2540-01-477-4775	37	15	2910-01-557-2674	19	17
2540-01-477-4776	37	12	4010-01-561-8997	1	3
5305-01-477-9613	1	21	2590-01-567-5873	35	2
5305-01-477-9615	3	3	4730-01-571-1767	23	9
5305-01-477-9616	3	8	5310-12-125-0056	1	27
5310-01-477-9621	30	2		4	20
5330-01-477-9623	27	28	4720-01-470-3929	BULK	1
5340-01-477-9625	27	36	4720-01-470-6230	BULK	2
5310-01-477-9626	1	22	END OF WORK PACKAGE		
5305-01-477-9743	35	1			
5930-01-477-9743	4	14			
5915-01-477-9756	30	13			
5935-01-477-9883	15	4			
5930-01-478-0101	14	17			
5930-01-478-0122	4	15			
	34	1			
6150-01-478-1124	16	8			
2540-01-478-3630	37	10			
	37	11			
4710-01-478-3637	20	2			
5120-01-483-3706	11	1			
4730-01-490-3929	25	16			
5999-01-502-6278	8	10			
4140-01-503-3160	16	12			
2910-01-506-3912	25	25			
6110-01-507-7938	8	4			

OPERATOR AND FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

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114250-12530	FIG 26	1		FIG 25	12
114250-12550	FIG 26	3		FIG 25	14
114250-12560	FIG 26	4		FIG 25	16
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	FIG 11	12		FIG 28	7
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	FIG 23	6	307608	FIG 10	3
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5601856	FIG 9	12		FIG 9	6
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61-081441-40-C1428-0542B	FIG 15	5		FIG 39	7
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	FIG 37	17		FIG 19	8
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JANTX1N6056A	FIG 10	5	MS24544-2	FIG 14	2
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CHAPTER 8

OPERATOR AND FIELD SUPPORTING INFORMATION

FOR

3 kW Tactical Quiet Generator Set
MEP-831A (60 Hz), and MEP-832A (400 Hz)

CHAPTER 8
SUPPORTING INFORMATION

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Additional Authorization List (AAL)	0142
Expendable Supplies and Durable Items List.....	0143
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OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****REFERENCES****SCOPE**

This work package lists all forms, field manuals, and technical manuals referenced in this manual or used in conjunction with the 3 kW Tactical Quiet Generator set.

Forms

AFR 66-1	Maintenance Management of Aircraft
AFR 75-18	Reporting of Transportation Discrepancies
AFR 400-54	Reporting of Packaging Discrepancies
AFR 900-4	Equipment Improvement Report
AFTO 00-51	AF Technical Order System
AFTO Form 22	Technical Order System Publication Improvement Report and Reply
AR 55-38	Reporting of Transportation Discrepancies in Shipments
AR 735-11-2	Reporting of Supply Discrepancies
AR 750-1	Army Materiel Maintenance Policy
CTA 50-790	Expendable/Durable Items
CTA 8-100	Army Medical Department Expendable/Durable Items
DA Form 2028	Recommended Changes to Publications
DA Form 2028-2	Recommended Changes to Equipment Technical Manuals
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2408-9	Equipment Usage Report
DD Form 5988E	Equipment Maintenance and Inspection Worksheet
DLAR 4140.55	Reporting of Item and Packaging Discrepancies
DLAR 4500.15	Reporting of Transportation Discrepancies in Shipment
MCO 4430.0	Report of Item and Packaging Discrepancies
MCO 4430.3J	Report of Discrepancy (ROD)
MCO P4855.10	Product Quality Deficiency Report Manual
MCO P4610.19	Transportation and Travel Record of Transportation Discrepancies
MCO P4610.19D	MCPDS Index of Technical Publications
NAVMC 10772	Recommended Changes to Technical Publications
NAVSUPINST 4610.33C	Reporting of Transportation Discrepancies in Shipment
SECNAVINST 4355.18	Reporting of Supply Discrepancies
SF 361	Transportation Discrepancy Report
SF 364	Report of Discrepancy (ROD)
SF 368	Product Quality Deficiency Report (QDR)

Field Manuals

FM 3-3	Chemical and Biological Contamination Avoidance
FM 3-4	NBC Protection
FM 3-5	NBC Decontamination

FM 4-25.11 First Aid for Soldiers
FM 5-424 Theater of Operations Electrical Systems

Technical Bulletins

TB MED 251 Noise and Conservation of Hearing
TB 5-4200-200-10 Hand Portable Fire Extinguishers Approved for Army Use
TB 703-1 Specification List of Standard Liquid Fuels, Lubricants, Preservatives, and Related Products Authorized for Use by U.S. Army
TB 740-97-2 Preservation of USAMECOM Mechanical Equipment for Shipment and Storage

Technical Manuals

DA PAM 25-30 Consolidated Index of Army Publications and Blank Forms
DA PAM 750-8 Functional Users Manual for The Army Maintenance Management System (TAMMS)
MIL-HDBK-263 Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
MIL-STD-1686 Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)
MIL-STD-40051 Preparation of Digital Technical Information for Multi-Output Presentation of Technical Manuals
TM 9-2815-257-24 Unit, Direct Support, and General Support Maintenance Manual for Diesel Engine Assembly Model L70AE-DEGFR (NSN 2815-01-465-5993) (EIC: N/A) (TO 38G1-128-2; TM 10155A/2815-24/3)
TM 9-2815-257-24P Unit, Direct Support, and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine Model L70AE-DEGFR (NSN 2815-01-465-5993) (EIC: N/A) (TO 38G1-128-4; TM 10155A/2815-24P/4)
TM 4700-15/1 Ground Equipment Record Procedures
TM 740-90-1 Administrative Storage of Equipment
TM 750-244-3 Procedures for Destruction of Equipment to Prevent Enemy Use
TM 6115-658-13&P Operator, Unit, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Power Plant, Diesel Engine Driven, 1-Ton Trailer Mounted (with Racks) 3 kW, 60 Hz, AN/MJQ-42 (NSN 6115-01-322-8583) Power Plant, Diesel Engine Driven, 1-Ton Trailer Mounted (without Racks) 3 kW, 60 Hz, AN/MJQ-43 (6115-01-322-8582)
TO 00-35D54 The USAF Material and Deficiency Reporting and Investigating System
TO 25-1-3 Repair Parts Kits Users Manual
TO 35-1-3 Corrosion Prevention, Painting, and Marking of USAF Support Equipment (SE)
TO 35-1-4 Processing and Inspection of Support Equipment for Storage and Shipment
UM 4400-123 Defense Transportation Regulations, Part II
UM 4400-124 Cargo Movement (DOD 4500.9-R)

Miscellaneous

AR 740-1 Storage and Supply Activity Operations

AR 746-5	Color and Marking of Army Material
SC 5180-90-N26	Set, Kits, and Outfits Tool Kit for General Mechanics (GMTK): Automotive
SC 4910-95-A62	Sets, Kits, Outfits, and Tools, for Shop Equipment Automotive Maintenance and Repair: Field Maintenance, Supplemental No. 1, Less Power and Shop Equipment Automotive Maintenance and Repair: Field Maintenance, Supplemental No. 1
SC 4910-95-A74	Sets, Kits, and outfits Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

INTRODUCTION FOR STANDARD TWO-LEVEL MAINTENANCE MAC

INTRODUCTION

The Army Maintenance System MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at the two maintenance levels under the Two-Level Maintenance System concept.

This 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:

Field - includes two subcolumns, Crew (C) and Maintainer (F).

Sustainment - includes two subcolumns, Below Depot (H) and Depot (D).

The maintenance to be performed at field and sustainment levels is described as follows:

1. Crew maintenance. The responsibility of a using organization to perform maintenance on its assigned equipment. It normally consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. The replace function for this level of maintenance is indicated by the letter "C" in the third position of the SMR code. A "C" appearing in the fourth position of the SMR code indicates complete repair is possible at the crew maintenance level.
2. Maintainer maintenance. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "F" appearing in the third position of the SMR code. An "F" appearing in the fourth position of the SMR code indicates complete repair is possible at the field maintenance level. Items are returned to the user after maintenance is performed at this level.
3. Below depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "H" appearing in the third position of the SMR code. An "H" appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level.
4. Depot sustainment. Maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed. The replace function for this level of maintenance is indicated by the letter "D" or "K" appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel. A "D" or "K" appearing in the fourth position of the SMR code indicates complete repair is possible at the depot sustainment maintenance level. Items are returned to the supply systems after maintenance is performed at this level.

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

The remarks table (immediately following the tools and test equipment requirements) contains 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 gaugings 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. The following are examples of service functions:
 - a. Unpack. To remove from packing box for service or when required for the performance of maintenance operations.
 - b. Repack. To return item to packing box after service and other maintenance operations.
 - c. Clean. To rid the item of contamination.
 - d. Touch up. To spot paint scratched or blistered surfaces.
 - e. Mark. To restore obliterated identification.
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. Paint (ammunition only). To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be repainted as original so as to retain proper ammunition identification.
9. 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.
10. 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.

11. 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.
12. 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 material 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 Functional Group Code (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:

Field:

C Crew maintenance

F Maintainer maintenance

Sustainment:

L Specialized Repair Activity (SRA)

H Below depot maintenance

D Depot maintenance

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

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 Level. 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.

Explanation of Columns in the Remarks

Column (1) - Remarks 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.

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)

MAC

Table 1. Maintenance Allocation Chart for Generator Set (3 kW TQG, MEP 831A/832A).

(1) GROUP NUMBER	(2) COMPONENT / ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARK CODES
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
00	GENERATOR SET	Inspect Inspect Test Service Remove Replace Repair	0.5 0.5 0.5	 0.5 5.7 2.0 2.0			 5 2, 3, 5 2, 3, 5	A A A, D C, I, F
01	ENGINE ASSEMBLY, DIESEL	Inspect Inspect Service Remove Replace Repair	0.1 0.5 0.1	 0.1 2.0 2.0 2.0			 3	A A A, D, F F F F, I
0101	GOVERNOR CON- TROL MODULE	Inspect Inspect Test Remove Replace	0.2 0.2 1.0 1.0	 0.2			 3, 5 3, 5	A A C
010101	GOVERNOR ACTU- ATOR ASSEMBLY	Inspect Inspect Test Adjust Remove Replace	0.2 0.2 0.5 0.7 0.7	 0.2			 3, 5 3, 5	A A C, E C, E
0102	ENGINE WIRING HARNESS	Inspect Inspect Remove Replace	0.2 0.5 0.5	 0.2			 3, 5 3, 5	A A
02	PERMANENT MAG- NET ALTERNATOR (PMA)	Inspect Inspect Test Test Remove Replace	0.1 0.4 0.1	 0.1 1.0 2.0 2.0			 1, 2, 4 1, 2, 4 2, 3, 5 2, 3, 5	A A E E
03	ELECTRICAL SYS- TEM ASSEMBLY	Inspect Inspect Test Test Repair	0.3 0.3 0.1	 0.3 1.1 1.0			 1 1 3, 2	A A C, G C, G E
0301	BATTERY CHARGING REGULATOR	Inspect Inspect Remove Replace	0.1 0.5 0.5	 0.1			 2, 3, 5 2, 3, 5	A A
0302	BATTERY	Inspect Inspect Test Service Remove Replace	0.1 0.1 0.5 0.5 0.5	 0.1			 4 3, 4 5 5	A A

Table 1. Maintenance Allocation Chart for Generator Set (3 kW TQG, MEP 831A/832A). - Continued

(1) GROUP NUMBER	(2) COMPONENT / ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARK CODES
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
030201	BATTERY CABLES	Inspect Inspect Remove Service Replace	0.1 0.3 0.5 0.3	0.1			3, 5 3, 5 3, 5	A A
0303	CONTACTOR ASSY	Inspect Remove Replace	0.3 0.5 0.5				3, 5 3, 5	A
0304	FREQUENCY CON- VERTER (A8)	Inspect Test Remove Replace	0.2 0.2 1.5 1.5				1 2, 3, 5 2, 3, 5	A B I
0305	RELAYS, ELECTRO- MAGNETIC	Inspect Remove Replace	0.3 0.5 0.5				3, 5 3, 5	A
04	CONTROL BOX ASSEMBLY	Inspect Test Remove Replace	0.7 0.5 0.3 0.3				1 3, 5 3, 5	A C
0401	CONTROL PANEL ASSEMBLY	Inspect Remove Replace	0.3 0.5 0.5				3, 5 3, 5	A
040101	PANEL METERS, GAUGES, AND SWITCHES	Inspect Remove Replace	0.2 0.5 0.5				3, 5 3, 5	A
0402	RECEPTACLE, FIL- TERS, TERMINALS, AND VOLTAGE RES- ISTOR	Inspect Test Remove Replace	0.2 0.5 0.5 0.5				1 3, 5 3, 5	A B, C
0403	CONTROL BOX WIR- ING HARNESS	Inspect Inspect Test Remove Replace	0.2 0.2 0.5 0.5	0.2 0.2 0.5 0.5			1 3, 5 3, 5	A A
05	COOLING SYSTEM	Inspect Test	0.2 0.2				1	C
0501	COOLING FAN ASSEMBLY	Inspect Test Remove Replace	0.2 0.3 0.5 0.5				1 3, 5 3, 5	A C, G
0502	HI/LO TEMPERAT- URE SWITCHES	Inspect Test Remove Replace	0.1 0.3 0.3 0.3				1 3, 5 3, 5	A C
06	FUEL SYSTEM ASSEMBLY	Inspect Remove Replace	0.2 1.5 1.5				2, 3, 5 2, 3, 5	A
0601	FUEL TANK STRAINER ASSEMBLY	Inspect Remove Replace	0.1 2.0 2.0				2, 3, 5 2, 3, 5	A
0602	FUEL TANK	Inspect Inspect Remove Replace	0.2 2.0 2.0	0.2 2.0 2.0			2, 3, 5 2, 3, 5	A A

Table 1. Maintenance Allocation Chart for Generator Set (3 kW TQG, MEP 831A/832A). - Continued

(1)	(2)	(3)	(4)				(5)	(6)
			MAINTENANCE LEVEL					
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
GROUP NUMBER	COMPONENT / ASSEMBLY	MAINTENANCE FUNCTION	C	F	H	D	TOOLS AND EQUIPMENT REF CODE	REMARK CODES
060201	FUEL-LEVEL ASSEMBLY	Inspect	0.1				1, 3, 5	A
		Test	0.5					
		Remove	0.5					
		Replace	0.5					
060202	FUEL-LEVEL SWITCH	Inspect	0.1				1, 2, 3, 5	A C
		Test	0.5					
		Remove	0.5					
		Replace	0.5					
060203	FUEL TANK PICKUP TUBE	Inspect	0.1				2, 3, 5	A
		Remove	0.5					
		Replace	0.5					
0603	PRIMARY FUEL PUMP	Inspect	0.1				1	A C
		Test	0.5					
		Remove	0.5					
		Replace	0.5					
0604	AUXILIARY FUEL PUMP	Inspect	0.2				3, 5	A
		Test	0.5					
		Remove	0.5					
		Replace	0.5					
0605	FUEL FILTER-WATER SEPARATOR	Inspect	0.1				3, 5	A
		Remove	0.5					
		Replace	0.5					
0606	AIR CLEANER ASSEMBLY	Inspect	0.1					A
		Remove	0.5					
		Replace	0.5					
07	FRAME AND HOUS- ING ASSEMBLY	Inspect	0.2					A
0701	MAIN ACCESS COVER	Inspect	0.2				3, 5	A
		Test	0.5					
		Remove	0.5					
		Replace	0.5					
0702	FRAME AND HOUS- ING PANELS	Inspect	0.2				3, 5	A
		Remove	1.0					
		Replace	1.0					
0703	FRAME AND LIFTING HANDLES, LIFTING RINGS	Inspect	0.1				3, 5	A
		Remove	1.5					
		Replace	1.5					
0704	NATO SLAVE RECEPTACLE	Inspect	0.1				3, 5	A
		Remove	0.5					
		Replace	0.5					
0705	SKID BASE	Inspect	0.1				3, 5	A
		Remove	0.5					
		Replace	0.5					
0706	ID PLATES	Inspect	0.1				2	A
		Remove	0.2					
		Replace	0.2					
08	LUBRICATION SYS- TEM	Inspect	0.2				3, 5	A D
		Service	0.5					
0801	OIL DRAIN ASSEMBLY	Inspect	0.2				3, 5	A
		Remove	0.5					
		Replace	0.5					

Table 1. Maintenance Allocation Chart for Generator Set (3 kW TQG, MEP 831A/832A). - Continued

(1) GROUP NUMBER	(2) COMPONENT / ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARK CODES
			FIELD		SUSTAINMENT			
			CREW	MAINTAINER	BELOW DEPOT	DEPOT		
			C	F	H	D		
0802	OIL PRESSURE SWITCH	Inspect Remove Replace	0.2 0.5 0.5				3, 5 3, 5	A
0803	ENGINE OIL TEM- PERATURE SWITCH	Inspect Remove Replace	0.2 0.5 0.5				3, 5 3, 5	A
0804	OIL FILTER	Inspect Remove Replace	0.1 0.2 0.2					A
09	EXHAUST SYSTEM ASSEMBLY	Inspect Remove Replace	0.2 1.2 1.2				3, 5 3, 5	A
0901	MUFFLER ASSEMBLY	Inspect Remove Replace	0.2 0.2 0.2				3, 5 3, 5	A
0902	BELLOWS ASSEMBLY	Inspect Remove Replace	0.2 0.5 0.5				2, 3, 5 2, 3, 5	A
0903	DUCT ASSEMBLY	Inspect Remove Replace	0.2 0.5 0.5				2, 3, 5 2, 3, 5	A

Table 2. Tools and Test Equipment for Generator Set (3 kW TQG, MEP-831A/MEP-832A).

TOOLS OR TEST EQUIPMENT	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	C, F	MULTIMETER	6625-01-265-6000	AN/PSM-45A
2	F	SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR, FIELD MAINTENANCE, SUPPL 1, W/O POWER	4910-00-754-0706	SC4910-95-CL-A62
3	C	SHOP EQUIPMENT, AUTOMOTIVE VEHICLE MAINTENANCE AND REPAIR	4910-00-754-0654	SC4910-95-A7
4	F	TESTER, BATTERY ELECTROLYTE SOLUTION	6630-00-663-4501	TS765U
5	C, F	TOOL KIT, GENERAL MECHANIC'S AUTOMOTIVE OR STANDARD AUTOMOTIVE TOOL SET (SATS)	5180-01-483-0249	SC5180-90-CL-N26

Table 3. Remarks for Generator Set (3 kW TQG, MEP 831A/832A).

REMARK CODES	REMARKS
A	PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS).
B	TEST BY DEPRESSING SWITCH TO TEST INDICATOR LIGHTS.
C	TROUBLESHOOTING TEST/CHECK USING MULTIMETER.
D	SERVICE IN ACCORDANCE WITH LUBRICATION INSTRUCTIONS, WP 0016.
E	REPAIR IS LIMITED TO REPLACEMENT OF DAMAGED PARTS.
F	SEE TM 9-2815-257-24 FOR ENGINE REPAIR.
G	CHECK FOR LOOSE WIRES AND CONNECTORS, AND PERFORM CONTINUITY TEST.
H	REPAIR IS LIMITED TO REPLACEMENT OF METERS, SWITCHES, AND GAUGES.
I	REPAIR BY SUSTAINMENT-LEVEL MAINTENANCE FACILITY.

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS**

INTRODUCTION**Scope**

This work package lists COEI and BII for the 3 kW Tactical Quiet Generator Set (MEP-831A) and (MEP-832A) to help you inventory items for safe and efficient operation of the equipment.

General

The COEI and BII information is divided into the following lists:

Components of End Item (COEI). This list is for information purposes only and is not authority to requisition replacements. These items are part of the 3 kW Tactical Quiet Generator Set (MEP-831A) and (MEP-832A). As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Items of the COEI are removed and separate Illustrations are furnished to help you find and identify the items.

Basic Issue Items (BII). These essential items are required to place the 3 kW Tactical Quiet Generator Set (MEP-831A) and (MEP-832A) in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the 3 kW Tactical Quiet Generator Set (MEP-831A) and (MEP-832A) during operation and when it is transferred between property accounts. Listing these items is your authority to request/requisition them for replacement based on authorization of the end item by the Table of Organization and Equipment (TOE) and the Modified Table of Organization and Equipment (MTOE). Illustrations are furnished to help you find and identify the items.

Explanation of Columns in the COEI List and BII List

Column (1), Item Number. Gives you the reference number of the item listed.

Column (2), National Stock Number (NSN) and Illustration. Identifies the stock number of the items to be used for requisitioning purposes and provides an illustration of the item.

Column (3), Description, Part Number/(CAGEC). Identifies the Federal Item Name (in all capital letters) followed by a minimum description when needed. The stowage location of the COEI and BII is also included in this column. The last line below the description is the Part Number and Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (4) Usable on Code. When applicable, gives you a code if the item you need is not the same for different models of equipment. These codes are identified below:

Column (5), U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued by the National Stock Number shown in column (2).

Column (6), Qty/Rqr. Indicates the quantity required.

Table 1. Components of End Item List.

(1) Illus Number	(2) National Stock Number (NSN)	(3) Description, Part Number / (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty Rqr
1		GENERATOR SET 3 kW, 60 Hz, TACTICAL QUIET GENERATOR SET 3 kW, 400 Hz, TACTICAL QUIET GENERATOR SET ASSEM 60 Hz	LQQ LQR LQQ		-

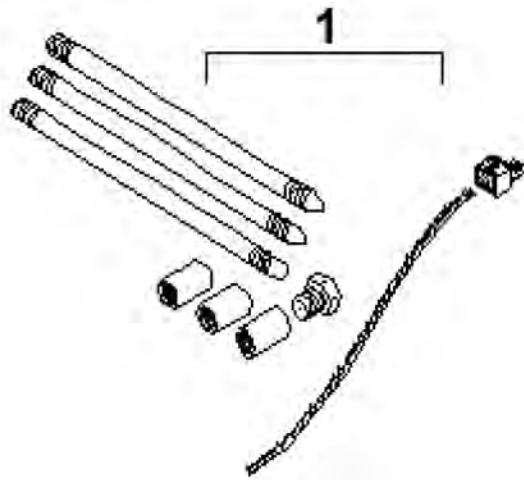


Figure 1. Basic Issue Items (Sheet 1 of 4).

***ARMY TM 9-6115-639-13&P AIR FORCE TO 35C2-3-386-51W/IPB MARINE CORPS TM 10155A-OI/1A**

TECHNICAL MANUAL

**OPERATOR AND FIELD MAINTENANCE MANUAL (INCLUDING REPAIR PARTS
AND SPECIAL TOOLS LIST)**

FOR

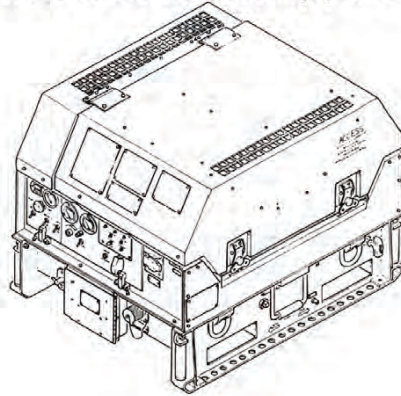
3 kW TACTICAL QUIET GENERATOR SET

MEP-831A (60 Hz)

(NSN: 6115-01-285-3012) (EIC: VG6)

MEP-832A (400 Hz)

(NSN: 6115-01-287-2431) (EIC: VN7)



***SUPERSEDE NOTICE** - This manual supersedes TM 9-6115-639-13&P, TO 35C2-3-386-51W/IPB, AND TM 10155A-OI/1, dated 15 August 2005. Date of issue for the revised manual is: 30 April 2010.

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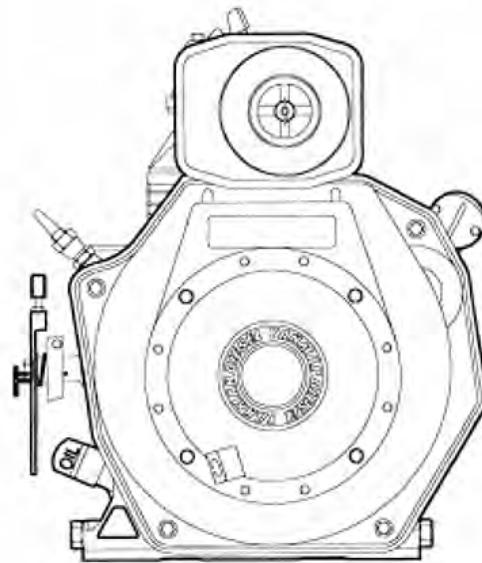
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Figure 1. Basic Issue Items (Sheet 2 of 4).

**ARMY TM 9-2815-257-24
AIR FORCE TO 38G1-128-2
MARINE CORPS TM 10155A/2815-24/3**

**UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT
MAINTENANCE MANUAL**



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**DIESEL ENGINE ASSEMBLY
MODEL L70AE-DEGFR
(NSN: 2815-01-465-5993) (EIC: N/A)**

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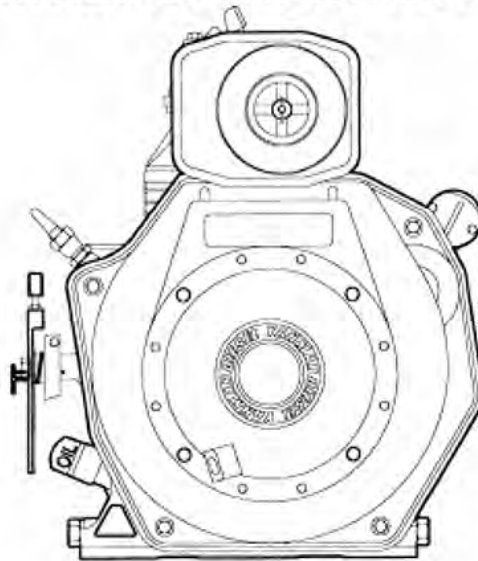
**1 November 2000
PCN 182 101552 00**

Figure 1. Basic Issue Items (Sheet 3 of 4).

**ARMY TM 9-2815-257-24P
AIR FORCE TO 38G1-128-4
MARINE CORPS TM 10155A/2815-24P/4**

TECHNICAL MANUAL

**UNIT, DIRECT SUPPORT AND
GENERAL SUPPORT MAINTENANCE
REPAIR PARTS AND SPECIAL TOOLS LIST FOR**



**DIESEL ENGINE
MODEL L70AE-DEGFR
(NSN: 2815-01-465-5993) (EIC: N/A)**

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1 APRIL 2001
PCN 182 101553 00

Figure 1. Basic Issue Items (Sheet 4 of 4).

Table 2. Basic Issue Items List.

(1) Illus Number	(2) National Stock Number (NSN)	(3) Description, Part Number / (CAGEC)	(4) Usable On Code	(5) U/I	(6) Qty Rqr
1	5975-00-878-3791	ROD, GROUND P/N 00245260 (49956)		EA	1
2		TECHNICAL MANUAL, TM 9-6115-639-13&P		EA	1
3		TECHNICAL MANUAL, TM 9-2815-257-24		EA	1
4		REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) TM 9-2815-257-24P		EA	1

END OF WORK PACKAGE

OPERATOR MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ADDITIONAL AUTHORIZATION LIST (AAL)**

INTRODUCTION**Scope**

This work package lists additional items you are authorized for the support of the 3 kW Tactical Quiet Generator Set (MEP-831A) and (MEP-832A).

General

This list identifies items that do not have to accompany the 3 kW Tactical Quiet Generator Set and that do not have to be turned in with it. These items are all authorized to you by Common Table of Allowances (CTA), Modified Table of Organization and Equipment (MTOE), Table of Distribution Allowances (TDA), or Joint Table of Allowances (JTA).

Explanation of Entries in the AAL

Column (1) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (2) Description, Part Number/(CAGEC). Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (3) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment.

Column (4) U/I. Unit of Issue (U/I) indicates the physical measurement or count of the item as issued per the National Stock Number shown in Column (1).

Column (5) Qty Recm. Indicates the quantity recommended.

Table 1. Additional Authorization List.

(1) National Stock Number (NSN)	(2) Description, Part Number / (CAGEC)	(3) Usable On Code	(4) U/I	(5) Qty Recm
2910-00-066-1235	ADAPTER, CONTAINER P/N 13211E7541 (06076)		EA	1
7240-01-337-5269	CAN, GASOLINE, MILITARY P/N 10502788 (56161)		EA	1
5999-00-186-3912	CLAMP, ELECTRICAL 70-801074 (04655)		EA	1
5975-00-794-2523	COUPLINGS, GROUND ROD (3 IN SET) GRC 58 (06VU6)		EA	1
5975-00-924-9927	DRIVE/HEAD STUD GRB 58 (73616)		EA	1
4210-00-270-4512	EXTINGUISHER, FIRE, CARBON DIOXIDE P/N F5COV (02788)		EA	1
5940-00-271-9504	GROUND TERMINAL LUG CBA 70 (01667)		EA	1
5120-00-251-4489	HAMMER, HAND, 8 LBS			-
4720-00-021-3320	HOSE ASSEMBLY, AUXILIARY FUEL P/N FA1493FFF3000 (30554)		EA	1
5120-01-013-1676	SLIDE HAMMER, GROUND P/N P74-144 (45225)		EA	1
7240-00-177-6154	SPOUT, CAN, FLEXIBLE P/N 11677020 (19207)		EA	1
6145-00-395-8799	WIRE, ELECTRICAL NO. 6 AWG, 7 STRANDS, CLASS B, TEMPER, 6 FT LONG AA59551-C06B1T (58536)		FT	1

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****EXPENDABLE SUPPLIES AND DURABLE ITEMS LIST**

EXPENDABLE AND DURABLE ITEMS LIST**Scope**

This work package 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), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

Explanation of Columns in the Expendable/Durable Items List

Column (1) Item No. 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 (WP 0098, item 5)).

Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item (include as applicable: C = Crew, O = AMC, F = Maintainer or ASB, H = BelowDepot or TASMG, D = Depot).

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

Column (4) Item Name, Description, Part Number/(CAGEC). This column provides the other information you need to identify the item. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (5) U/I. Unit of Issue (U/I) code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

Table 1. Expendable and Durable Items List.

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, Part Number / (CAGEC)	(5) U/I
1	O, F	6850-01-244-3207	CLEANING COMPOUND SOLVENT 134-HI-SOLV (55 GAL) (59557)	GAL
1	O, F	6850-01-474-2316	CLEANING COMPOUND SOLVENT BREAKTHROUGH, 55 GAL (0K209)	GAL
1	O, F	6850-01-277-0595	CLEANING COMPOUND SOLVENT 134-HI-SOLV (5 GAL) (59557)	GAL
2	O, F	7920-01-338-3329	CLOTH, CLEANING	BG
3	O	2940-01-365-6535	FILTER BODY FLUID (FUEL), 479735 (72850)	EA
4	C, O	2940-01-310-4495	FILTER ELEMENT (AIR) 114250-12580 (54163)	EA
5	O	2815-01-353-7523	FILTER FLUID, OIL 114250-35070 (S4163)	EA
6	O, F	9150-00-663-1770	GREASE, GENERAL PURPOSE (630AA)	OZ
7	O, F	9150-00-402-2372	OIL, ENGINE, MIL-L-46167 OEA	QT
8	O, F	9150-00-491-7197	OIL, ENGINE MIL-L-2104 OE/HDO-15/40	QT
9	O, F	9150-00-189-6727	OIL, ENGINE MIL-L-2104, OE/HDO-10	QT
10	O, F	9150-01-092-3205	OIL, ENGINE MIL-L-2104 OE/HDO-30	QT
11	O, F	9150-01-433-7970	OIL, ENGINE MIL-L-2104 OE/HDO-40	QT
12	O, F	6850-01-160-3868	OIL, INHIBITOR, CORROSION	QT
13	O, F	9150-00-111-201	OIL LUBRICATING, ENGINE, PE 30, MIL-L-21260	QT
14	C, O	5331-01-326-9017	O-RING 24341-00024 (S4163)	EA
15	O, F	8010-01-229-7547	PAINT, CARC, MIL-C-46168, COLOR GREEN 383, NO. 34094	GL

Table 1. Expendable and Durable Items List. - Continued

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, Part Number / (CAGEC)	(5) U/I
16	O, F	8010-01-340-5175	PAINT, CARC MIL-C-46168, COLOR BLACK NO. 37038	GL
17	O, F	8040-00-843-0802	SEALANT RTV 108	OZ
18	O, F		SEALANT THREAD, PERMATEX 70-1536	OZ
19	F	8030-01-025-1692	SEALING COMPOUND ADHESIVE, LOCTITE 242	OZ
20	O, F	3439-00-974-1873	SOLDER TIN ALLOY	SL
21	O, F	8030-00-889-355	TAPE ANTISEIZING, TEFLON	EA
22	O, F	7510-00-836-0810	TAPE PRESSURE SENSITIVE ADHESIVE PPT-T-60	RL
23	O, F		TUBING HEAT SHRINK	IN
24	F	6810-00-107-1510	WATER DISTILLED	DR

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****MANDATORY REPLACEMENT PARTS****MANDATORY REPLACEMENT PARTS**

This work package lists all mandatory replacement parts referenced in the maintenance procedures in this manual. These are items that must be replaced during maintenance whether they have failed or not. This includes items based on usage intervals such as time and operating hours.

Table 1. Mandatory Replacement Parts.

(1) Item No.	(2) Part Number	(3) National Stock Number (NSN)	(4) Nomenclature	(5) Qty
1	MS3367-5-9	5975-00-111-3208	STRAP, TIEDOWN, ELECTRIC	V
2	H1104	5975-00-727-5153	STRAP, TIEDOWN, ELECTRIC	V
3	PLT 2S	5975-01-128-0390	STRAP, TIEDOWN, ELECTRIC	V
4	MS51844-23	4030-01-114-3894	SWAGING SLEEVE, WIRE	2

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE**3 kW TACTICAL QUIET GENERATOR SETS MEP-831A (60 Hz) & MEP-832A (400 Hz)****ON-BOARD SPARES**

INTRODUCTION

This work package lists on-board spares (essential repair parts) required during deployment of the 3 kW TQG.

General

On-board spares are required during deployment to perform emergency repairs. Although shipped separately packaged, these on-board spares must be with the generator set during operation and when the generator set is transferred between property accounts. This list is your reference to buy on-board spares, based on authorization of the end item by the Table of Organization and Equipment (TOE) / Modified Table of Organization and Equipment (MTOE).

Explanation of Columns

- a. Column 1, Illus Number, gives you the illustration number in this TM.
- b. Column 2, National Stock Number, identifies the National Stock Number (NSN) of the item to be used for requisitioning purposes.
- c. Column 3, Description and Usable On Code, identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the Commercial and Government Entity Code (CAGEC) (in parentheses) and the part number.
- d. Column 4, U/I (Unit of Issue), indicates how the item is issued for the NSN shown in Column (2).
- e. Column 5, Qty Rqd, indicates the quantity required.

Table 1. On-Board Spares.

(1) Illus Number	(2) National Stock Number (NSN)	(3) Description CAGEC and Part Number	(4) U/I	(5) Qty Rqd
WP 0024, FIG 1	6130-01-476-9148	BATTERY CHARGING REGULATOR (A9)	1	EA
WP 0027, FIG 1	6110-01-477-1175	CONTACTOR, MAGNETIC	1	EA
WP 0027, FIG 1	6110-01-507-7938	CONTACTOR, MAGNETIC	1	EA
WP 0018, FIG 1	2815-01-465-5993	ENGINE	1	EA
WP 0074, FIG 1	2990-01-477-2195	EXHAUST SYSTEM	1	EA
WP 0037, FIG 1	6625-01-477-0634	FAULT INDICATOR MODULE	1	EA
WP 0028, FIG 1	5895-01-477-0855	FREQUENCY CONVERTER (A8)	1	EA
WP 0055, FIG 1	2910-01-477-1311	FUEL INJECTOR PUMP	1	EA
WP 0059, FIG 1	2910-01-517-8606	FUEL PUMP, AUXILIARY	1	EA
WP 0058, FIG 1	2910-01-477-0840	FUEL PUMP, PRIMARY	1	EA
FIG 0022, FIG 4	2920-01-477-1320	GOVERNOR ACTUATOR	1	EA
WP 0019, FIG 2	2990-01-477-1371	GOVERNOR SPEED CONTROL MODULE	1	EA
WP 0022, FIG 1	6115-01-476-8607	PERMANENT MAGNET ALTERNATOR (PMA)	1	EA

END OF WORK PACKAGE

OPERATOR AND FIELD MAINTENANCE

3 KW TACTICAL QUIET GENERATOR SETS MEP-831A (60 HZ) & MEP-832A (400 HZ)

SPECIAL PACKAGING INSTRUCTIONS

This work package contains special packaging instructions for 3 kW Tactical Quiet Generator (TQG) sets.

SPECIAL PACKAGING INSTRUCTION (MIL-STD-2073)		CODE IDENT 30554		SPI NO.	
PART OR DRAWING NO. MEP-831A/MEP-832A		NATIONAL STOCK NO. 60HZ 6115-01-285-3012 400 HZ 6115-01-287-24314		DATE 110104	
REVISION 0					
QUP 001	ICQ 000	UNIT PACK WT MEP-831A 304 lbs. MEP-832A 302 lbs.	UNIT PACK CUBE 14.8	UNIT PACK SIZE MEP-831A/MEP-832A 34.8 x 27.8 x 26.5	SHEET 1 of 2
Preservation: Generator Set: MIL-P-116, Method lib Engine: MIL-E-10062, Level A, Type II, Method II Cleaning: MIL-P-116 Driving: MIL-P-116 Packing: Level A: MIL-STD-2073-1A Marking: MIL-ST-129			STEPS	REQ'D	DESCRIPTION
			1		Preserve generator set IAW MIL-P-116, 1lb
			2		Preserve diesel engine IAW MIL-E-10062, A, II
			3		Tape air intake and exhaust openings.
					Tape PPP-T-60, IV
			4		Container; PPP-B-601, overseas-type (inside diameter) 29.5 x 16 x 21.7 inches
			NOTES: 1. Seal air intake and exhaust openings with tape PPP-T-60, Type IV (or MIL-T-22085, Type II). 2. An internal-type humidity indicator shall be required as specified in MIL-P-116. 3. Generator set shall be packed in a close-fitting plywood box conforming to PPP-B-601, overseas-type. Metal strapping shall be zinc-coated.		

DD Form 2169, 1 Jan 79

Figure 1. Special Packaging Instructions, MEP-831A/MEP-832A (Sheet 1 of 2)

SPECIAL PACKAGING INSTRUCTION (MIL-STD-2073)		CODE IDENT 30554		SPI NO.
PART OR DRAWING NO. MEP-831A/MEP-832A		NATIONAL STOCK NO. 60Hz 285-3012 400Hz 287-2431		REVISION 0
				SHEET 2 OF 2

DD Form 2169, 1 Jan 79

Figure 1. Special Packaging Instructions, MEP-831A/MEP-832A (Sheet 2 of 2).

END OF WORK PACKAGE

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ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON			
1	MM0005		3			<small>Test or Connection Section column should identify a different VDR number</small>			
<div style="transform: rotate(-45deg); font-size: 100px; opacity: 0.5;">EXAMPLE</div>									
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PUBLICATION/FORM NUMBER				DATE		TITLE		
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
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PUBLICATION/FORM NUMBER						DATE	TITLE
ITEM	PAGE	PARA-GRAPH	LINE	FIGURE NO.	TABLE	RECOMMENDED CHANGES AND REASON	
TYPED NAME, GRADE OR TITLE				TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION		SIGNATURE	

TO: (Forward to proponent of publication or form) (Include ZIP Code)				FROM: (Activity and location) (Include ZIP Code)			DATE	
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PUBLICATION/FORM NUMBER				DATE		TITLE		
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
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TO: <i>(Forward to proponent of publication or form) (Include ZIP Code)</i>				FROM: <i>(Activity and location) (Include ZIP Code)</i>			DATE	
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PUBLICATION/FORM NUMBER				DATE		TITLE		
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION
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DESIGNATION	DESCRIPTION
A2	MALFUNCTION GROUP
A6	GOVERNOR CONTROL
A8	GOVERNOR ACTUATOR
A9	POWER CONVERTER
B1	REGULATOR, BATTERY CHARGING
B1	STARTER, ENGINE
B2, B3	BATTERY, 24V
B2, B3	FAN, VENTILATING
CB1	CIRCUIT BREAKER, DC CONTROL
CB3	GROUND FAULT CIRCUIT INTERRUPTER
CR1, CR2, CR3	DIODE, BLOCKING (BATT REV POLARITY)
CR4	RECTIFIER, FULL WAVE
CS6	INDICATOR, AC CIRCUIT INT CLOSED
E1	PUMP, AUX FUEL TRANSFER
E2	PUMP, ENGINE FUEL TRANSFER
EMI	FUSE, BATTERY CHARGING REGULATOR
FL1	SWITCH, FLOAT, LOW FUEL SHUTDOWN
FL1	NOTE: THE NORMAL POSITION OF FL 1 APPLIES TO AN EMPTY TANK
FL2A	SWITCH, FLOAT, AUX FUEL PUMP OFF
FL2B	SWITCH, FLOAT, AUX FUEL PUMP ON
G1	GROUND STUD
H1, H2	HEATER, AIR
J1	SWITCH, ENGINE HIGH TEMP.
K1	CONVENIENCE RECEPTACLE (DUPLEX)
K2	A.C. CIRCUIT INTERRUPTER
K3	CONTACTOR, ENGINE START
K3	OVERVOLTAGE RELAY (P/O A8)
K6	SHORT CIRCUIT RELAY (P/O A8)
K6	OVERLOAD SHORT CIRCUIT RELAY (P/O A8)
K12	RELAY, FAULT LOCKOUT
K13	RELAY, FAULT LOCKOUT
K14	CONTACTOR, ENGINE PRE-HEAT
K15	RELAY, AUX FUEL TRANSFER
K15	RELAY, STARTER CUTOUT
L1, L2, N	LOAD TERMINAL
L4	SOLENOID, ENGINE STARTER (PART OF B1)
M1	VOLTMETER, AC (0-250V)
M2	WATTMETER
M3	METER, TOTAL TIME (TT)
M5	METER, FUEL LEVEL
MT5	FUEL LEVEL SENDER
OP	SWITCH, LOW OIL PRESSURE
R1	RHEOSTAT, VOLTAGE ADJUST
R6	RESISTOR, STARTER CUTOUT RELAY
RV1, RV2, RV3	SURGE ARRESTOR
S1	SWITCH, MASTER (STOP-RUN-START)
S6	SWITCH, A.C. CIRCUIT INTERRUPTER
S7	SWITCH, BATTLE SHORT
S17	SWITCH, AUX FUEL
S18	SWITCH, ENGINE PRE-HEAT SYSTEM
S19	SWITCH, EMERGENCY STOP
S20, S21	SWITCH, TEMPERATURE
SR1	SLAVE RECEPTACLE (NATO)
TB2	TERMINAL BOARD, OUTPUT LOAD
TB3	TERMINAL BOARD, DIAGNOSTIC TEST POINTS
TB4, TB5, TB6	TERMINAL BOARD
TVS1-TV56	TRANSIENT VOLTAGE SUPPRESSOR
CONNECTOR	DESCRIPTION
J4/P4	A2 (MALFUNCTION GROUP)
J6/P6	HT (SWITCH, ENG HIGH TEMP)
J6/P6	A9 (REG. BATTERY CHARGING)
J7/P7	CONTROL BOX CONNECTOR
J6/P6	FL2A/FL2B (FLOAT SWITCH)
J6/P6	E1 (PUMP)
J10/P10	A8 (GOVERNOR ACTUATOR)
J11/P11	FL1 (FLOAT SWITCH)
J12/P12	E2 (PUMP)
J13/P13	B2 (FAN)
J14/P14	B3 (FAN)
J15/P15	A8 (POWER CONVERTER)
J16/P16	
J17/P17	

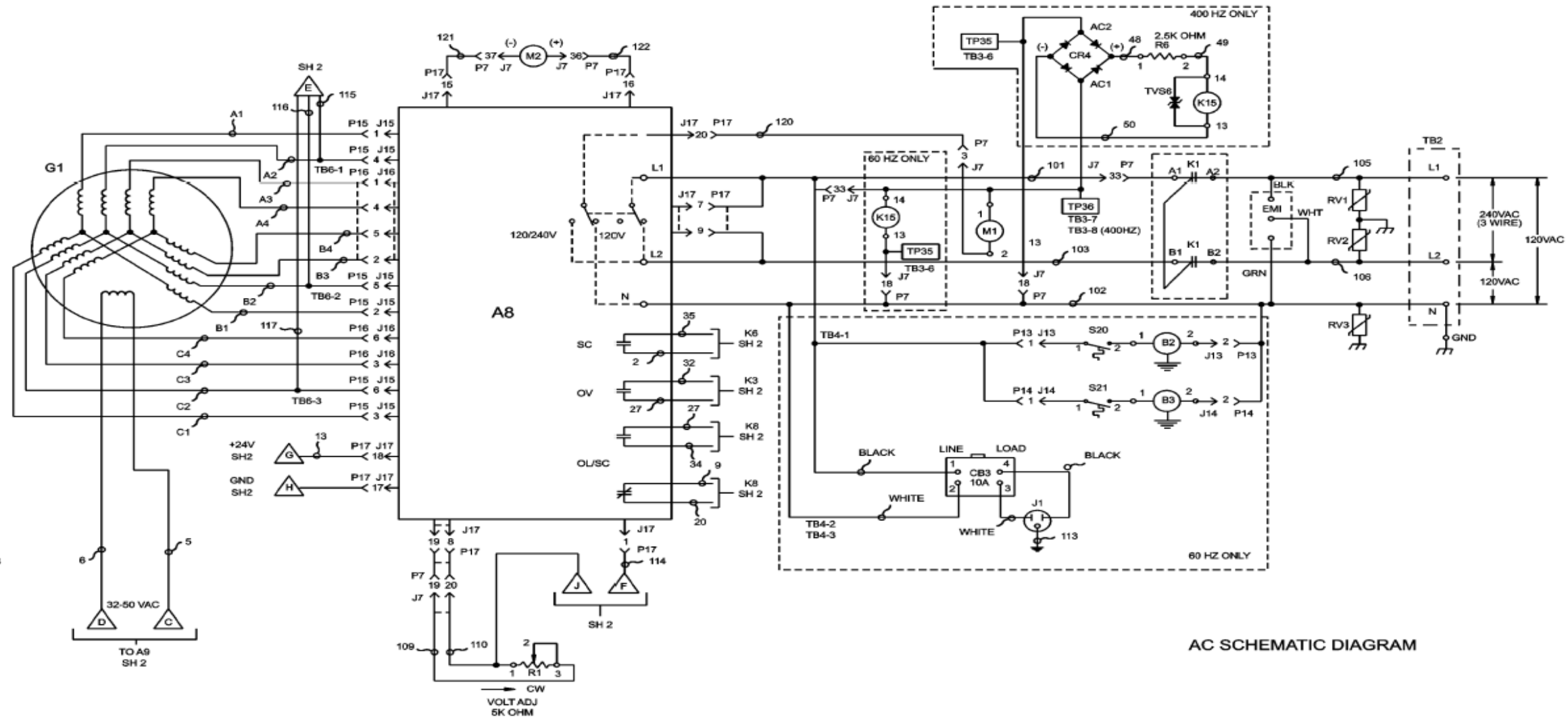


Figure FO-1. Generator Set Electrical Schematic (Sheet 1 of 2).

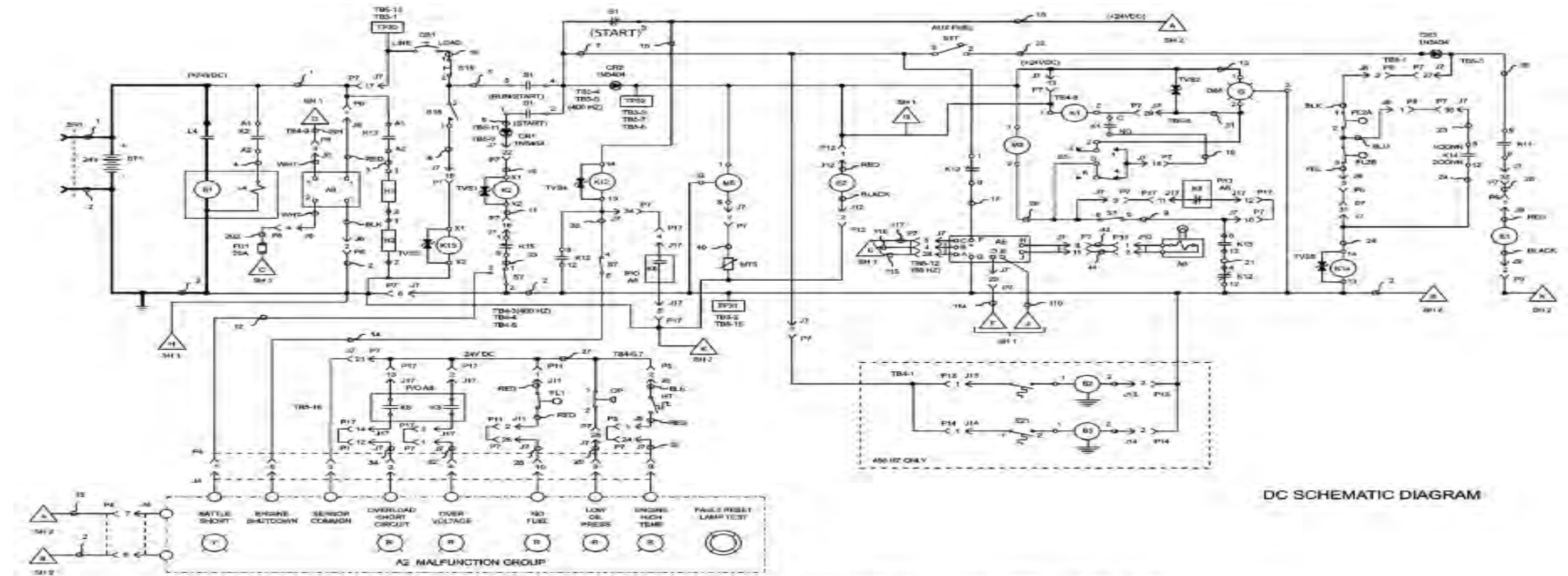


Figure FO-1. Generator Set Electrical Schematic (Sheet 2 of 2).

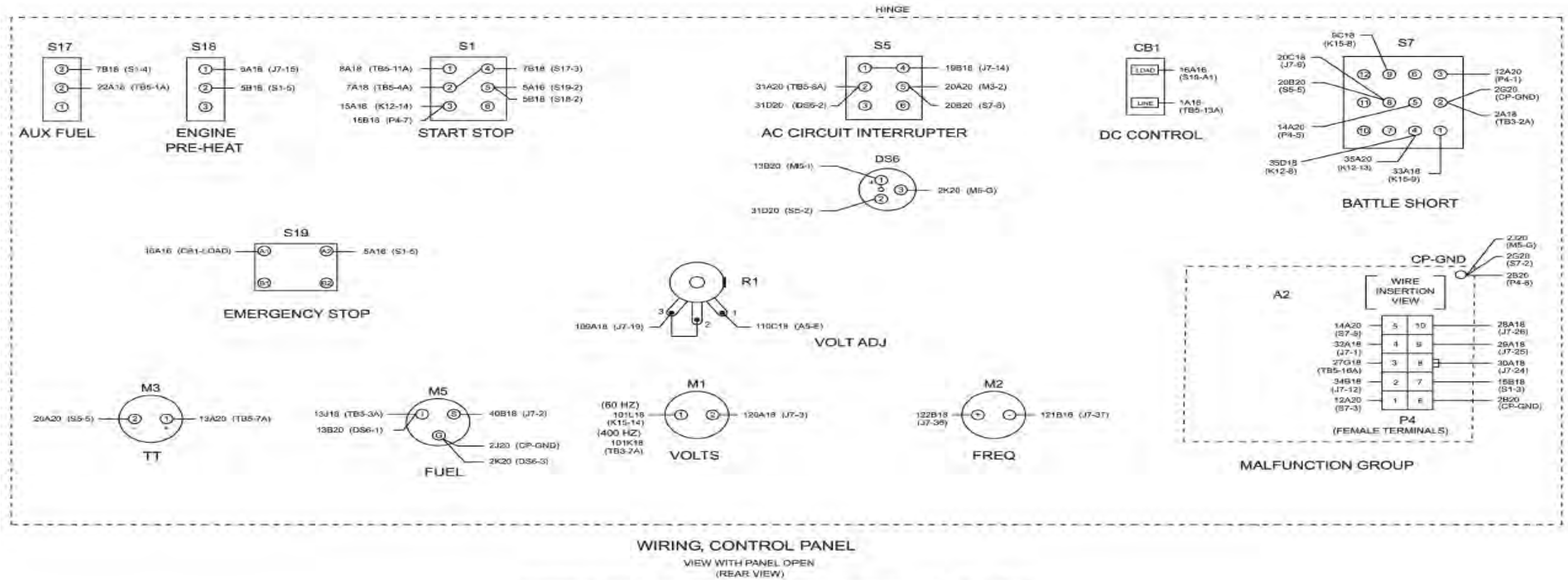


Figure FO-2. Generator Set Wiring Diagram (Sheet 1 of 4).

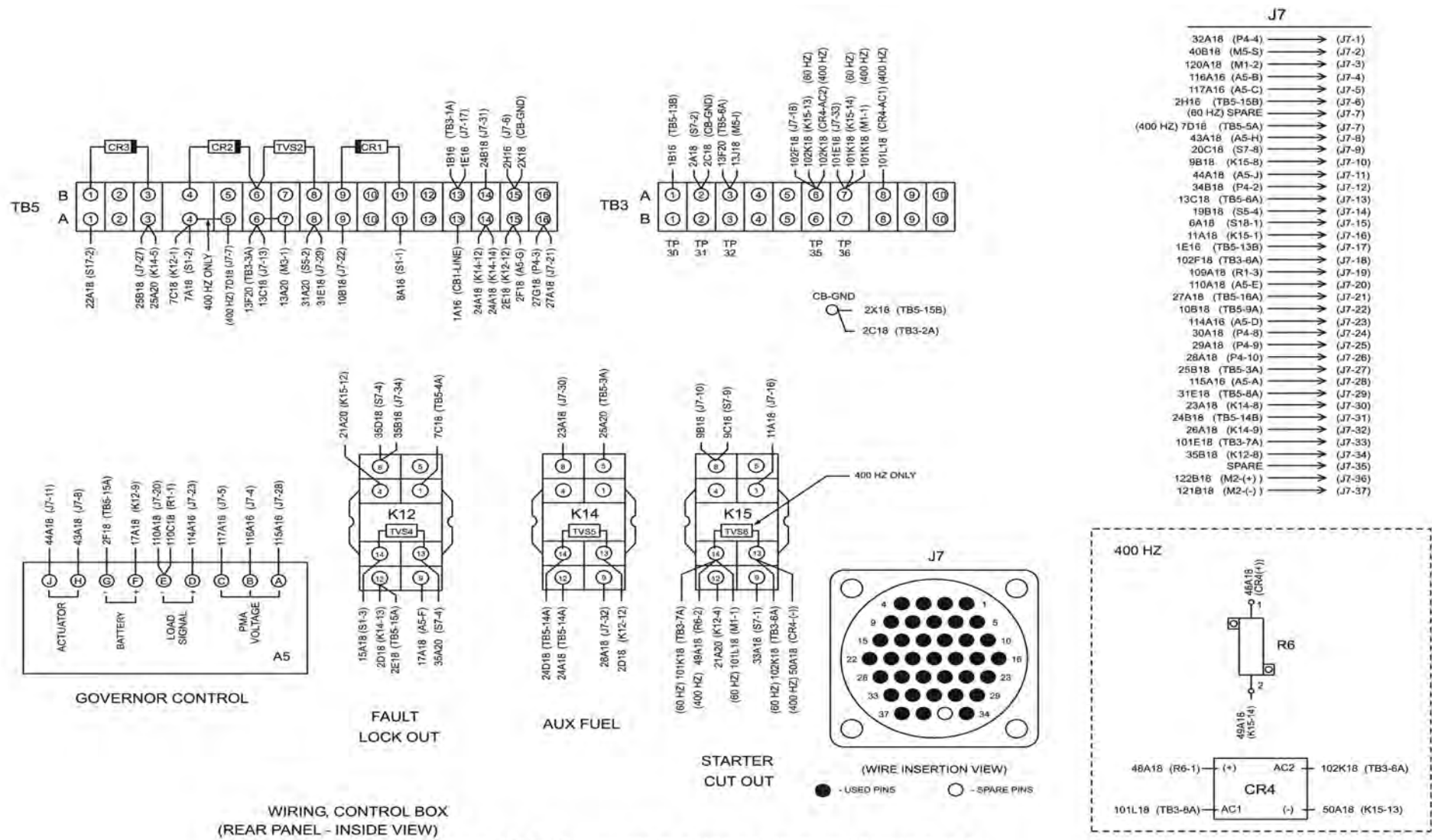
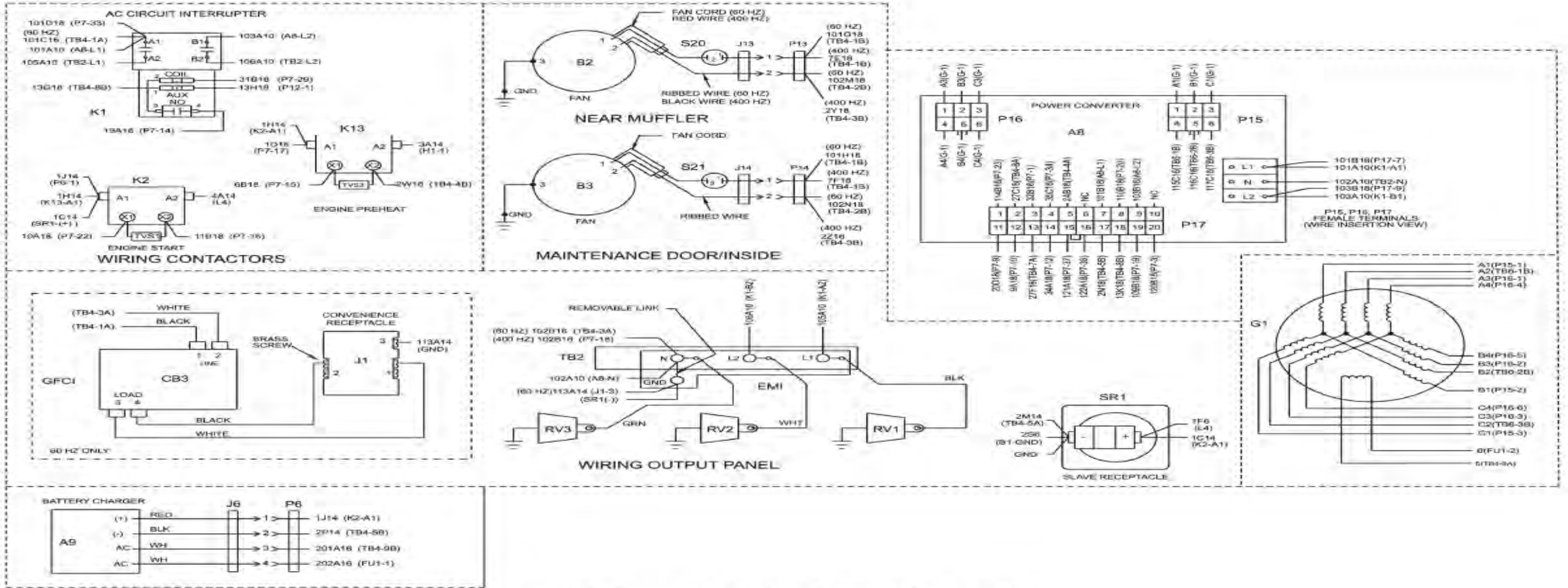


Figure FO-2. Generator Set Wiring Diagram (Sheet 2 of 4).



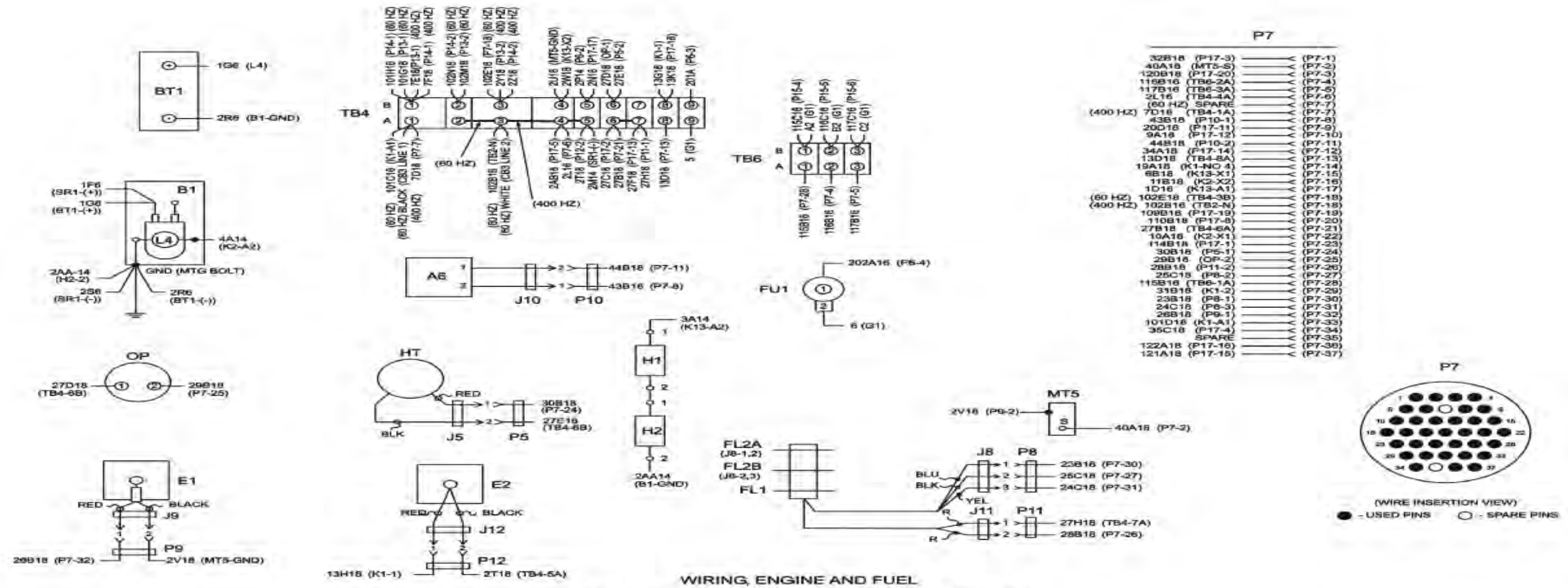
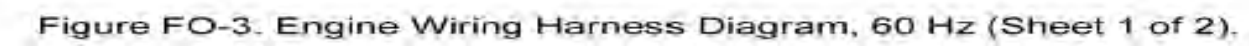


Figure FO-2. Generator Set Wiring Diagram (Sheet 4 of 4).



WIRE LIST TABLE								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
1	1C14	SR1-(+)	22	K2-A1	9	7	RED	50
2	1D16	P7-17	2	K13-A1	9	6	RED	57.5
3								
4								
5	1H14	K2-A1	9	K13-A1	9	7	RED	16
6	1J14	P6-1	15	K2-A1	9	7	RED	20.5
7	2L16	P7-6	2	TB4-4A	26	6	RED	31
8	2M14	SR1-(-)	22	TB4-5A	26	7	RED	34
9	2N18	P17-17	34	TB4-5B	27	5	RED	58
10	2P14	P6-2	15	TB4-5B	26	7	RED	8.5
11								
12								
13	2T18	P12-2	15	TB4-5A	27	5	RED	69
14	2U18	MT5-GND	13	TB4-4B	27	5	RED	54
15	2V18	P6-2	15	MT5-GND	13	5	RED	36
16	2W18	K13-X2	30	TB4-4B	27	5	RED	21.5
17	3A14	H1-1	31	K13-A2	9	7	RED	84
18	4A14	K2-A2	9	L4	21	7	RED	73
19	6B18	P7-15	2	K13-X1	30	5	RED	57.5
20	9A18	P7-10	2	P17-12	34	5	RED	46
21	10A18	P7-22	2	K2-X1	30	5	RED	55.5
22	11B18	P7-18	2	K2-X2	30	5	RED	55.5
23	13D18	P7-13	2	TB4-8A	27	5	RED	29
24	13G18	K1-1	18	TB4-6B	27	5	RED	48
25	13H18	K1-1	18	P12-1	15	5	RED	62
26	13K18	TB4-5B	27	P17-18	34	5	RED	59
27	2AB18	P17-5	34	TB4-4A	27	5	RED	50
28	13A18	P7-14	2	K1-4	18	5	RED	35
29	23D18	P7-9	2	P17-11	34	5	RED	46
30	23B18	P7-30	2	P8-1	15	5	RED	35
31	24C18	P7-31	2	P8-3	15	5	RED	35
32	25C18	P7-27	2	P8-2	15	5	RED	35
33	26B18	P7-32	2	P9-1	15	5	RED	46
34	27B18	P7-21	2	TB4-6A	27	5	RED	30
35	27C18	P17-2	34	TB4-6A	27	5	RED	48
36	27D18	OP-1	19	TB4-6B	27	5	RED	43
37	27E18	P5-2	15	TB4-6B	27	5	RED	51
38	27F18	P17-13	34	TB4-7A	27	5	RED	48.5
39	27H18	P11-1	15	TB4-7A	27	5	RED	38.5
40	28B18	P7-26	2	P11-2	15	5	RED	35
41	29B18	P7-25	2	OP-2	19	5	RED	20
42	30B18	P7-24	2	P5-1	15	5	RED	38
43	31B18	P7-29	2	K1-2	18	5	RED	35
44								
45	32B18	P7-1	2	P17-3	34	5	RED	46
46	34A18	P7-12	2	P17-16	34	5	RED	46
47	35C18	P7-34	2	P17-4	34	5	RED	46
48	40A18	P7-2	2	MT5-S	13	5	RED	44
49	43B18	P7-8	2	P10-1	15	5	RED	20
50	44B18	P7-11	2	P10-2	15	5	RED	20
51	101A10	A5-L1	20	K1-A1	8	4	BLK	56
52	101B18	A5-L1	19	P17-7	34	5	BLK	18
53	101C18	TB4-1A	26	K1-A1	9	6	BLK	40
54	101D18	P7-33	2	K1-A1	10	5	BLK	33.5
55	101G18	TB4-1B	27	P13-1	15	5	BLK	16.5
56	101H18	TB4-1B	27	P14-1	15	5	BLK	41.5

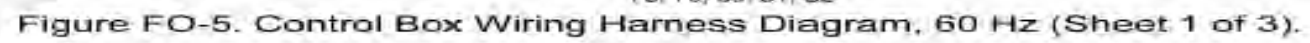
CONTINUED								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
57	102A10	TB2-N	8	A5-N	20	4	BLK	43
58	102B18	TB4-3A	26	TB2-N	9	6	BLK	27.5
59	201A16	P6-3	15	TB4-3B	26	5	BLK	7.0
60	102E18	P7-18	2	TB4-3B	27	5	BLK	38
61	102M18	TB4-2B	27	P13-2	15	5	BLK	16
62	102N18	TB4-2B	27	P14-2	15	5	BLK	41
63	103A10	A5-L2	20	K1-B1	8	4	BLK	56
64	103B18	A5-L2	19	P17-9	34	5	BLK	15.5
65	105A10	TB2-L1	8	K1-A2	8	4	BLK	22
66	202A16	P6-4	15	FU1-1	12	6	BLK	21.5
67	106A10	TB2-L2	8	K1-B2	8	4	BLK	22
68	122A18	P7-36	2	P17-16	34	5	BLK	46
69	109B18	P7-19	2	P17-19	34	5	BLK	46
70	110B18	P7-20	2	P17-8	34	5	BLK	46
71								
72	120B18	P7-3	2	P17-20	34	5	BLK	46
73	121A18	P7-37	2	P17-15	34	5	BLK	46
74	114B18	P7-23	2	P17-1	34	5	BLK	46
75	115B16	P7-28	2	TB6-1A	26	6	BLK	35
76								
77	116B16	P7-4	2	TB6-2A	26	6	BLK	38.5
78								
79	117B16	P7-5	2	TB6-3A	26	6	BLK	39
80	113A14	J1-3	32	GND	9	7	BLK	37
81								
82								
83								
84								
85								
86		SR1-(-)	23	GND	8	4		8
87								
88		H1-2	31	H2-2	31	7		2
89	2AA14	H2-1	31	B1-GND	31	7	BLK	21

Figure FO-3. Engine Wiring Harness Diagram, 60 Hz (Sheet 2 of 2).

WIRE LIST TABLE							
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR WIRE LENGTH
1	1C14	SR1-(+)	22	K2-A1	9	7	RED 50
2	1D18	P7-17	2	K13-A1	9	6	RED 57.5
3							
4							
5	1H14	K2-A1	9	K13-A1	9	7	RED 16
6	1J14	P6-1	15	K2-A1	9	7	RED 20.5
7	2L16	P7-6	2	TB4-4A	26	6	RED 31
8	2M14	SR1-(+)	22	TB4-5A	26	7	RED 34
9	2N18	P17-17	34	TB4-5B	27	5	RED 58
10	2P14	P6-2	15	TB4-5B	26	7	RED 4.5
11							
12							
13	2T18	P12-2	15	TB4-5A	27	5	RED 59
14	2U18	MT5-GND	13	TB4-4B	27	5	RED 54
15	2V18	P9-2	15	MTG-GND	13	5	RED 36
16	2W18	K13-X2	30	TB4-4B	27	5	RED 21.5
17	2Y18	TB4-3B	27	P13-2	15	5	RED 15.5
18	2Z18	TB4-3B	27	P14-2	15	5	RED 40.5
19	3A14	H1-1	31	K13-A2	9	7	RED 84
20	4A14	K2-A2	9	L4	21	7	RED 73
21	6B18	P7-15	2	K13-X1	30	5	RED 57.5
22	7D18	P7-7	2	TB4-1A	27	5	RED 32.5
23	7E18	TB4-1B	27	P13-1	15	5	RED 16.5
24	7F18	TB4-1B	27	P14-1	15	5	RED 41.5
25	8A18	P7-10	2	P17-12	34	5	RED 46
26	10A18	P7-22	2	K2-X1	30	5	RED 55.5
27	11B18	P7-16	2	K2-X2	30	5	RED 55.5
28	13D18	P7-13	2	TB4-8A	27	5	RED 29
29	13G18	K1-1	18	TB4-8B	27	5	RED 48
30	13H18	K1-1	18	P12-1	15	5	RED 62
31	13K18	TB4-8B	27	P17-18	34	5	RED 59
32							
33	19A18	P7-14	2	K1-NO4	18	5	RED 35
34	20D18	P7-9	2	P17-11	34	5	RED 46
35	23B18	P7-30	2	P8-1	15	5	RED 35
36	24C18	P7-31	2	P8-3	15	5	RED 35
37	25C18	P7-27	2	P8-2	15	5	RED 35
38	26B18	P7-32	2	P9-1	15	5	RED 46
39	27B18	P7-21	2	TB4-6A	27	5	RED 30
40	27C18	TB4-6A	27	P17-2	34	5	RED 49
41	27D18	OP-1	19	TB4-6B	27	5	RED 43
42	27E18	TB4-6B	27	P9-2	15	5	RED 51
43	27F18	TB4-7A	27	P17-13	34	5	RED 48.5
44	27H18	TB4-7A	27	P11-1	15	5	RED 38.5
45	28B18	P7-26	2	P11-2	15	5	RED 35
46	29B18	P7-25	2	OP-2	19	5	RED 20
47	30B18	P7-24	2	P5-1	15	5	RED 36
48	31B18	P7-29	2	K1-2	18	5	RED 35
49							
50	32B18	P7-1	2	P17-3	34	5	RED 46
51	34A18	P7-12	2	P17-14	34	5	RED 46
52	35C18	P7-34	2	P17-4	34	5	RED 46
53	40A18	P7-2	2	MT5-S	13	5	RED 44
54	43B18	P7-8	2	P10-1	15	5	RED 20
55	44B18	P7-11	2	P10-2	15	5	RED 20
56	101A10	A8-L1	20	K1-A1	8	4	BLK 56

CONTINUED							
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR WIRE LENGTH
57	101B18	A8-L1	19	P17-7	34	5	BLK 15.5
58	101D18	P7-33	2	K1-A1	10	5	BLK 33.5
59	102A10	TB2-N	6	A8-N	20	4	BLK 43
60	102B16	P7-18	2	TB2-N	9	6	BLK 23.5
61							
62							
63	103A10	A8-L2	20	K1-B1	8	4	BLK 56
64	103B18	A8-L2	19	P17-9	34	5	BLK 15.5
65	105A10	TB2-L1	8	K1-A2	8	4	BLK 22
66							
67	106A10	TB2-L2	8	K1-B2	8	4	BLK 22
68							
69	109B18	P7-19	2	P17-19	34	5	BLK 46
70	110B18	P7-20	2	P17-8	34	5	BLK 46
71							
72							
73							
74	114B18	P7-23	2	P17-1	34	5	BLK 46
75	115B18	P7-28	2	TB5-1A	26	6	BLK 38
76							
77	116S16	P7-4	2	TB6-2A	26	6	BLK 38.5
78							
79	117B16	P7-5	2	TB6-3A	26	6	BLK 39
80							
81	120B18	P7-3	2	P17-20	34	5	BLK 46
82	121A18	P7-37	2	P17-15	34	5	BLK 46
83	122A18	P7-36	2	P17-16	34	5	BLK 46
84	202A18	P6-4	15	FU1-1	12	6	BLK 21.5
85	201A16	P6-3	15	TB4-9B	26	6	BLK 7.0
86		SR1-(-)	23	GND	8	4	
87							
88		H1-2	31	H2-1	31	7	
89	2AA14	H2-2	31	B1-GND	31	7	BLK 21
90	2AB18	P17-5	34	TB4-4A	27	5	RED 50

Figure FO-4. Engine Wiring Harness Diagram, 400 Hz (Sheet 2 of 2).



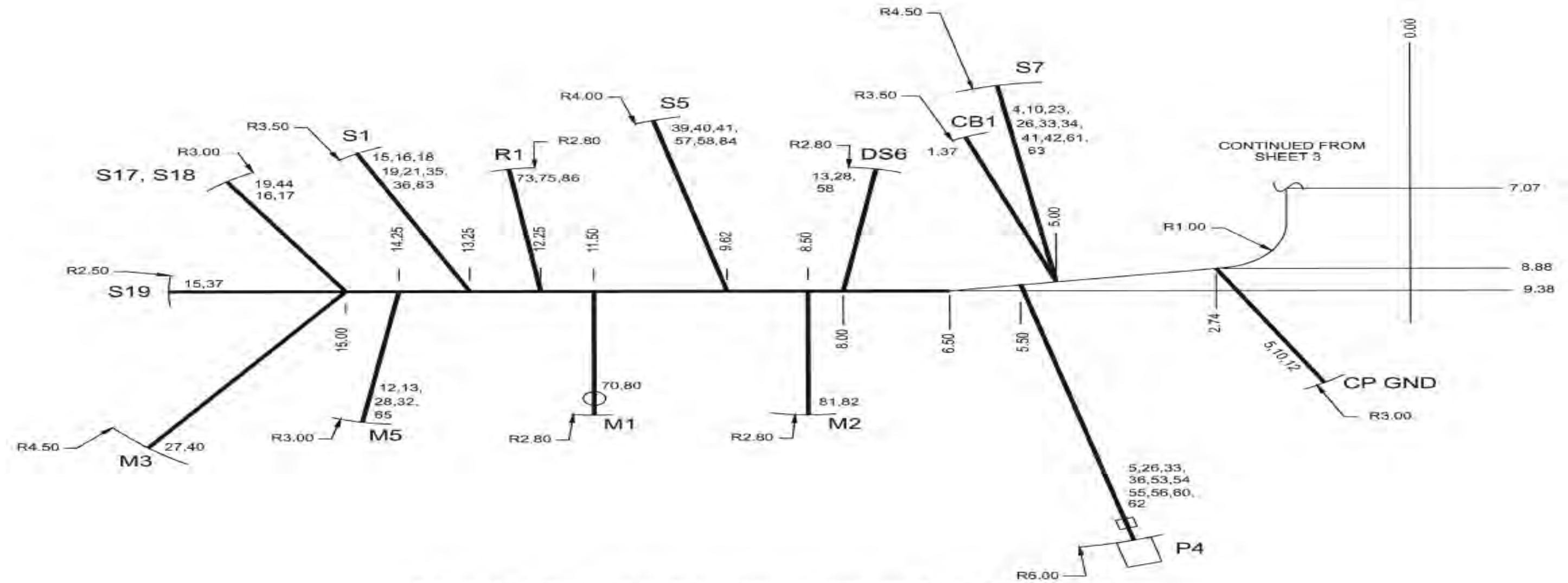


Figure FO-5. Control Box Wiring Harness Diagram, 60 Hz (Sheet 2 of 3).

WIRE LIST TABLE								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
1	1A16	TB5-13A	7	CB1-LINE	8	3	RED	26.5
2	1B16	TB5-13B	7	TB3-1A	7	3	RED	8.0
3	1E16	J7-17	2	TB5-13B	7	3	RED	23.5
4	2A18	TB3-2A	6	S7-2	6	4	RED	32.0
5	2B20	CP-GND	10	P4-6	13	5	RED	12.8
6	2C18	TB3-2A	6	CB-GND	10	4	RED	14.3
7	2D18	K14-13	6	K12-12	6	4	RED	6.0
8	2E18	K12-12	6	TB5-15A	6	4	RED	10.3
9	2F18	A5-G	6	TB5-15A	6	4	RED	6.5
10	2G20	CP-GND	10	S7-2	6	5	RED	11.0
11	2H16	J7-6	2	TB5-15B	7	3	RED	22.0
12	2J20	M5-G	10	CP-GND	10	5	RED	18.5
13	2K20	M5-G	10	DS6-3	TIN	5	RED	12.0
14	2X18	CB-GND	10	TB5-15B	6	4	RED	13.5
15	5A16	S1-5	7	S19-2	7	3	RED	11.0
16	5B18	S1-5	6	S18-2	6	4	RED	7.3
17	6A18	J7-15	2	S18-1	6	4	RED	32.0
18	7A18	S1-2	6	TB5-4A	6	4	RED	39.5
19	7B18	S1-4	6	S17-3	6	4	RED	8.5
20	7C18	K12-1	6	TB5-4A	6	4	RED	8.0
21	8A18	S1-1	6	TB5-11A	6	4	RED	37.3
22	9B18	J7-10	2	K15-8	6	4	RED	15.5
23	9C18	S7-8	6	K15-8	6	4	RED	24.8
24	10B18	J7-22	2	TB5-9A	6	4	RED	20.5
25	11A18	J7-16	2	K15-1	6	4	RED	15.3
26	12A20	S7-3	6	P4-1	13	5	RED	10.8
27	13A20	TB5-7A	6	M3-1	9	5	RED	41.5
28	13B20	M5-1	10	DS6-1	TIN	5	RED	12.0
29	13C18	TB5-6A	6	J7-13	2	4	RED	22.0
30								
31	13F20	TB5-6A	6	TB3-3A	6	5	RED	14.3
32	13J18	TB3-3A	6	M5-1	10	4	RED	39.5
33	14A20	S7-5	6	P4-5	13	5	RED	10.5
34	35D18	K12-8	6	S7-4	6	4	RED	29.5
35	15A18	K12-14	6	S1-3	6	4	RED	40.0
36	15B18	S1-3	6	P4-7	13	4	RED	16.8
37	16A16	S19-1	7	CB1-LOAD	8	3	RED	14.5
38	17A18	K12-9	6	A5-F	6	4	RED	14.0
39	19B18	J7-14	2	S5-4	6	4	RED	28.0
40	20A20	M3-2	9	S5-5	6	5	RED	13.3
41	20B20	S5-5	6	S7-8	6	5	RED	11.8
42	20C18	S7-8	6	J7-9	2	4	RED	23.8
43	21A20	K15-12	6	K12-4	6	5	RED	13.0
44	22A18	S17-2	6	TB5-1A	6	4	RED	43.0
45	23A18	K14-8	6	J7-30	2	4	RED	16.5
46	24A18	K14-12	6	TB5-14A	6	4	RED	10.0
47	24B18	TB5-14B	6	J7-31	2	4	RED	23.0

WIRE LIST TABLE (CONTINUED)								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
48	24D18	K14-14	6	TB5-14A	6	4	RED	10.3
49	25A20	TB5-3A	6	K14-5	6	5	RED	10.5
50	25B18	TB5-3A	6	J7-27	2	4	RED	24.3
51	26A18	K14-9	6	J7-32	2	4	RED	24.0
52	27A18	TB5-16A	6	J7-21	2	4	RED	18.5
53	27G18	TB5-16A	6	P4-3	13	4	RED	30.0
54	28A18	J7-26	2	P4-10	13	4	RED	26.3
55	29A18	P4-9	13	J7-25	2	4	RED	26.3
56	30A18	P4-8	13	J7-24	2	4	RED	26.3
57	31A20	TB5-8A	6	S5-2	6	5	RED	35.5
58	31D20	S5-2	6	DS6-2	TIN	5	RED	8.8
59	31E18	J7-29	2	TB5-8A	6	4	RED	21.5
60	32A18	J7-1	2	P4-4	13	4	RED	26.3
61	33A18	S7-1	6	K15-9	6	4	RED	34.5
62	34B18	J7-12	2	P4-2	13	4	RED	26.3
63	35A20	S7-4	6	K12-13	6	5	RED	33.0
64	35B18	K12-8	6	J7-34	2	4	RED	20.0
65	40B18	M5-S	10	J7-2	2	4	RED	31.5
66	43A18	A5-H	6	J7-8	2	4	RED	23.5
67	44A18	A5-J	6	J7-11	2	4	RED	24.0
68	101E18	TB3-7A	6	J7-33	2	4	BLK	24.9
69	101K18	TB3-7A	6	K15-14	6	4	BLK	19.0
70	101L18	K15-14	6	M1-1	11	4	BLK	40.0
71	102F18	J7-18	2	TB3-6A	6	4	BLK	24.5
72	102K18	TB3-8A	6	K15-13	6	4	BLK	19.0
73	109A18	R1-3	TIN	J7-19	2	4	BLK	29.0
74	110A18	A5-E	6	J7-20	2	4	BLK	22.0
75	110C18	A5-E	6	R1-1	TIN	4	BLK	37.0
76	114A16	A5-D	7	J7-23	2	3	BLK	22.0
77	115A16	A5-A	7	J7-28	2	3	BLK	20.5
78	116A16	A5-B	7	J7-4	2	3	BLK	21.0
79	117A16	A5-C	7	J7-5	2	3	BLK	21.5
80	120A18	M1-2	11	J7-3	2	4	BLK	29.0
81	121B18	J7-37	2	M2-(-)	11	4	BLK	25.3
82	122B18	J7-36	2	M2-(+)	11	4	BLK	25.3
83		S1-2	6	S1-4	6	4		4.3
84		S5-1	6	S5-4	6	4		1.3
85								
86		R1-2	TIN	R1-3	TIN	4		4.0

Figure FO-5. Control Box Wiring Harness Diagram, 60 Hz (Sheet 3 of 3).

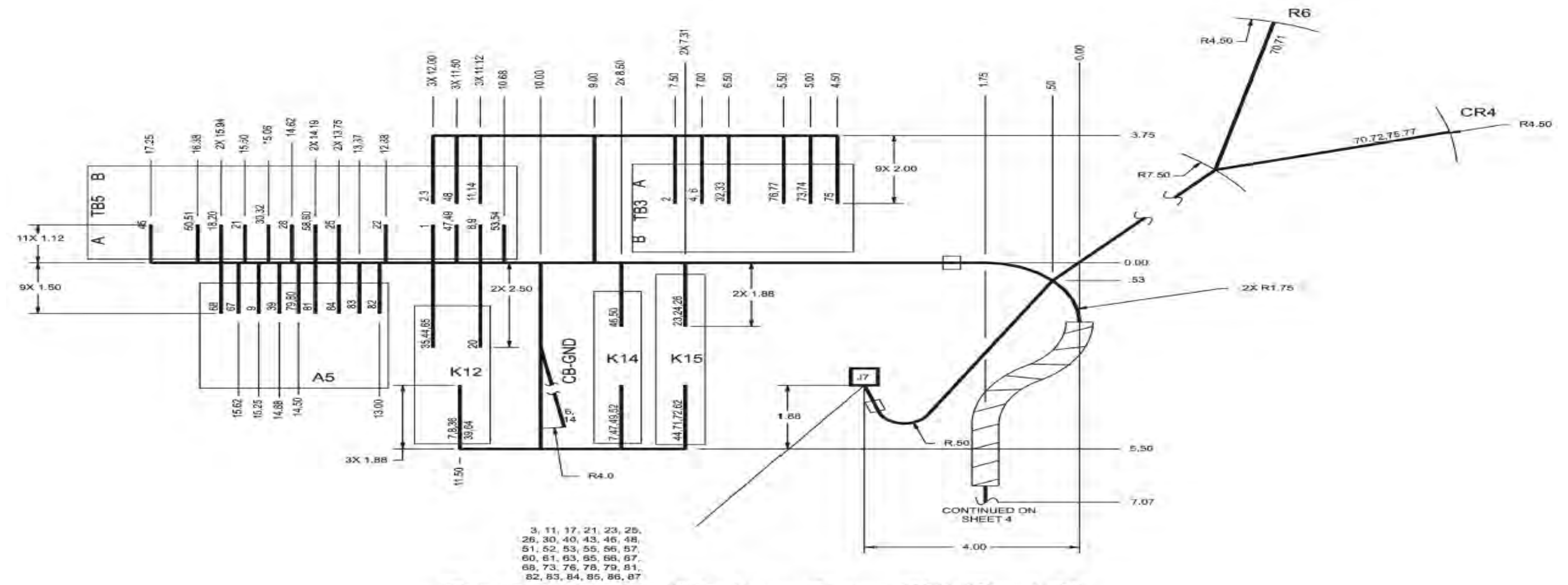


Figure FO-6. Control Box Wiring Harness Diagram, 400 Hz (Sheet 1 of 3).

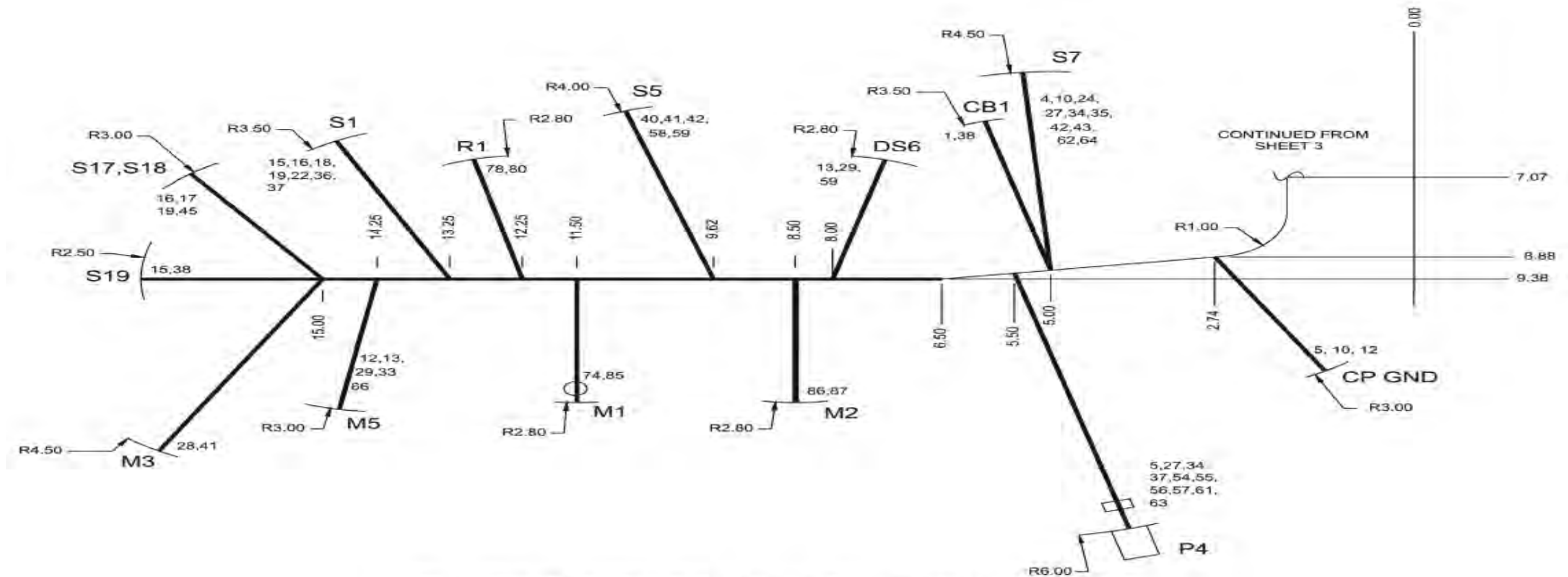


Figure FO-6. Control Box Wiring Harness Diagram, 400 Hz (Sheet 2 of 3).

WIRE LIST TABLE								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
1	1A16	TB5-13A	7	CB1-LINE	8	3	RED	26.5
2	1B16	TB5-13B	7	TB3-1A	7	3	RED	8.0
3	1E16	J7-17	2	TB5-13B	7	3	RED	23.5
4	2A18	TB3-2A	6	S7-2	6	4	RED	32.0
5	2B20	CP-GND	10	P4-6	13	5	RED	12.8
6	2C18	TB3-2A	6	CB-GND	10	4	RED	14.3
7	2D18	K14-13	6	K12-12	6	4	RED	6.0
8	2E18	K12-12	6	TB5-15A	6	4	RED	10.3
9	2F18	A5-G	6	TB5-15A	6	4	RED	6.5
10	2G20	CP-GND	10	S7-2	6	5	RED	11.0
11	2H16	J7-6	2	TB5-15B	7	3	RED	22.0
12	2J20	M5-G	10	CP-GND	10	5	RED	18.5
13	2K20	M5-G	10	DS6-3	TIN	5	RED	12.0
14	2X18	CB-GND	10	TB5-15B	6	4	RED	13.5
15	5A16	S1-5	7	S19-2	7	3	RED	11.0
16	5B18	S1-5	6	S18-2	6	4	RED	7.3
17	6A18	J7-15	2	S18-1	6	4	RED	32.0
18	7A18	S1-2	6	TB5-4A	6	4	RED	39.5
19	7B18	S1-4	6	S17-3	6	4	RED	8.5
20	7C18	TB5-4A	6	K12-1	6	4	RED	8.0
21	7D18	TB5-5A	6	J7-7	2	4	RED	22.0
22	8A18	S1-1	6	TB5-11A	6	4	RED	37.3
23	9B18	J7-10	2	K15-8	6	4	RED	15.5
24	9C18	S7-9	6	K15-8	6	4	RED	24.8
25	10B18	J7-22	2	TB5-9A	6	4	RED	20.5
26	11A18	J7-16	2	K15-1	6	4	RED	15.3
27	12A20	S7-3	6	P4-1	13	5	RED	10.8
28	13A20	TB5-7A	6	M3-1	9	5	RED	41.5
29	13B20	M5-I	10	DS6-1	TIN	5	RED	12.0
30	13C18	TB5-6A	6	J7-13	2	4	RED	22.0
31								
32	13F20	TB5-6A	6	TB3-3A	6	5	RED	14.3
33	13J18	TB3-3A	6	M5-I	10	4	RED	39.5
34	14A20	S7-5	6	P4-5	13	5	RED	10.5
35	35D18	K12-8	6	S7-4	6	4	RED	29.5
36	15A18	K12-14	6	S1-3	6	4	RED	40.0
37	15B18	S1-3	6	P4-7	13	4	RED	16.8
38	16A16	S19-1	7	CB1-LOAD	8	3	RED	14.5
39	17A18	K12-9	6	A5-F	6	4	RED	14.0
40	19B18	J7-14	2	S5-4	6	4	RED	28.0
41	20A20	M3-2	9	S5-5	6	5	RED	13.3
42	20B20	S5-5	6	S7-8	6	5	RED	11.8
43	20C18	S7-8	6	J7-9	2	4	RED	23.8
44	21A20	K15-12	6	K12-4	6	5	RED	13.0
45	22A18	S17-2	6	TB5-1A	6	4	RED	43.0
46	23A18	K14-8	6	J7-30	2	4	RED	16.5
47	24A18	K14-12	6	TB5-14A	6	4	RED	10.4
48	24B18	TB5-14B	6	J7-31	2	4	RED	23.0
49	24D18	K14-14	6	TB5-14A	6	4	RED	10.3

WIRE LIST TABLE (CONTINUED)								
WIRE REF NO	WIRE MARKING	FROM	TERMINAL FN	TO	TERMINAL FN	WIRE FN	MARKING COLOR	WIRE LENGTH
50	25A20	TB5-3A	6	K14-5	6	5	RED	10.5
51	25B18	TB5-3A	6	J7-27	2	4	RED	24.3
52	26A18	K14-9	6	J7-32	2	4	RED	24.0
53	27A18	TB5-16A	6	J7-21	2	4	RED	18.5
54	27G18	TB5-16A	6	P4-3	13	4	RED	30.0
55	28A18	J7-26	2	P4-10	13	4	RED	26.3
56	29A18	P4-9	13	J7-25	2	4	RED	26.3
57	30A18	P4-8	13	J7-24	2	4	RED	26.3
58	31A20	TB5-8A	6	S5-2	6	5	RED	35.5
59	31D20	S5-2	6	DS6-2	TIN	5	RED	8.8
60	31E18	J7-29	2	TB5-8A	6	4	RED	21.5
61	32A18	J7-1	2	P4-4	13	4	RED	26.3
62	33A18	S7-1	6	K15-9	6	4	RED	34.5
63	34B18	J7-12	2	P4-2	13	4	RED	26.3
64	35A20	S7-4	6	K12-13	6	5	RED	33.0
65	35B18	K12-8	6	J7-34	2	4	RED	20.0
66	40B18	M5-S	10	J7-2	2	4	RED	31.5
67	43A18	A5-H	6	J7-8	2	4	RED	23.5
68	44A18	A5-J	6	J7-11	2	4	RED	24.0
69								
70	48A18	CR4-(+)	9	R6-1	TIN	4	RED	9.0
71	49A18	R6-2	TIN	K15-14	6	4	RED	32.1
72	50A18	CR4-(-)	9	K15-13	6	4	RED	32.1
73	101E18	TB3-7A	6	J7-33	2	4	BLK	24.9
74	101K18	TB3-7A	6	M1-1	11	4	BLK	38.7
75	101L18	TB3-8A	6	CR4-AC1	9	4	BLK	31.2
76	102F18	J7-18	2	TB3-6A	6	4	BLK	24.5
77	102K18	TB3-6A	6	CR4-AC2	9	4	BLK	30.2
78	109A18	R1-3	TIN	J7-19	2	4	BLK	29.0
79	110A18	A5-E	6	J7-20	2	4	BLK	22.0
80	110C18	A5-E	6	R1-1	TIN	4	BLK	37.0
81	114A16	A5-D	7	J7-23	2	3	BLK	22.0
82	115A16	A5-A	7	J7-28	2	3	BLK	20.5
83	116A16	A5-B	7	J7-4	2	3	BLK	21.0
84	117A16	A5-C	7	J7-5	2	3	BLK	21.5
85	120A18	M1-2	11	J7-3	2	4	BLK	29.0
86	121B18	J7-37	2	M2-(-)	11	4	BLK	25.3
87	122B18	J7-36	2	M2-(+)	11	4	BLK	25.3
88		S1-2	6	S1-4	6	4		4.3
89		S5-1	6	S5-4	6	4		1.3
90								
91		R1-2	TIN	R1-3	TIN	4		4.0

Figure FO-6. Control Box Wiring Harness Diagram, 400Hz (Sheet 3 of 3)

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeter = 0.01 Meters = 0.3937 inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 inches
 1 kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 100 Grams = 2.2 lb.1 Cu. Meter = 1,000,000
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Millimeter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Millimeters = 32.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeter = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Inches
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Centimeters = 35.31 Cu. Feet

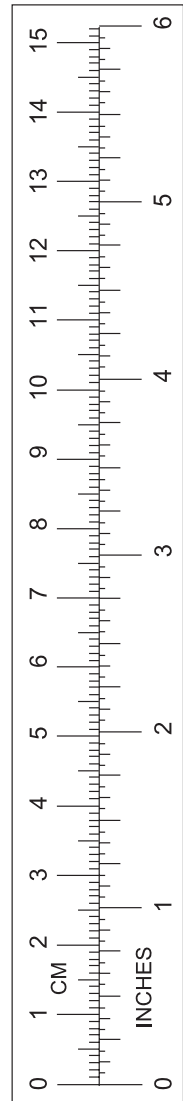
TEMPERATURE

$5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5 ^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches.....	Centimeters.....	2.540
Feet.....	Meters.....	0.305
Yards.....	Meters.....	0.914
Miles.....	Kilometers.....	1.609
Square Inches.....	Square Centimeters.....	6.451
Square Feet.....	Square Meters.....	0.093
Square Yards.....	Square Meters.....	0.836
Square Miles.....	Square Kilometers.....	2.590
Acres.....	Square Hectometers.....	0.405
Cubic Feet.....	Cubic Meters.....	0.028
Cubic Yards.....	Cubic Meters.....	0.765
Fluid Ounces.....	Milliliters.....	29.573
Pints.....	Liters.....	0.473
Quarts.....	Liters.....	0.946
Gallons.....	Liters.....	3.785
Ounces.....	Grams.....	28.349
Pounds.....	Kilograms.....	0.454
Short Tons.....	Metric Tons.....	0.907
Pound-Feet.....	Newton-Meters.....	1.356
Pounds per Square Inch.....	Kilo pascals.....	6.895
Miles per Gallon.....	Kilometers per Liter.....	0.425
Miles per Hour.....	Kilometers per Hour.....	1.609

TO CHANGE	TO	D I V I D E BY
Centimeters.....	Inches.....	2.540
Meters.....	Feet.....	0.305
Meters.....	Yards.....	0.914
Kilometers.....	Miles.....	1.609
Square Centimeters.....	Square Inches.....	6.451
Square Meters.....	Square Feet.....	0.093
Square Meters.....	Square Yards.....	0.836
Square Kilometers.....	Square Miles.....	2.590
Square Hectometers.....	Acres.....	0.405
Cubic Meters.....	Cubic Feet.....	0.028
Cubic Meters.....	Cubic Yards.....	0.765
Milliliters.....	Fluid Ounces.....	29.573
Liters.....	Pints.....	0.473
Liters.....	Quarts.....	0.946
Liters-Meters.....	Gallons.....	3.785
Grams.....	Ounces.....	28.349
Kilograms.....	Pounds.....	0.454
Metric Tons.....	Short Tons.....	0.907
Newton-Meters.....	Pound-Feet.....	1.356
Kilo pascals.....	Pounds per Square Inch.....	6.895
Kilometers per Liter.....	Miles per Gallon.....	0.425
Kilometers per Hour.....	Miles per Hour.....	1.609



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