

## TECHNICAL MANUAL

### OPERATOR, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

**POWER UNIT, DIESEL ENGINE DRIVEN,  
2 1/2 TON TRAILER MOUNTED,  
60 kW, 50/60 Hz, PU-805  
(NSN 6115-01-317-2134)**

**POWER UNIT, DIESEL ENGINE DRIVEN,  
2 1/2 TON TRAILER MOUNTED,  
60 kW, 400 Hz, PU-806  
(NSN 6115-01-317-2133)**

**POWER PLANT, DIESEL ENGINE DRIVEN,  
2 1/2 TON TRAILER MOUNTED,  
60 kW, 50/60 Hz, AN/MJQ-41  
(NSN 6115-01-303-7896)**

This copy is a reprint which includes current pages from Changes 1 and 2.

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MAINTENANCE  
ALLOCATION CHART  
(MAC)

REPAIR PARTS AND  
SPECIAL TOOLS LIST  
(RPSTL)

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15 OCTOBER 1993

CHANGE

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DEPARTMENT OF THE ARMY  
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NO. 3

OPERATOR, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL  
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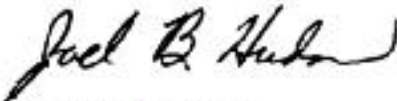
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## OPERATOR, UNIT, AND DIRECT SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST)

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400 Hz, PU-806 (NSN 6115-01-317-2133)  
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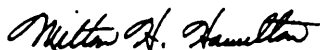
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DEPARTMENT OF THE ARMY  
WASHINGTON, D.C. 15 November 1993

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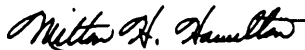
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***NOTE***

The warnings in the generator set technical manuals and the trailer technical manuals must also be considered.

**WARNING**

Dry cleaning 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 observe this warning could result in severe personal injury or death.

**WARNING**

Before performing any maintenance that requires climbing on or under trailer, make sure that trailer handbrakes are set and front and rear trailer support legs are lowered. Failure to observe this warning could result in severe personal injury or death.

**WARNING**

Before removing trailer leveling support jack, support rear of trailer. Failure to observe this warning could result in severe personal injury or death.

**WARNING**

Hot refueling of generators while they are operating poses a safety hazard and should not be attempted. Hot engine surfaces and sparks produced by the engine and generator circuitry are possible sources of ignition. Failure to observe this warning could result in severe personal injury or death.

**WARNING**

The fuels in this generator set are highly explosive. Do not smoke or use open flames when performing maintenance. Failure to observe this warning could result in severe personal injury or death.

**WARNING**

**Never attempt to start generator set if it is not properly grounded. Failure to observe this warning could result in severe personal injury or death by electrocution.**

**Make sure generator sets are shut down before performing any maintenance. Failure to observe this warning could result in severe personal injury or death.**

**WARNING**

**When lifting generator set, use lifting equipment with a minimum lifting capacity of 7000 lb. Do not stand under generator set while it is being lifted. Do not permit generator set to swing. Failure to observe this warning could result in severe personal injury or death.**

**Trailer brakes must be set and trailer front landing leg/support leg must be down before disconnecting trailer from towing vehicle. Failure to observe this warning could allow the trailer to up-end or roll and could result in severe personal injury or death.**

**Refer to FM 21-11 for first aid.**



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DEPARTMENT OF THE ARMY**  
WASHINGTON D.C., 15 October 1993

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**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. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished to you.

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## HOW TO USE THIS MANUAL

### DESCRIPTION OF THE MANUAL.

**Manual Organization.** This manual is designed to help you operate and maintain the Power Unit PU-805 Unit, Power Unit PU-806, and Power Plant AN/MJQ-41. Warning pages are located in the front of this manual. Read the warnings before operating or doing maintenance on the equipment.

The major elements of this manual are its chapters and appendices. Each chapter has one or more sections. The Table of Contents, beginning on page i, is provided for quick reference to the subjects covered by each chapter, section, and appendix. Each chapter also has a chapter index. The chapter index lists the chapter sections and paragraphs. Appendix F' also has a table of contents to help you locate the items listed in that appendix.

The front cover of this manual has an index that lists the most important areas of the manual. Each item indexed on the front cover has a black box at the edge of the cover. There is a corresponding black box on the first text page for each subject listed on the cover index.

A glossary follows the last appendix. The glossary lists and explains the special or unique abbreviations and the unusual terms used in this manual.

An alphabetical index follows the glossary. That index is for use in locating specific items of information.

**Chapters.** This manual has five chapters and eight appendices. Each chapter is divided into sections. Each section is divided into descriptive paragraphs. The paragraphs have specific information about the power units and power plant and their major components.

**Paragraph Numbering.** All paragraphs are numbered. This helps you find what you need when you need it. USE THE TABLE OF CONTENTS OR ALPHABETICAL INDEX TO FIND THE SECTION OR PARAGRAPH YOU NEED. Some paragraphs have a related illustration, to show the items discussed in the paragraph. Also, some paragraphs have a related table that provides a detailed list of items introduced by the paragraph. Each primary paragraph, illustration, and table is identified by the number of the chapter in which it appears, followed by a dash and another number. The number after the dash indicates the sequence in which the paragraph, illustration, or table appears in the chapter. Some paragraphs are further divided into subparagraphs. Subparagraphs are identified by the number of the primary paragraph followed by a decimal number, as follows:

- Examples: 4-5. is the fifth paragraph in chapter 4.
- 4-5.1 is the first subparagraph of paragraph 4-5.
- 4-5.2 is the second subparagraph of paragraph 4-5.
- 4-5.2.1 is the first subparagraph under 4-5.2.
- Figure 3-3. is the third illustration in chapter 3.
- Table 2-1. is the first table in chapter 2.

**Appendices.** Each appendix covers a specific subject; sometimes general, such as the list of references in Appendix A; or sometimes very detailed, such as the repair parts and special tools list in Appendix F.

### CHAPTER 1 - INTRODUCTION.

Chapter 1 provides an introduction to the power units and power plant. It is divided into three sections, as follows:

**Section I - General Information.** This section 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 nomenclature cross-reference list is provided.

**Section II - Equipment Description.** This section describes power unit and power plant capabilities, characteristics, and features. It provides basic equipment data and shows the locations of major power unit and power plant components. Descriptions of the major components are also provided.

**Section III - Principles of Operation.** This section provides functional descriptions of the power units and power plants.

## CHAPTER 2 - OPERATING INSTRUCTIONS.

Chapter 2 provides instructions for operating the power units and power plants. The chapter is divided into four sections, as follows:

**Section I - Description and Use of Operators Controls and Indicators.** This section 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 generator sets and trailers. Detailed coverage is provided for the power plant switch box controls and indicators.

**Section II - Operator Preventive Maintenance Checks and Services (PMCS).** This section contains detailed instructions for the before, during, and after operation preventive maintenance checks and services that the operator must perform. Coverage includes all operator PMCS for the generator sets and trailers that make up the power units and power plants. Operator PMCS for the switch box used on the power plants is also covered.

**Section III - Operation Under Usual Conditions.** This section contains instructions for preparing the power units and power plants for use and operating them under normal conditions. Coverage includes instructions for connecting power plant load to the switch box and operating the switch box. Instructions for connecting power unit load to the generator set are also covered. This section also covers preparation of the power unit or power plant for movement to a new worksite.

**Section IV - Operation Under Unusual Conditions.** This section provides references to the applicable generator set and trailer technical manuals.

## CHAPTER 3 - OPERATOR MAINTENANCE INSTRUCTIONS.

Chapter 3 covers maintenance of the power units and power plant that is to be performed by the operator. Its purpose is to provide you with the information you need to keep the equipment in good operating condition. The chapter is divided into three sections, as follows:

**Section I - Operator Lubrication.** This section provides references to the applicable lubrication instructions.

**Section II - Troubleshooting.** This section provides references to the applicable generator set and trailer technical manuals.

**Section III - Maintenance Procedures.** This section refers the operator to the preventive maintenance checks and services required by section II of chapter 2.

## CHAPTER 4 - UNIT MAINTENANCE INSTRUCTIONS.

Chapter 4 provides instructions covering the power unit and power plant maintenance that must be performed at unit level. The chapter is divided into eight sections, as follows:

**Section I - Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE; and Support Equipment.** This section lists references that contain the required information.

**Section II - Service Upon Receipt.** This section contains instructions for inspecting and servicing each power unit and power plant when it is received. It includes instructions for unpacking the equipment when it is received. The instructions include unpacking and stowing the basic issue items that accompany the power unit or power plant. Also included are instructions on positioning the power unit or power plant for operation and connecting an external fuel source.

**Section III - Unit Lubrication.** This section lists the applicable references that contain lubrication instructions for the generator sets and trailers. It also contains specific lubrication instructions for the power units or power plant components not covered in the generator set or trailer references.

**Section IV - Unit Preventive Maintenance Checks and Services (PMCS).** This section contains instructions covering the PMCS that must be performed at the unit maintenance level. A table provides information on maintenance intervals and actions required.

**Section V - Troubleshooting.** This section covers troubleshooting procedures and corrective actions that are to be performed at the unit maintenance level.

**Section VI - Maintenance Procedures.** This section lists the applicable references that cover unit maintenance of the generator sets and trailers. It also contains detailed instructions on unit level maintenance of the power unit and power plant components that are not covered in the generator set and trailer references.

**Section VII - Administrative Storage.** This section provides information on short term, intermediate term, and long term storage.

## CHAPTER 5- DIRECT SUPPORT MAINTENANCE INSTRUCTIONS.

Chapter 5 provides instructions for the maintenance actions designated to be performed at the direct support maintenance level. The chapter is divided into three sections, as follows:

**Section I Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment and Support Equipment.** This section lists the documents that contain the needed information.

**Section II - Troubleshooting.** This section includes instructions for troubleshooting faults in the operation of the generator switch box assembly. It includes eight go-no-go flowcharts for eight possible switch box malfunctions.

**Section III - Maintenance Procedures.** This section lists the references that contain direct support maintenance instructions for the generator sets and trailers. In addition, it contains detailed instructions for direct support maintenance of power unit and power plant components not covered in the generator set and trailer references.

## APPENDICES.

**Appendix A - References.** This appendix lists all publications that are referenced in the various chapters of the technical manual. The listing includes the title of each publication.

**Appendix B - Maintenance Allocation Chart.** This appendix has four sections, as follows:

**Section I - Introduction.** This section explains what is covered in the maintenance allocation chart.

**Section II - Maintenance Allocation Chart.** This section 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 section III. Another column has entries keyed to the remarks in section IV.

**Section III - Tool and Test Equipment Requirements.** This section contains complete identification information for the items referenced in the tools and equipment column of section II.

**Section IV - Remarks.** This section provides additional information for each entry in the remarks column of section II.

**Appendix C - Components of End Item (COEI) and Basic Issue Items (BII) Lists.** This appendix lists the items that are usually packaged separately but needed for installation and operation of the power unit and power plant. The appendix has three sections, as follows:

**Section I - Introduction.** This section explains what is covered in section 11 and section III.

**Section II - Components of End Item.** The power units and power plant are normally shipped fully assembled, so this section is not applicable.

**Section III - Basic Issue Items.** This section contains a list of the accessories needed for installation and operation of the power units and power plant.

**Appendix D - Additional Authorization List (AAL).** This appendix lists additional items you are authorized for support of the power unit/power plant.

**Appendix E - Expendable and Durable Items List.** This appendix lists expendable/durable supplies and materials needed to operate and maintain the power units and power plant. The appendix contains two sections, as follows:

**Section I - Introduction.** This section explains the entries in section II.

**Section II - Expendable and Durable Supplies and Materials List.** The list indicates the maintenance level that needs each item and identifies the items by National Stock Number, description, and unit of measure.

**Appendix F - Unit and Direct Support Maintenance Repair Parts and Special Tools List.** This appendix lists and authorizes the repair parts and special tools needed to perform operator, unit, and direct support maintenance of the power units and power plant. It contains four sections, as follows:

**Section I - Introduction.** This section explains what is covered in sections II, III, and IV.

**Section II - Repair Parts List.** This section contains illustrations and lists. The illustrations aid in identification of 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.

**Section III - Special Tools List.** This section informs the user that no special tools are needed,

**Section IV - Cross-Reference Indexes.** This section contains two indexes, a national stock number index and a part number index. Each index lists all of the parts contained in section II. The national stock number index is in National Item Identification Number (NIIN) sequence. The part number index is in alphanumeric part number sequence.

**Appendix G - Illustrated List of Manufactured Items.** This appendix provides instructions for making the items authorized to be manufactured or fabricated at the unit maintenance level and direct support maintenance level.

**Appendix H - Torque Limits.** This appendix lists standard torque values for bolts and screws used in the power units and power plant.

**Glossary.** This Glossary has two sections, as follows:

**Section I - Abbreviations.** This section lists the special or unique abbreviations used in this technical manual. Special or unique abbreviations are those not listed in MIL-STD-12D.

**Section II - Definition of Unusual Terms.** This section lists and defines the terms used in this technical manual that are not listed in the Army dictionary (AR 310-25).

## INDEX.

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

## HOW TO FIX A POWER UNIT OR POWER PLANT MALFUNCTION.

**Determining the Cause.** Finding the cause of a malfunction, troubleshooting, is the first step in fixing the power unit or power plant and returning it to operation. Follow these simple steps to determine the root of the problem:

- a. Turn to the Table of Contents in this manual (page i).
- b. Locate "Troubleshooting" under the chapter that covers your level of maintenance. Turn to the page indicated.
- c. For operator troubleshooting, follow the instructions in the references listed in Chapter 3.
- d. For troubleshooting at the unit maintenance level, find the malfunction listing in the troubleshooting symptom index. Follow the instructions in the figure (troubleshooting chart) 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:

- a. 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:
  - (1) You know what is needed
  - (2) You have everything you need
  - (3) You understand what to do
- b. 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 generator set parts are listed in the generator Repair Parts and Special Tools List (RPSTL) manual, TM 9-6115-645-24P, and the engine RPSTL manual, TM 9-2815-256-24P. NSNs and part numbers for the 2 1/2-ton trailer chassis parts are listed in TM 9-2330-205-14&P. NSNs and part numbers for the next higher assembly (the power unit or power plant, less generator set(s) and trailer chassis) are listed in Appendix F.
- c. If expendable/durable supplies or materials are needed, get them before starting the task. Refer to Appendix E 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:

- a. PAY ATTENTION TO WARNINGS, CAUTIONS, AND NOTES.
- b. Use the GLOSSARY if you do not understand the special abbreviations or unusual terms used in this manual.
- c. 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. The standard maintenance practices are:
  - (1) Tag electrical wiring before disconnecting it.
  - (2) Discard used preformed packing, retainers, gaskets, cotter pins, lock washers, and similar items. Install new parts to replace the discarded items.
  - (3) Coat packing before installation, in accordance with the task instructions.
  - (4) 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.
  - (5) Clean the assembly, subassembly, or part before inspecting it.
  - (6) Before installing components having mating surfaces, inspect the mating surfaces to make sure they are in serviceable condition.
  - (7) Hold the bolt (or screw) head with a wrench (or screwdriver) while tightening or loosening a nut on the bolt (or screw).
  - (8) Torque to the special torque cited when the task instructions include the words "torque to." Use standard torques at all other times.

- (9) When a cotter pin is required, align the cotter pin holes within the allowable torque range.
- (10) Inspect for foreign objects after performing maintenance.





# CHAPTER 1

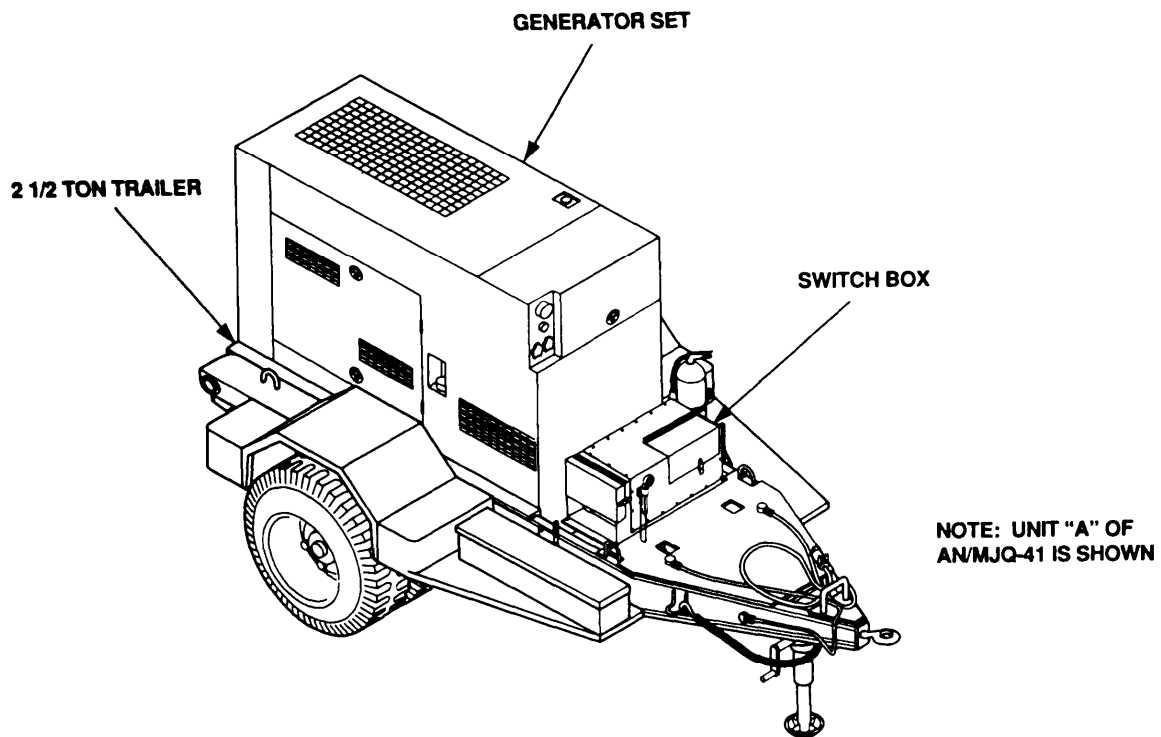
## INTRODUCTION

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1-3 Destruction of Army Materiel to Prevent Enemy Use . . . . .	1-3
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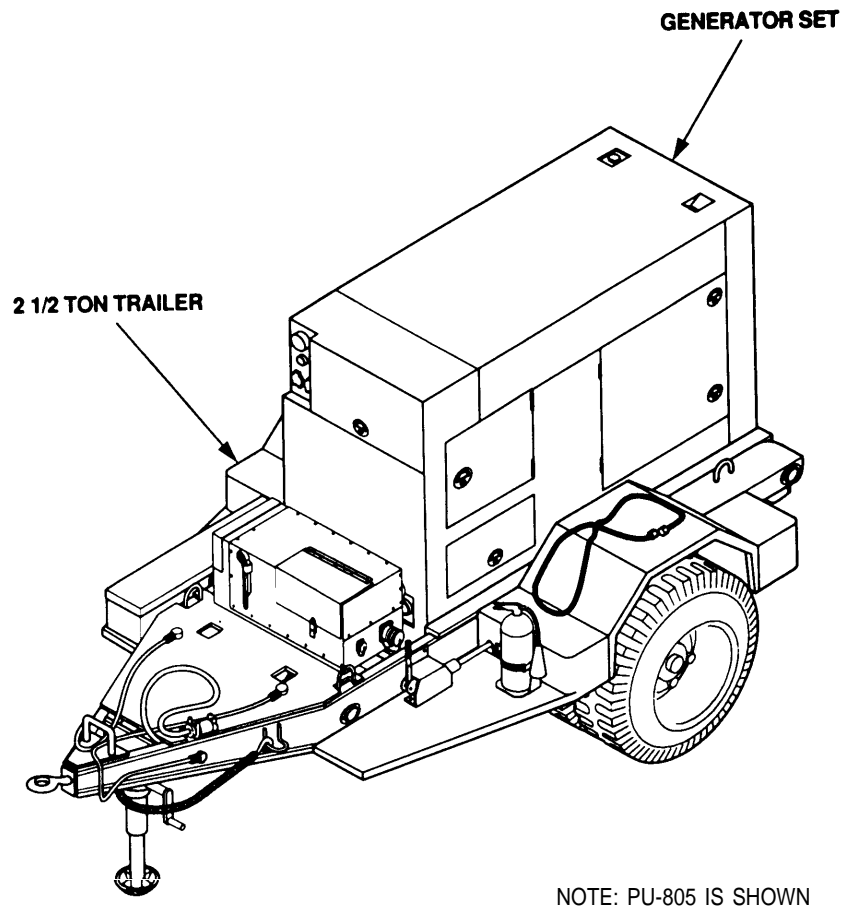
## Section 1. GENERAL INFORMATION

### 1-1 SCOPE.

This manual is for your use in operating and maintaining the Power Unit PU-805, Power Unit PU-806, and Power Plant AN/MJQ-41 (figure 1-1 and figure 1-2). The manual covers operating instructions and operator, unit, and direct support maintenance requirements for the power units or power plant. It also contains a Repair Parts and Special Tools List (RPSTL) for the power units and power plant. The Power Unit PU-805 is a mobile unit used to supply 60 kW of 50/60 Hz power. The PU-806 is a mobile unit used to supply 60 kW of 400 Hz power. Power plant AN/MJQ-41 consists of two PU-805 Power Units, a switch box and power cable.



*Figure 1-1. Curbside Front Three Quarter View.*



*Figure 1-2. Roadside Front Three Quarter View.*

#### **1-2 MAINTENANCE FORMS AND RECORDS.**

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750 (The Army Maintenance Management System (TAMMS) Maintenance Management UPDATE).

#### **1-3 DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.**

Destruction of Army materiel to prevent enemy use shall be in accordance with TM 750-244-3.

#### **1-4 PREPARATION FOR STORAGE AND SHIPMENT.**

Refer to Chapter 4, Section VII.

#### **1-5 EQUIPMENT IMPROVEMENT RECOMMENDATION (EIR).**

If your PU-805, PU-806, or AN/MJQ-41 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. Put it on SF 368 (Product Quality Deficiency Report). Mail it to us at Commander, U.S. Army Aviation and Troop Command, A'ITN: AMSAT-I-MDO, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. We will send you a reply.

**1-6 NOMENCLATURE CROSS-REFERENCE LIST.**

Refer to table 1-1 for nomenclature cross-reference list.

*Table 1-1. Nomenclature Cross-Reference List.*

Common Name	Official Nomenclature
PU-805	Power Unit, Diesel Engine Driven, 2 1/2 Ton Trailer Mounted, 60 kW, 50/60 Hz
PU-806	Power Unit, Diesel Engine Driven, 2 1/2 Ton Trailer Mounted, 60 kW, 400 Hz
AN/MJQ-41	Power Plant, Diesel Engine Driven, 2 1/2 Ton Trailer Mounted, 60 kW, 50/60 Hz
MEP-806A	Generator Set, 60 kW, 50/60 Hz
MEP-816A	Generator Set, 60 kW, 400 Hz
M200A1	Modified, Trailer: 2 1/2 Ton, 4 Wheel, (altered)

**1-7 LIST OF ABBREVIATIONS/ACRONYMS.**

Refer to the glossary at the back of this manual.

**1-8 GLOSSARY.**

Refer to the glossary at the back of this manual.

## Section II. EQUIPMENT DESCRIPTION

### 1-9 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

**1-9.1 Characteristics.** Each generator set is mounted on a modified M200A1 2 1/2 ton, two-wheel trailer. The modification to the basic M200A1 Trailer includes generator mounting rails, special fenders, an accessory box, and fire extinguisher brackets. Refer to TM 9-2330-205-14&P for detailed equipment characteristics about the M200A1.

**1-9.1.1 Power Unit PU-805.** The PU-805 has a Tactical Quiet Generator Set mounted on a single modified trailer. The generator set is a DOD Model MEP-806A liquid-cooled, diesel engine driven unit, with a load capacity of 60 kW at 50/60 Hz. Refer to TM 9-6115-645-10 for detailed equipment characteristics about the generator set.

**1-9.1.2 Power Unit PU-806.** The PU-806 has a Tactical Quiet Generator Set mounted on a single modified trailer. The generator set is a DOD Model MEP-816A liquid-cooled, diesel engine driven unit, with a load capacity of 60 kW at 400 Hz. Refer to TM 9-6115-645-10 for detailed equipment characteristics about the generator set.

**1-9.1.3 Power Plant AN/MJQ-41.** The AN/MJQ-41 Power Plant consists of two PU-805 Power Units, a power cable and a switch box. The PU-805 Power Units have been identified as either unit A or unit B. The Switch Box is mounted on unit A and the cable is stored on unit B. The characteristics are the same as listed for the PU-805 in paragraph 1-9.1.1.

**1-9.2 Capabilities and Features.** The PU-805, PU-806, and AN/MJQ-41 are all mounted on the same trailer. The towing vehicle is either a 2 1/2 ton 6x6 or 5 ton 6x6. Electrical outputs are provided in paragraphs 1-9.2.1 through 1-9.2.3.

**1-9.2.1 Power Unit PU-805.** The electrical output of the PU-805 is as follows:

ELECTRICAL OUTPUT -60 Hz/50 Hz:  
 120/208 volts, three phase, 50 Hz . . . . . 172 amps  
 240/416 volts, three phase, 50 Hz . . . . . 86 amps  
 120/208 volts, three phase, 60 Hz . . . . . 208 amps  
 240/416 volts, three phase, 60 Hz . . . . . 104 amps

**1-9.2.2 Power Unit PU-806.** The electrical output of the PU-806 is as follows:

ELECTRICAL OUTPUT -400 Hz:  
 120/208 volts, three phase, 400 Hz . . . . . 208 amps  
 240/416 volts, three phase, 400 Hz . . . . . 104 amps

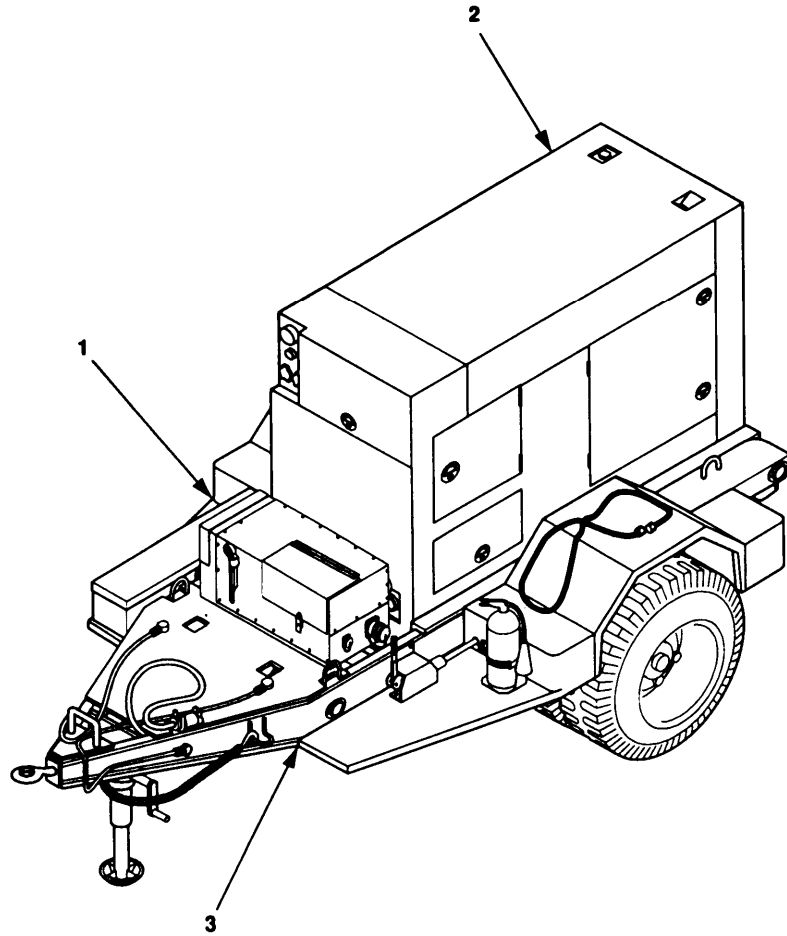
**1-9.2.3 Power Plant AN/MJQ-41.** The AN/MJQ-41 Power Plant consists of two PU-805 Power Units, a power cable and a switch box. The capabilities and features are the same as listed for the PU-805 in paragraph 1-9.2.1.

**1-10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.**

Figure 1-3 illustrates the location of major components on the AN/MJQ-41 Unit A. Models PU-805, PU-806 and unit B of the AN.MJQ-41 have the same components as unit A with the exception of the switch box. In addition, the accessory box on unit A has been moved from the front platform and mounted on the curbside step. Table 1-2 lists the major components of the power units or power plant.

***Table 1-2. Description of Major Components, Power Unit or Power Plant.***

Item No.	Item Name	Description
1	Switch Box (AN/MJQ-41 unit A only)	Allows connection of two generator sets provided with AN/MJQ-41.
2	Generator Set	Produces 120/208 or 240/416 three phase AC power at 60 kW. Refer to TM 9-6115-645-10 for major components of generator set.
3	Trailer	Modified 2 1/2 ton trailer. Refer to TM 9-2330-205-14&P for breakdown of basic trailer.



**Figure 1-3. Location of Major Components, Power Unit or Power Plant.**

**1-11 DIFFERENCES BETWEEN MODELS.**

Differences between the PU-805, PU-806, and AN/MJQ-41 are identified in table 1-3. A number (quantity) under the applicable power plant or power units column heading indicates that the item is a component of that power plant or power unit.

**Table 1-3. Differences Between Models**

Component	AN/MJQ-41 UNIT A	AN/MJQ-41 UNIT B	PU-805	PU-806
Generator Set, 50/60 Hz	1	1	1	
Generator Set, 400 Hz				1
Switch Box	1			
Power Cable		1		

**1-12 EQUIPMENT DATA.**

**1-12.1 Generator Set.** Refer to TM 9-6115-645-10 for the data on the generator set.

**1-12.2 Trailer Chassis.** Refer to TM 9-2330-205-14&P for the data on the trailer chassis.

**1-12.3 Tabulated Data.** Refer to table 1-4 for tabulated data.

**Table 1-4. Tabulated Data for Power Units and Power Plant**

Tabulated Data	AN/MJQ-41 Unit A	AN/MJQ-41 Unit B	PU-805	PU-806
Overall length, inches	165.00	165.00	165.00	165.00
Overall width, inches	94.50	94.50	94.50	94.50
Overall height, inches	86.30	86.30	86.30	86.30
Operational weight, pounds	6,745	6,695	6,720	6,813
Shipping weight, pounds	7,745	7,695	6,720	7,015



### Section III. PRINCIPLES OF OPERATION

#### 1-13 FUNCTIONAL DESCRIPTION.

**1-13.1 Power Unit Functional Description.** The Power Units are mobile power sources and consist of one Tactical Quiet 60 kW Generator Set mounted on a modified trailer. The generator set has a liquid-cooled diesel engine, brushless generator, excitation system, speed governing system, fuel system, 24-volt direct current starting system, control system, and malfunction protection system. The generator set has a reconnection board that has been initially positioned to allow power output of either 120/208-volt, three phase or 240/416-volt, three phase AC power. The PU-805 uses a DOD Model MEP-806A Generator Set operating at 50/60 Hz with a load capacity of 60 kW. The PU-806 uses a DOD Model MEP-816A Generator Set operating at 400 Hz. System or equipment load cables are to be connected to the load terminals on the generator set output panel. Refer to TM 9-6115-645-24 for fictional description of the generator set. Refer to TM 9-2330-205-14&P for functional description of the trailer.

**1-13.2 Power Plant Functional Description.** The Power Plant consists of two PU-805 Power Units, a switch box, and power cable. The two PU-805 Power Units have been modified to provide independent switch-kg between the Power Units. One PU-805 is modified by moving the accessory storage box to the curbside fender, adding a switch box and identifying the modified PU-805 as AN/MJQ-41 unit A. The other PU-805 is modified by adding a power cable and identifying the modified PU-805 as AN/MJQ-41 unit B. Refer to paragraph 1-13.1 for the functional description of the PU-805. Output electrical power is normally supplied through the switch box assembly located on unit A. The cable supplied with unit B connects the generator sets through the switch box on unit A. The control panel of the switch box controls the output source. The output source is usually either the unit A or unit B generator set as determined by the control panel switches S1 and S2. When both switches are placed in the ON position and both generators are on, the generators operate in parallel. The parallel operation of the generators allows for an uninterrupted load transfer between unit A and unit B. The output power cable to external equipment may be connected to the switch box from either the connector J1 or load terminals (LO, L1, L2, L3, and GND) of the switch box. If the switch box becomes unserviceable, the load cable maybe connected to the load terminals on the output panel of one of the generator sets. When connection is required from the generators, parallel operation is not lost. Refer to TM 9-6115-645-10 for operation and TM 9-6115-645-24 for detailed functional description of the generator sets without a switch box. Refer to TM 9-2330-205-14&P for a detailed fictional description of the trailer.

#### 1-14 RELATED TECHNICAL MANUALS.

Refer to appendix A for related technical manuals and lubrication order.



## CHAPTER 2

### OPERATING INSTRUCTIONS

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## Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

### 2-1 OPERATOR'S CONTROLS AND INDICATORS.

Refer to TM 9-6115-645-10 for the generator set. Refer to TM 9-2330-205-14&P for the trailer. Refer to figure 2-1 and table 2-1 for switch box assembly.

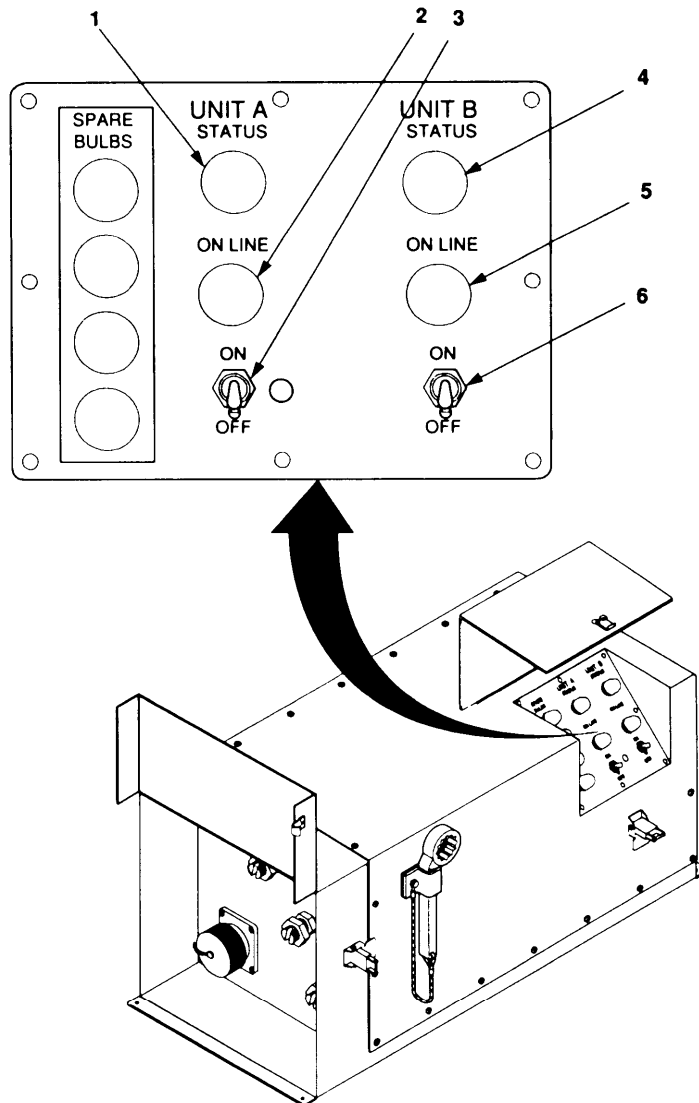


Figure 2-1. Switch Box Controls and Indicators.

**Table 2-1. Description of Switch Box Controls and Indicators**

Item Number	Description	Function
1	STATUS light for unit A generator set.	Lights when unit A generator set is supplying power to switch box.
2	ON LINE light for unit A generator set.	Lights when unit A generator set is supplying power to the load.
3	ON/OFF switch for unit A generator set.	Toggle switch, used to place unit A generator set on line when generator set is ready or take it off line before shutting it down.
4	STATUS light for unit B generator set.	Lights when unit B generator set is supplying power to switch box.
5	ON LINE light for unit B generator set.	Lights when unit B generator set is supplying power to the load.
6	ON/OFF switch for unit B generator set.	Toggle switch, used to place unit B generator set on line when generator set is ready or take it offline before shutting it down.

## Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 2-2 INTRODUCTION TO OPERATOR PMCS TABLE.

Table 2-2 (PMCS table) has been provided so you can keep your equipment in good operating condition and ready for its primary mission.

**2-2.1 Warnings, Cautions, and Notes.** Always observe the **WARNINGS**, **CAUTIONS** and **NOTES** appearing in your PMCS table. Warnings and cautions appear before applicable procedures. You must observe **WARNINGS** to prevent serious injury to yourself and others. You must observe **CAUTIONS** to prevent your equipment from being damaged. You must observe **NOTES** to ensure procedures are performed properly.

**2-2.2 Explanation of Table Entries.** The PMCS table is divided into five columns. Each column is explained in the following paragraphs.

**2-2.2.1 Item No. Column.** Numbers in this column are for reference. When completing DA Form 2404 (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do checks and services for the intervals listed.

**2-2.2.2 Interval Column.** This column tells you when you must do the procedure in the procedure column. "BEFORE" procedures must be done before you operate the equipment for its intended mission. "DURING" procedures must be done during the time you are operating the equipment for its intended mission. "AFTER" procedures must be done immediately after you have operated the equipment. Perform "WEEKLY" procedures at the listed interval.

**2-2.2.3 Location, Item to Check/Service Column.** This column lists the location and the item to be checked or serviced. The item location is underlined.

**2-2.2.4 Procedure Column.** This column gives the procedure for checking or servicing the item listed in the location, item to check/service column. You must perform the procedure to know if the power unit or power plant is ready or available for its intended mission or operation. You must do the procedure at the time stated in the interval column.

**2-2.2.5 Not Fully Mission Capable if: Column.** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you make checks or services that show faults listed in this column, do not operate the equipment.

**2-2.3 Other Table Entries.** Be sure to observe all special information and notes that appear in your table.

**2-2.4. Special Instructions.** Preventive maintenance is not limited to performing the checks and services listed in the PMCS table. Covering unused receptacles, stowing unused accessories, and other routine procedures such as equipment inventory, cleaning components, and touch-up painting are not listed in the table. These are things you should do any time you see that they need to be done. If a routine check is listed in the PMCS table, it is because experience has shown that problems may occur with this item. Take along tools and cleaning cloths needed to perform the required checks and services. Use the information in the following paragraphs to help you identify problems at any time. Use the following information to help identify potential problems before and during checks and services.

**WARNING**

Dry cleaning 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 observe this warning can cause severe personal injury or death.

**CAUTION**

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

- a. Keep it clean. Dirt, grease, and oil get in the way and may cover up a serious problem. Use dry cleaning solvent to clean metal surfaces.
- b. Use soap and water to clean rubber or plastic parts and material.
- c. Check all bolts, nuts, and screws to make sure they are not loose, missing, bent, or broken. Do not try to check them with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find one loose, report it to the next higher level of maintenance.
- d. Inspect welds for loose or chipped paint, rust, or gaps where parts are welded together. If a broken weld is found, report it to the next higher level of maintenance.
- e. Inspect electrical wires, connectors, terminals, and receptacles for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors. Examine terminals and receptacles for serviceability. If deficiencies are found, report them to the next higher level of maintenance.
- f. Inspect hoses and fluid lines. Look for wear, damage, and leaks. Make sure that clamps and fittings are tight. Wet spots and stains around a fitting or connector can mean a leak. If a leak comes from a loose connector, or if something is broken or worn out, report it to the next higher level of maintenance.

**2-2.5 Leakage Definitions.** You must know how fluid leakage affects the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them. When in doubt, *notify your supervisor.*

<u>Leakage Class</u>	<u>Leakage Definition</u>
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 the item being checked/inspected.
Class III	Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

**2-2.6 Operation of Power Unit/Power Plant with Minor Leak.**

**CAUTION**

Equipment operation is allowable with minor leakage (Class I or II) of any fluid except fuel. Fluid capacity must be considered before deciding to continue operation of the equipment with minor leaks. When operating with Class I or II leaks, fluid level must be checked more often than required by the PMCS table. Parts without fluid will stop working and/or cause equipment damage.

- a. Consider the equipment's capacity for the fluid that is leaking. If the capacity is small, the fluid level may soon become too low for continued operation. If in doubt, *notify your supervisor*.
- b. Check the fluid level more often than required in the PMCS table. Add fluid as needed.

**2-2.7 Corrosion Prevention and Control (CPC).** CPC of Army material is of continuing concern. It is important that any corrosion problems with the equipment be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials maybe a corrosion problem. If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem. The form should be submitted to the address specified in DA Pam 738-750.

**2-2.8 Order in Which PMCS Will be Done.** Figure 2-2 shows the order in which you are to perform your PMCS. The figure shows a typical configuration having one generator set. *Keep in mind that the power plant consists of two PU-805 units and PMCS must be performed on each PU-805.* The number callouts on figure 2-2 correspond to the numbers in the Item No. column of table 2-2, for "BEFORE" PMCS.



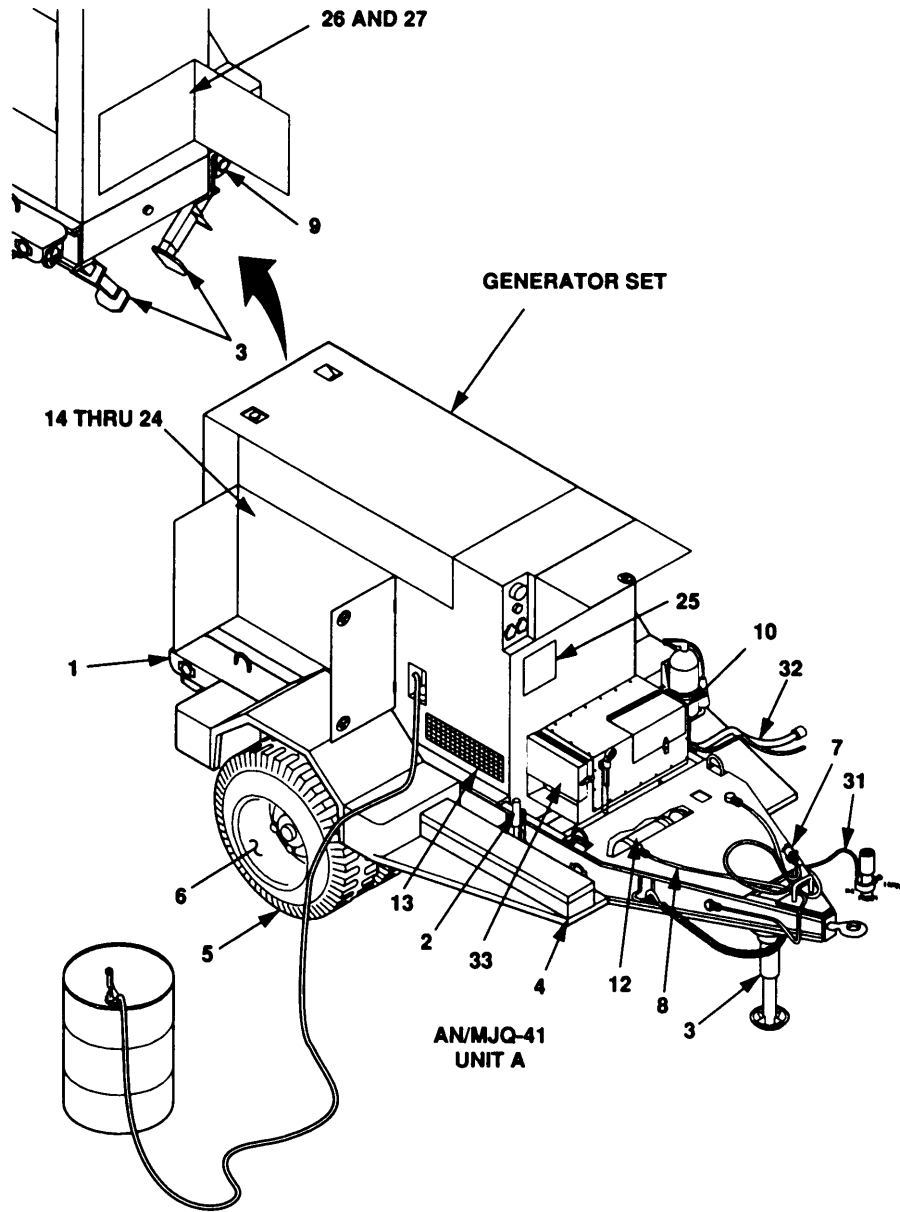


Figure 2-2. Operator PMCS Routing Diagram (sheet 1 of 2).

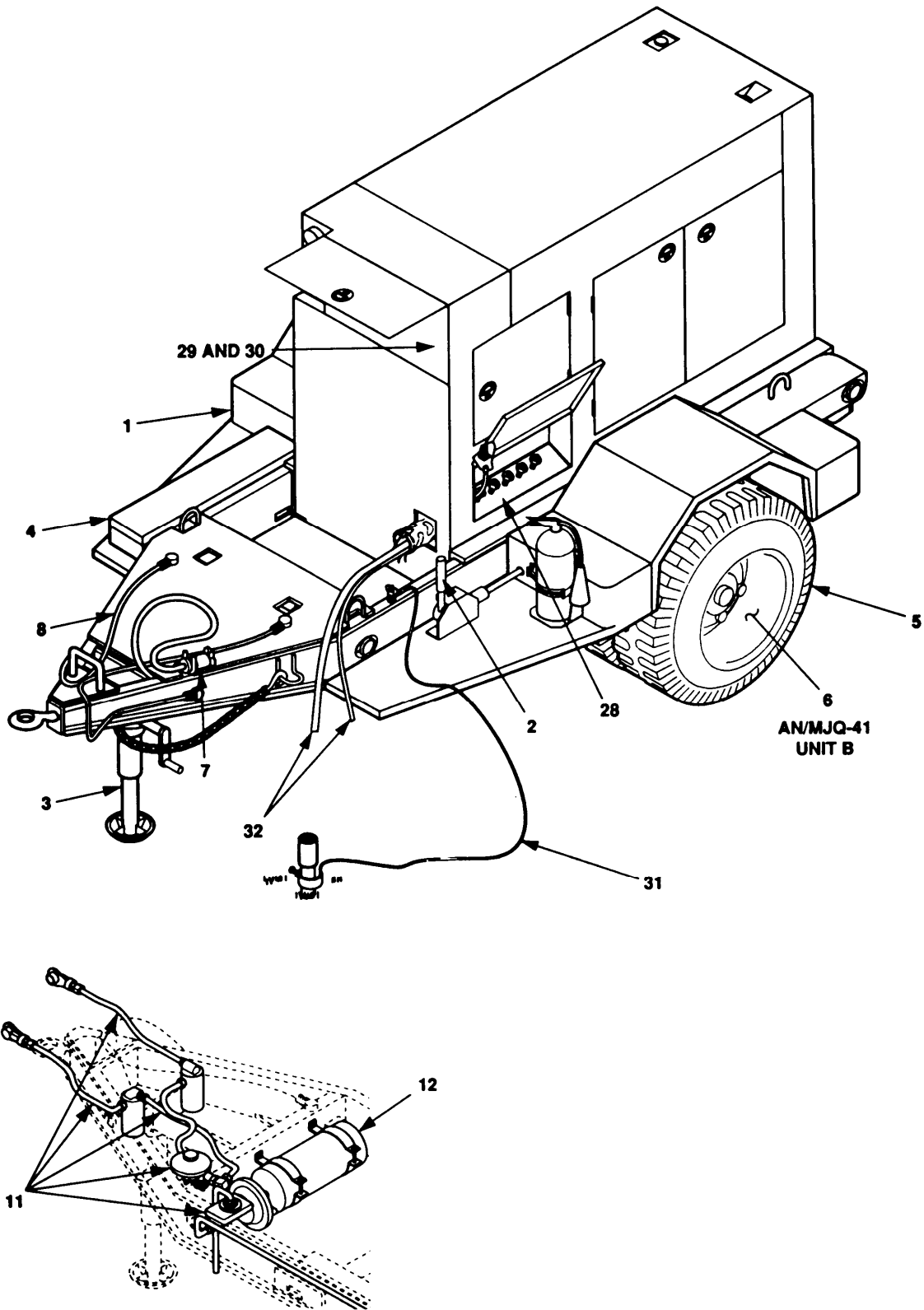


Figure 2-2 Operator PMCS Routing Diagram (sheet 2).

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806**

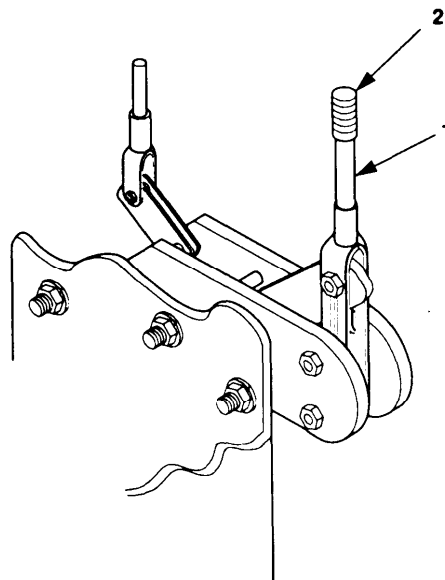
**NOTE**

If equipment must be in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make complete checks and services when equipment can be shut down. When a procedure is required for both weekly and before intervals, it is not necessary to do the procedure twice if the equipment is operated during the weekly period.

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<p><b><u>WARNING</u></b></p> <p>Before performing my maintenance that requires climbing on or under trailer, make sure that trailer handbrakes are set and trailer is supported to prevent rolling or tipping. Injury to personnel could result from trailer suddenly rolling or tipping.</p>				
1	Before	<u>TRAILER</u> <b>VISUAL INSPECTION</b> <ul style="list-style-type: none"> <li>• Fenders/body</li> <li>• Gen set door</li> <li>• Reflectors</li> <li>• Landing leg</li> <li>• Skid base</li> <li>• Lunette</li> <li>• Chains</li> <li>• Identification plates</li> <li>• Fuel and coolant</li> </ul>	a. Check for damage.             b. Check on, around and under equipment for fuel, oil or coolant leaks.	Any condition renders the power plant/power unit not mission capable.             Class III coolant or any class fuel leak is detected,
2	Before	<b>HANDBRAKE</b>	a. Check operation of handbrake lever (1). Lever should move freely through its entire travel.	Handbrake lever (1 or 2) locked in applied position.

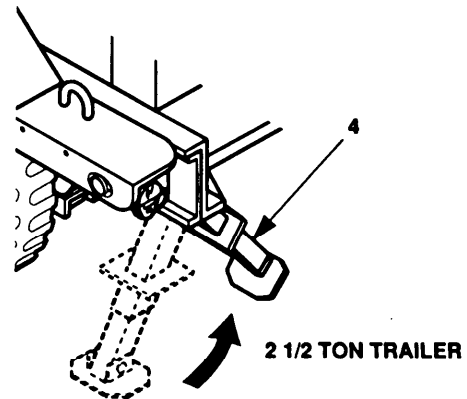
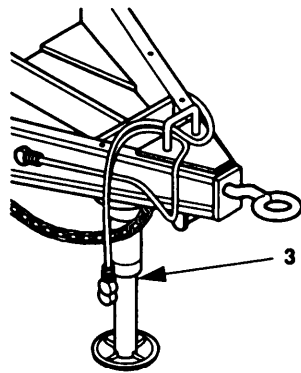
**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 - continued**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
2	Before	<u>TRAILER-continued</u>	<p>b. Check adjustment of handbrake lever (1). Lever is properly adjusted when it is difficult to move beyond two-thirds of the way to the applied position. If out of adjustment, see step d.</p> <p>c. With trailer hooked to towing vehicle, set handbrake lever (1). Move trailer slightly to see if handbrakes hold wheels. If not, proceed to step d.</p> <p>d. Adjust handbrake as follows.</p> <ol style="list-style-type: none"> <li>1. Release handbrake lever (1).</li> <li>2. Turn adjustment knob (2) clockwise to tighten or counterclockwise to loosen. If unable to adjust, or if adjustment has been used up, refer to Unit Level Maintenance.</li> <li>3. Check adjustment (Refer to step b). Repeat steps 1 and 2 as required Repeat step c.</li> </ol>	
		HANDBRAKE-continued		



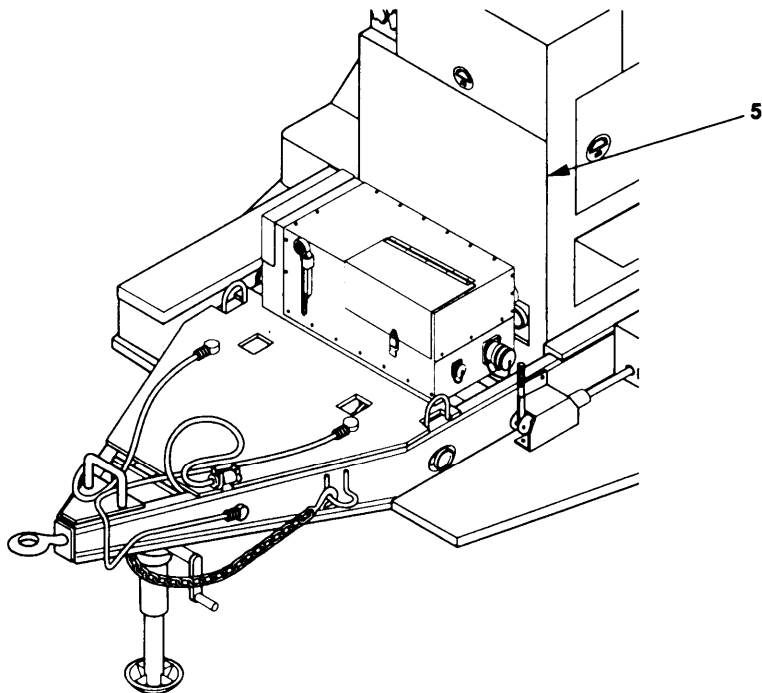
**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU805, and PU-806 - continued**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
3	Before	<u>TRAILER - continued</u> LANDING LEG AND STEP JACK	Check for loose, missing, damaged or corroded parts, and for any unusual signs of deterioration. <ol style="list-style-type: none"> <li>a. With trailer connected to towing vehicle, check landing leg assembly (3) for easy operation.</li> <li>b. Check landing leg for proper mounting, alignment, and general condition.</li> <li>c. Step jacks (4) for ease of operation.</li> <li>d. Step jacks (4) for secure mounting.</li> <li>e. Ensure step jacks can be locked in stored and support positions.</li> <li>f. Ensure locking pin is attached to step jack with chain.</li> <li>g. Ensure step jacks can be adjusted up or down.</li> </ol>	Landing leg assembly will not secure in stored position, or will not support trailer.  Rear support leg/step jacks will not secure in stored position, or will not support trailer.



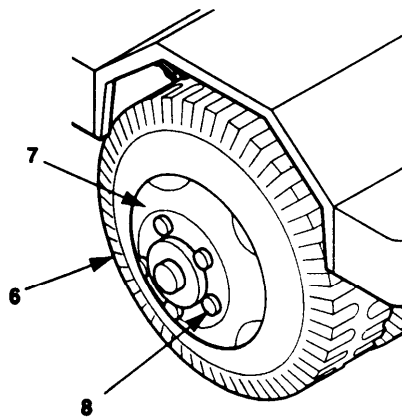
**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
4	Before	<u>TRAILER - continued</u>	<p>Check that following accessories are not missing or damaged:</p> <ul style="list-style-type: none"> <li>• Auxiliary fuel hose(s)</li> <li>• Fire Extinguisher (stored in fire extinguisher bracket on fender), check seal.</li> </ul> <p style="text-align: center;"><b>NOTE</b></p> <p>Remaining accessories are stored in accessory box, and ground rod may be stored in generator set (5).</p> <ul style="list-style-type: none"> <li>• Fuel container adapter</li> <li>• Ground rod</li> <li>• Hammer, 8 lb</li> <li>• Load terminal wrench</li> <li>• Slide hammer</li> <li>• Ground cable</li> </ul>	<p>Fire extinguisher missing or seal open.</p> <p>Ground rod and/or ground cable missing</p>
		ACCESSORIES		



**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
		<u>TRAILER - continued</u>			
5	Before	TIRES		a. Check tires (6) for cuts, bruises, bulges, or unusual tread wear. Remove any foreign objects from between treads.  b. Check tire pressure when tires are cool, for 45 psi (248 kPa).	Tires are unserviceable.  Tire will not hold air pressure.
6	Before	WHEELS		a. Check wheels (7) for damage and for leakage around flange gasket.  b. Check to see if stud nuts (8) are loose or missing.	Wheel has Class III leak at flange gasket.  One stud nut is loose or missing.
7	Before	INTER VEHICULAR CABLE		a. Check inter vehicular cable (9) for cuts and breaks.  b. Open cable protective cover. Inspect for broken, missing and burnt pins.	Cable is severed or missing.



**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
8	Before	<u>TRAILER - continued</u>		a. With trailer hooked to towing vehicle, check air hose (10) for leaks, cuts, and abrasions.  b. Check coupler body (11) for damage. Check if seal (12) is missing or damaged.	Air leaks are found, or cuts in hose deep enough for cords to show.  Coupler body is cracked or broken. Seal is missing.
		AIR HOSE AND COUPLER			
9	Before	LIGHTS		a. Check for obvious damage or looseness of lights and lenses.  <p style="text-align: center;"><b>NOTE</b></p> An assistant is required while checking brake lights.  b. Connect the intervehicular cable (9) to the towing vehicle.  c. Operate the vehicle light switch through all settings and check the lights.	Lights are damaged, not serviceable.

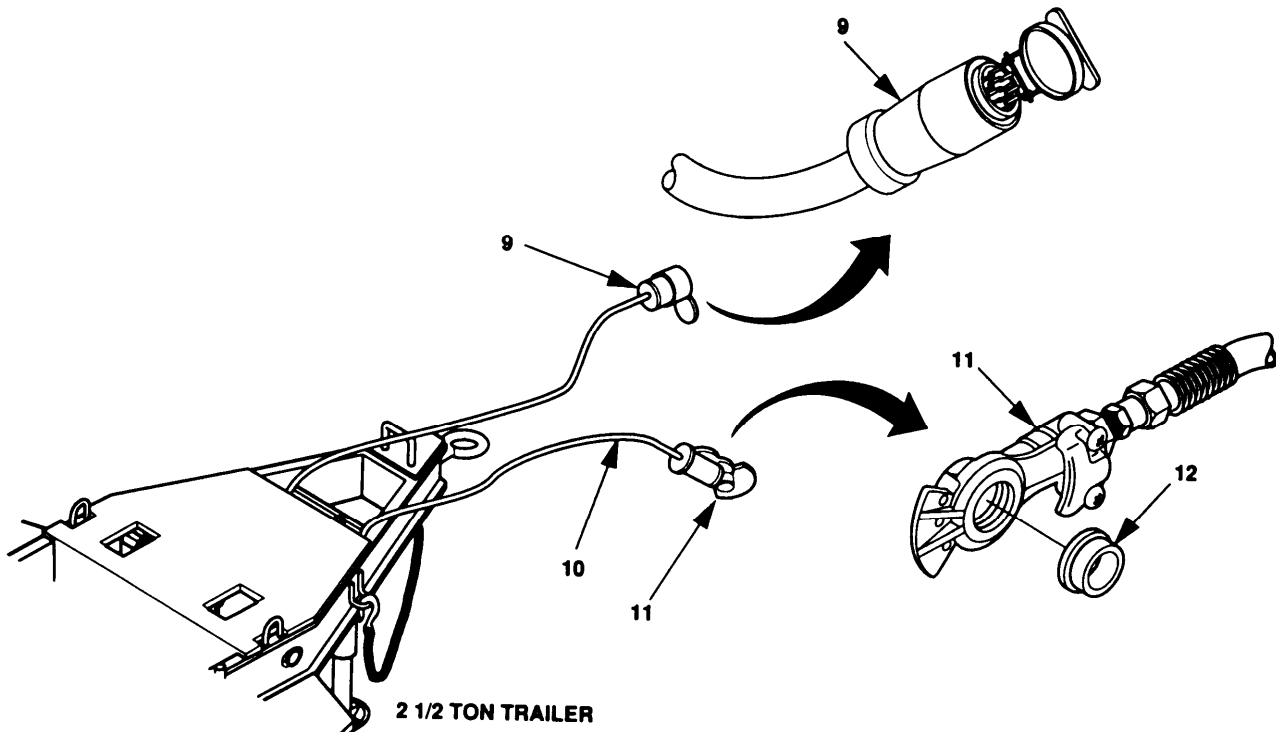
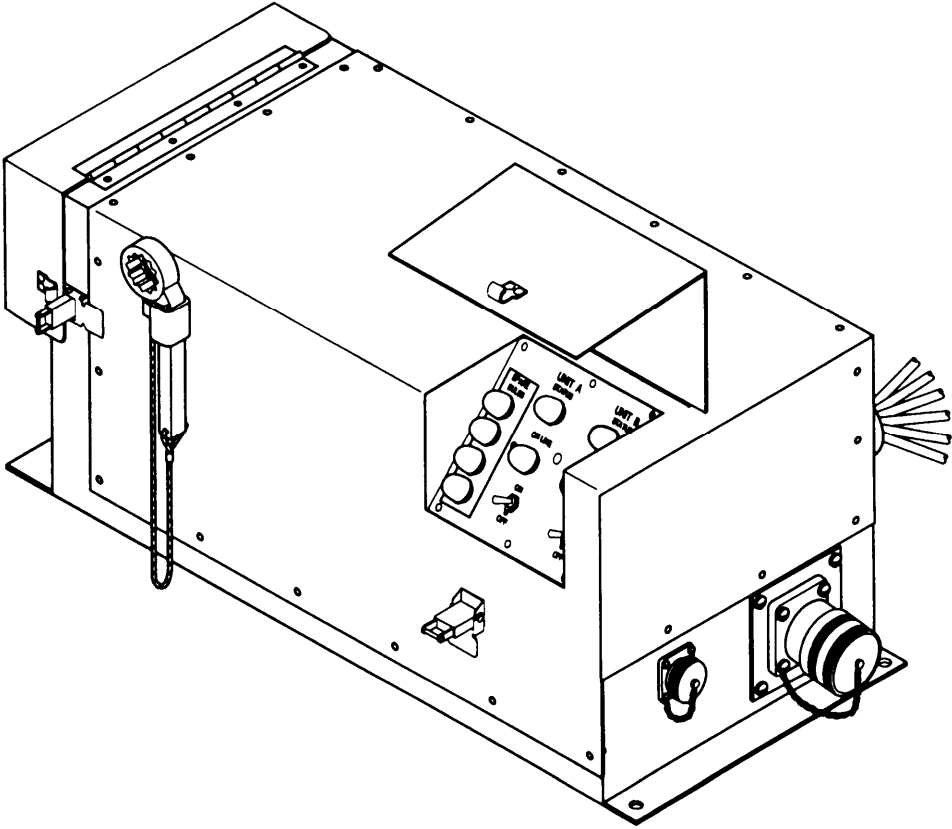


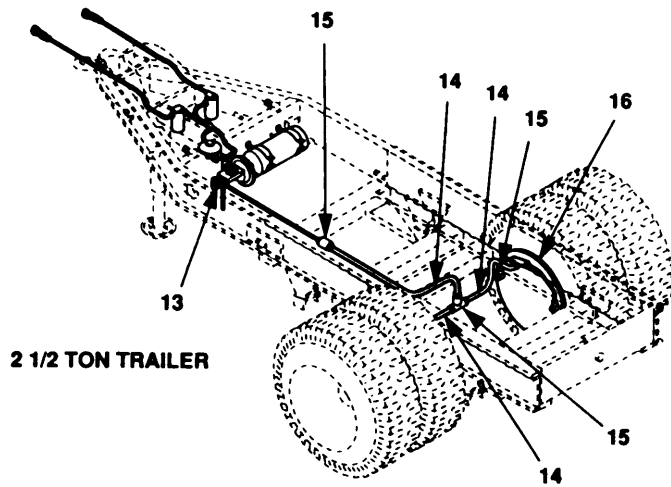


Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJO-41, PU-805, and PU-806 (continued)

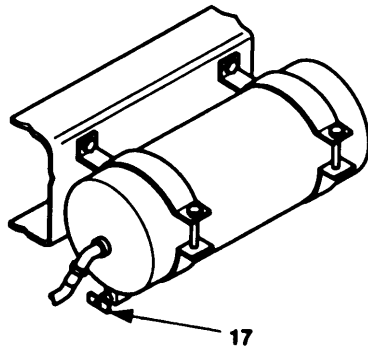
Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
		<u>TRAILER - continued</u>		
				
10	Before	WITCH BOX ASSEMBLY POWER PLANT UNIT A (ONLY)	Visually check for the following: <ul style="list-style-type: none"> <li>• Loose or missing mounting hardware</li> <li>• Damaged indicator lights</li> <li>• Damaged or missing hinges and latches</li> <li>• Loose or damaged switches</li> <li>• Damaged or missing output terminals or connectors.</li> </ul>	Two or more mounting bolts missing. Indicator lights are damaged.  Switches loose or damaged. Output terminal or connectors will not secure load cables.

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
		<u>TRAILER - continued</u>			
11	Before	SERVICE BRAKE SYSTEM		<p>Check for leakage of brake fluid from master cylinder (13).</p> <p>Check for leakage of brake fluid from hydraulic brake lines (14), fittings (15), or at backing plates (16).</p>	<p>Cable is broken or missing.</p> <p>Brake system has any leaks or brakes do not hold.</p>



12	Before	AIR RESERVOIR, LINES, AND FITTINGS	<p>a. Check for damage and loose or missing parts.</p> <p>b. Ensure that drain cock (17) is closed.</p>	<p>Hose is damaged or parts are loose or missing.</p> <p>Drain cock will not close.</p>
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**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

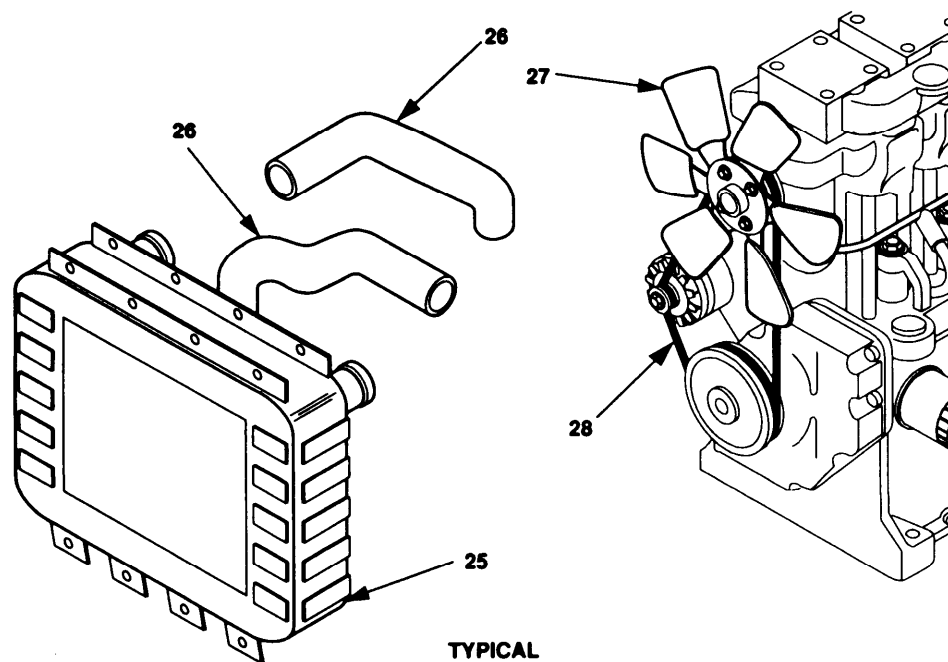
Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
13	Before	<u>GENERATOR SET</u>		Ensure that acoustical materials, located in the grill areas, are secure, not damaged or missing.	
		ACOUSTICAL MATERIALS			
<p><b><u>WARNING</u></b></p> <p>With any access door open, the noise level of this generator set could cause hearing 'damage. Hearing protection must be worn when working near the generator set while working.</p> <p><b><u>WARNING</u></b></p> <p>The fuels used in this generator set are highly explosive. DO NOT smoke or use open flame when performing maintenance. Flames and explosion can occur, resulting in severe personal injury or death.</p>					
14	Before	ENGINE ASSEMBLY		<p>a. Visually inspect the generator set for fuel, oil, and coolant leaks. Check for proper ground connections.</p> <p>b. Visually inspect the engine for missing, loose, or damaged parts and hardware, and for unusual wear or deterioration.</p> <ul style="list-style-type: none"> <li>•DEAD CRANK switch to NORMAL.</li> </ul>	<p>Any fuel leaks. Any Class III oil or coolant leaks.</p> <p>Any condition that renders power unit/power plant not mission capable.</p>

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
15	Before	<u>GENERATOR SET - continued</u>	<ul style="list-style-type: none"> <li>] Inspect fuel injector, fuel injector line, fuel pump, and fuel line for leaks, damage, and for loose or missing hardware.</li> </ul>	Any fuel leaks, damage, loose or missing parts.
		FUEL SYSTEM		
16	Before	FUEL FILTER/WATER SEPARATOR	<ul style="list-style-type: none"> <li>a. Inspect fuel filter/water separator (18) for leaks, improper mounting, cracks, damage or missing parts.</li> <li>b. Drain water from fuel filter/water separator (18).</li> </ul>	Any fuel leaks.
17	Before	ETHER SYSTEM	Inspect for leaks, damaged, loose or missing parts.	
18	Before	LUBRICATION SYSTEM	<ul style="list-style-type: none"> <li>a. Inspect lubrication system for leaks, damaged, loose or missing parts.</li> <li>b. Check oil level (19). Add as necessary.</li> <li>c. Check engine oil for contamination.</li> </ul>	<p>Class III leaks, damaged, loose or missing parts.</p> <p>Engine oil shows signs of contamination.</p>

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<b><u>WARNING</u></b>				
Cooling system operates at high temperature. Personal injury or death from burns or scalding can result from contact with high-pressure steam or liquid.				
<u>GENERATOR SET - continued</u>				
19	Before	RADIATOR	Check radiator (20) for leaks, damage or missing parts.	Class III leaks. Radiator cap missing.
20	Before	HOSES	Check hoses (21) for leaks, cracks, or deterioration.	Class III leaks.
21	Before	COOLING FAN	Check fan (22) for damage or looseness.	Damaged or loose.
22	Before	FAN BELT	Inspect belt (23) for cracks, fraying, or looseness.	Broken or loose belt.
23	Before	OVERFLOW BOTTLE	a. Check overflow bottle (24) for leaks, or missing parts.  b. Check coolant level.	Class III leaks.



**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

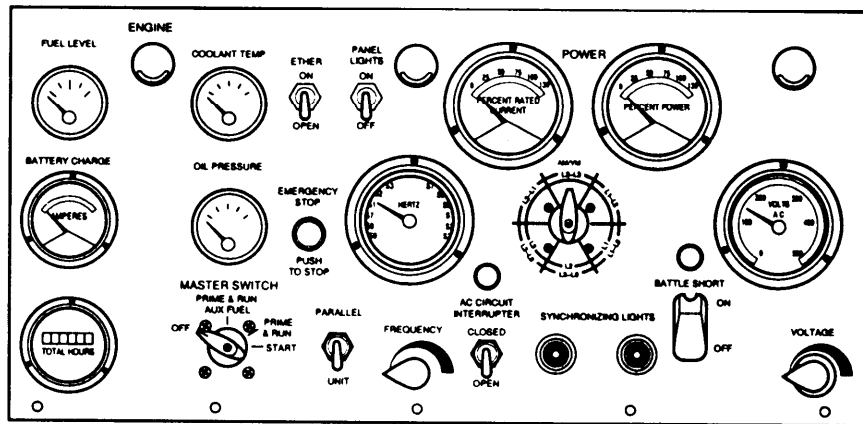
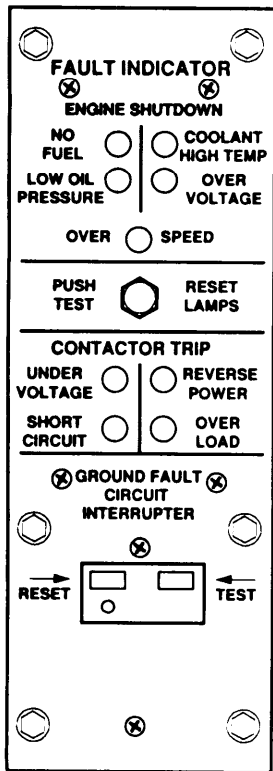
Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
<b><u>WARNING</u></b>					
Exhaust discharge contains deadly gases. DO NOT operate generator set in enclosed areas unless exhaust is properly vented outside. Severe personal injury or death due to carbon monoxide poisoning could result.					
24	Before	<p><u>GENERATOR SET-continued</u></p> <p>EXHAUST SYSTEM</p>		Check muffler for evidence of leakage and exhaust system for corrosion, damage or missing parts.	Muffler or exhaust system damaged or leaking.
25	Before	AIR CLEANER ASSEMBLY		<p>Inspect air cleaner assembly (26) and piping (27) for loose or damaged connections.</p> <p>Inspect restriction indicator (28) for clogged element. If indicator shows red, notify next higher level of maintenance.</p>	<p>Loose or damaged connections.</p> <p>Clogged element is indicated or piping and connections are loose.</p>

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
<p><b><u>WARNING</u></b></p> <p>Battery acid can cause burns to unprotected skin.</p> <p><b><u>WARNING</u></b></p> <p>Batteries give off a flammable gas. DO NOT smoke or use open flame when performing maintenance on batteries. Flames and explosion could result in severe personal injury or death.</p>				
26	Before	<u>GENERATOR SET - continued</u>		
		BATTERIES	a. Check batteries for damage or missing caps. b. Inspect electrolyte level. If low notify next higher maintenance level.	Batteries not charged.
27	Before	BATTERY CABLES	Inspect cables and connectors for corrosion, damage, loose or missing parts.	Cables are damaged or missing.
<p><b><u>WARNING</u></b></p> <p>DO NOT touch live voltage connections. High voltage is produced when this generator set is operating. Personal injury or death due to electrocution could result.</p>				
28	Before	OUTPUT BOX ASSEMBLY	a. Check for loose or damaged wiring or cables. b. Check output terminals for damage or missing hardware.	Missing or damaged wiring or cables. Damaged or missing hardware.

Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
29	Before	<u>GENERATOR SET - continued</u>	a. Check indicators and controls for damage or missing parts.  b. Place PRIME RUN switch to AUX PRIME RUN and press TEST RESET LAMPS button on fault indicator. All test lamps must light.  c. Check fuel gauge for fuel indication.	Indicators or controls damaged or missing.
		CONTROLS AND INDICATORS		
30	Before	CONTROL BOX HARNESS	Check inside control box for loose or damaged wiring.	Loose or damaged wires.





**Table 2-2. Operator Preventive Maintenance Check and services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location		Procedure	Not Fully Mission Capable if:
		Item to Check/Service			
<b><u>WARNING</u></b>					
NEVER attempt to start the generator set when it is not properly grounded. Personal injury or death due to electrocution could result.					
<u>GENERATOR SET</u>					
<u>Continued</u>					
31	Before	GROUND ROD CABLE AND CONNECTIONS		Inspect ground rod and cable for loose connections, breaks, damage, and corrosion.	Cable is missing or damaged.
32	Before	INPUT LOAD AND PARALLELING CABLES		Ensure cables are properly installed Inspect for damage and cutting.	Cables are improperly installed, or damaged.
33	Before	OUTPUT CONNECTORS		Inspect output connectors for missing hardware or damage.	

**Table 2-2. Operator Preventive Maintenance Checks and Services  
for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
34	During	<u>TRAILER</u>	a. Be alert for unusual noises when towing the trailer. Stop and investigate such noises.  b. Ensure that the trailer is tracking following correctly behind towing vehicle with no side pull.	Brakes locked up.
		TRAILER OPERATION		
35	During	SWITCH BOX ASSEMBLY	Check indicator lights. Ensure indicator lights are operating properly.	
36	During	HOUSING	a. Check doors, hinges, and latches for damage, loose, or corroded items.	Cannot secure door.
			b. Inspect air intake and exhaust grills for debris.	Grills plugged; air flow cut off.

**WARNING**

With any access door open, the noise level of this generator set when operating could cause hearing damage. Hearing protection must be worn when working near the generator set while working.

**WARNING**

The fuels used in this generator set are highly explosive. DO NOT smoke or use open flame when performing maintenance. Flames and explosion can occur, resulting in severe personal injury or death.

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable fi:
		Item to Check/Service		
<b><u>WARNING</u></b>				
Exercise extreme caution when performing "DURING" checks inside engine compartment. Avoid contact with moving or hot engine parts. Failure to observe this warning can result in severe personal injury or death.				
<b><u>GENERATOR SET</u></b>				
37	During	ENGINE ASSEMBLY	Check for loose, damaged or missing parts.	
38	During	FUEL SYSTEM	Inspect for leaks.	Any fue leaks.
39	During	LUBRICATION SYSTEM	a. Inspect for leaks. b. Check oil level on dipstick, both sides.	Class III leaks. Oil level below ADD level.
40	During	COOLING FAN	Listen for unusual noise in fan area.	
41	During	GROUND ROD CABLE AND CONNECTIONS	Inspect ground rod and cable for loose connections, breaks, damage, and corrosion.	Cable is missing or damaged.
<b><u>WARNING</u></b>				
High voltage is produced when this generator set is operating. Improper operation could result in injury or death.				
42	During	CONTROLS AND INDICATORS	Observe the following indicators and ensure they are functioning. • Coolant temp, 170-200°F (77-93° c) * Oil pressure, 25-60psi (172-414kPA)	

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable if:
		Item to Check/Service		
43	After	<u>GENERATOR SET -</u> <u>Continued</u>		
		HOUSING	a. Check doors, panels, hinges, and latches for damage, loose, or corroded items.  b. Inspect air intake and exhaust grills for debris.	Cannot secure doors.  Intake and exhaust grills plugged.
44	After	IDENTIFICATION PLATES	Check to be sure identification plates are secure.	
45	After	SKID BASE	Inspect skid base for cracks and corrosion.	Skid base cracked or shows signs of structural damage.
<b><u>WARNING</u></b>				
DO NOT smoke or use open flame near this generator set. The fuels used in it are highly explosive. Flames and explosion can occur, resulting in severe personal injury or death.				
46	After	ENGINE ASSEMBLY	Check for loose, damaged, or missing hardware.	
47	After	FUEL SYSTEM	Inspect fuel system for leaks, damaged, loose, or missing hardware.	Any fuel leaks, damaged, loose, or missing parts.
48	After	FUEL FILTER/WATER SEPARATOR	a. Inspect fuel filter/water separator for leaks, cracks, damage, proper mounting, or missing parts.  b. Drain water from fuel filter/water separator.	Any fuel leaks.
49	After	LUBRICATION SYSTEM	a. Inspect lubrication system for leaks, damaged, loose, or missing parts.  b. Check oil level.  c. Check engine oil for contamination.	Class III leaks, damaged, loose, or missing parts.  Oil level is below ADD level,  Engine oil shows contamination.

**Table 2-2. Operator Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806 (continued)**

Item No.	Interval	Location	Procedure	Not Fully Mission Capable fi:
		Item to Check/Service		
<u>COOLING SYSTEM</u>				
<u>WARNING</u>				
Be very careful to avoid contact with high-pressure steam and/or liquid. Cooling system operates at high temperatures, and personal injury or death from burns or scalding can result from such contact.				
50	After	RADIATOR	Check radiator for leaks, damage, or missing parts.	Class III leaks. Radiator cap missing.
51	After	HOSES	Check hoses for leaks or cracks.	Class III leaks.
52	After	FAN BELT	Inspect belt for cracks, fraying, or looseness.	Broken belt.
53	After	OVERFLOW BOTTLE	Check overflow bottle for leaks or missing parts. Check coolant level.	Class III leaks. Coolant level is below cold line.
<u>CONTROL BOX ASSEMBLY</u>				
54	After	CONTROLS AND INDICATORS	Check all indicators and controls for damaged or missing parts.	Indicators or controls damaged or missing.

### Section III. OPERATION UNDER USUAL CONDITIONS

#### 2-3 ASSEMBLY AND PREPARATION FOR USE.

**2-3.1 Unpacking the Equipment.** Unpacking must be performed by unit level maintenance personnel.

#### **2-3.2 Installation Instructions.**

**2-3.2.1 Positioning Power Unit.** Position the equipment at the worksite as follows:

#### **NOTE**

There will be two units for the Power Plant AN/MJQ-41. This procedure must be performed on each unit and trailer. The two units must be positioned to allow the interconnection of the supplied cables.

- a. Select an area as level as possible to install equipment.
- b. When installing the power plant, locate the two power units side by side as shown in figure 2-3.
- c. Set the trailer handbrakes and lower trailer support devices. Refer to TM 9-2330-205-14&P for detailed installation of trailer.
- d. Remove fire extinguisher from bracket. Locate fire extinguisher on ground away from equipment.

**2-3.3 Grounding of Generator Set.** Ground the equipment in accordance with Army Field Manual FM 20-31. Typical ground rod installations are shown in figure 2-4. If a ground rod is used, install and connect it as follows:

#### **NOTE**

The Power Plant AN/MJQ-41 consists of two power units. One ground rod must be installed for each power unit.

- a. Remove ground rod, grounding strap, and slide hammer (figure 2-5) from accessory box. Perform assembly steps (1) through (4).

#### **WARNING**

Impact disk must be tightened to end of threads on rod. Also, lock washer and nut must be tightened firmly against impact disk. Failure to observe this warning could result in severe personal injury and/or death and damage to the equipment.

#### **NOTE**

The terminal lug supplied with the ground rod is too small. Use additional ground strap provided with power unit.

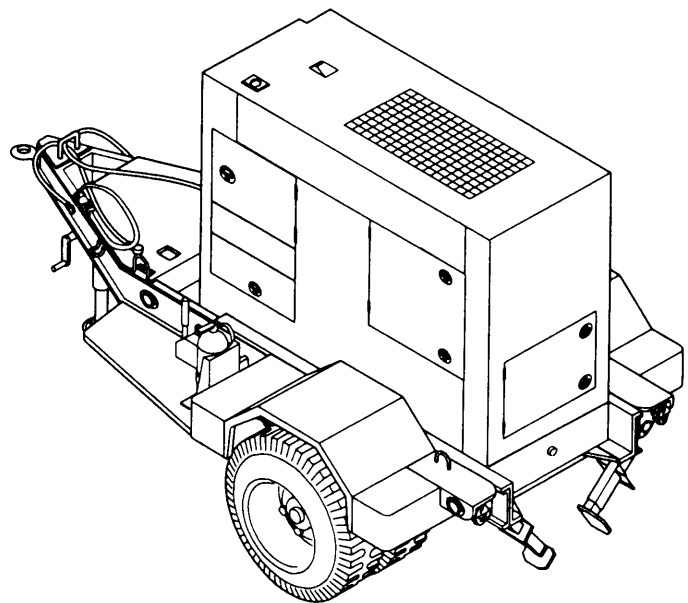
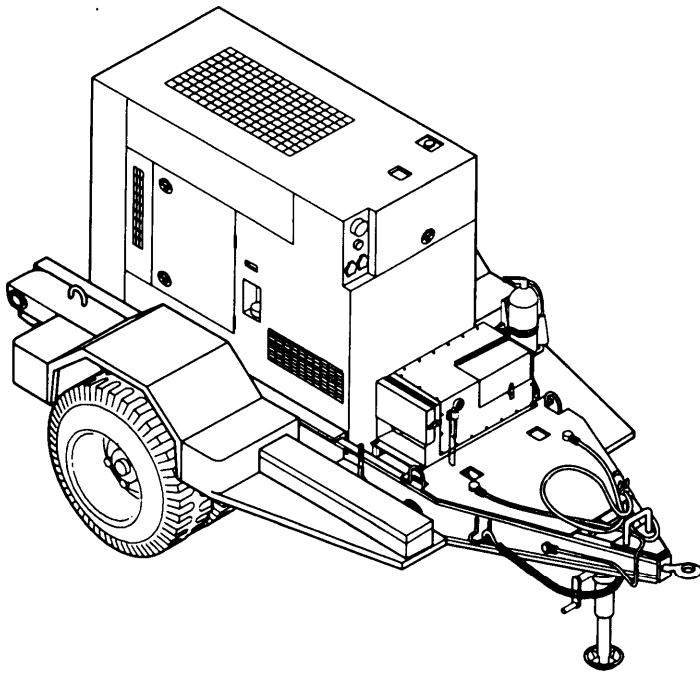


Figure 2-3. Power Plant Unit A and Unit B Installation.

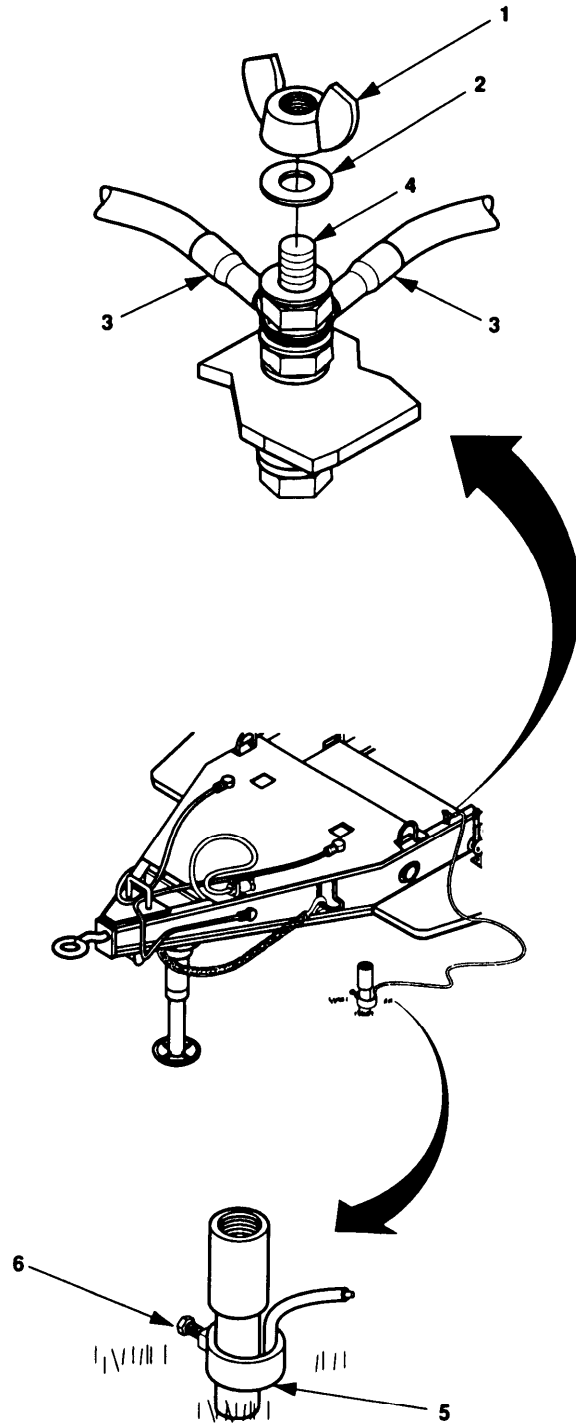


Figure 2-4 Typical Ground Rod Installations.



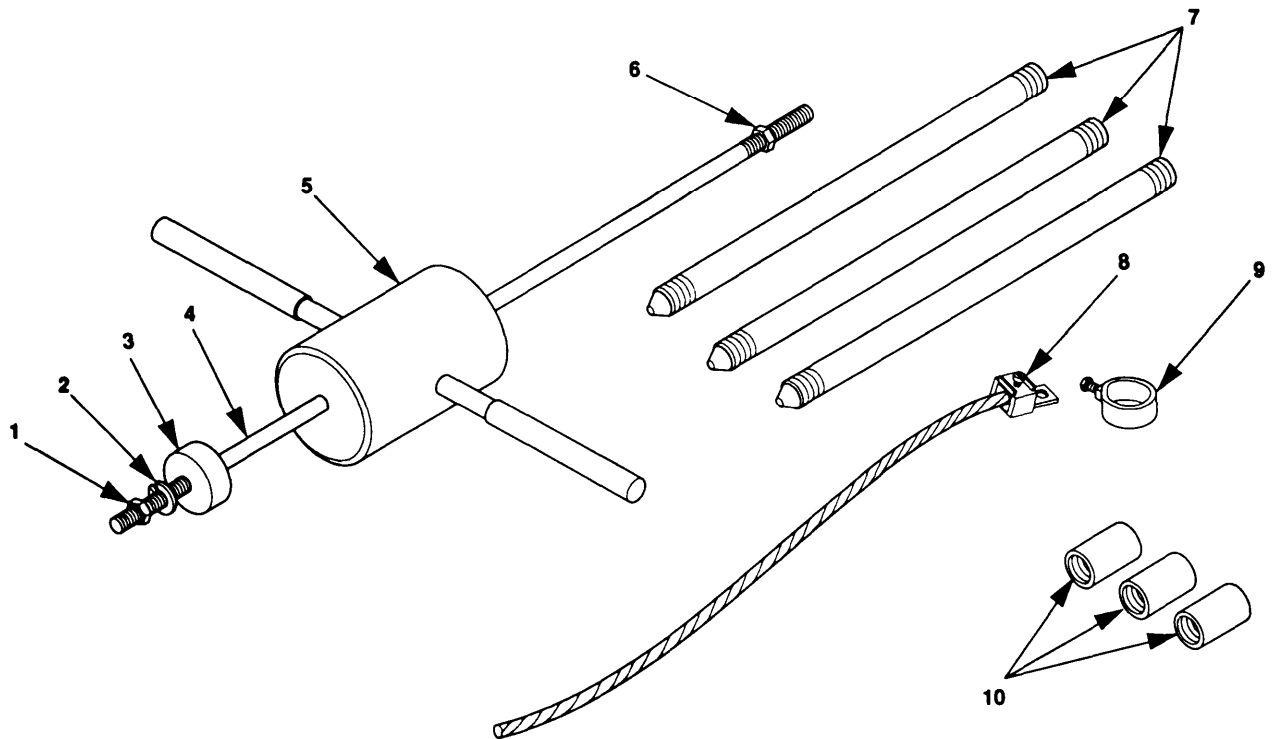


Figure 2- 5. Ground Rod, Grounding Strap, and Slide Hammer.

- (1) Install impact disk (3) on rod (4). Tighten impact disk to end of threads on rod (4).
- (2) Install lock washer (2) and nut (1). Tighten nut (1) and lock washer (2) securely against impact disk (3).

#### NOTE

Nut (6) must be removed before positioning slide hammer.

- (3) Position hammer (5) on rod (4). Install nut (6) tighten to end of threads on rod (4).
- b. Connect ground rod coupling (10) to ground rod (7) screw slide hammer into coupling (10). Make sure that slide hammer rod (4) seats on ground rod (7).
- c. Drive ground rod into ground until coupling is just above surface.
- d. Remove slide hammer assembly and install another section of ground rod (7).
- e. Install another coupling (10) and the slide hammer assembly. Drive ground rod down until new coupling is just above ground surface.
- f. Repeat steps d and e until ground rod has been driven eight feet or deeper, providing an effective ground.
- g. Connect clamp (9) and ground cable (8) to ground rod (7) and tighten clamp screw.
- h. Connect ground cable (8, figure 2-5) as follows.
  - (1) Remove and retain wing nut (1 figure 2-4) and washer (2) from trailer ground stud (4) and install ground cable terminal (3) to ground stud (4).

- (2) Install washer (2) on ground stud (4).
- (3) Thread wing nut (4) on the ground stud (4) and tighten.
- (4) Insert ground cable end into ground cable clamp (5) and tighten clamp screw (6).

i. Disassemble slide hammer as follows:

- (1) Remove nut (6, figure 2-5) from end of rod (4) and retain.
- (2) Remove hammer (5) from rod (4) and thread nut (6) on end of rod to prevent loss.
- (3) Store hammer (5) and rod (4) with assembled parts in accessory box.

### 2-3.4 Connecting Load and/or Paralleling Cables.

#### **WARNING**

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

#### **NOTE**

Before connecting the load determine voltage and frequency requirements of the system or device that is being supplied with power. Refer to TM 9-6115-645-10 and verify that voltage reconnection board is in proper position for voltage requirements and the frequency select switch is in the proper position. If board requires repositioning notify next higher level of maintenance.

#### 2-3.4.1 **Power Unit.** Refer to TM 9-6115-645-10 for installation of load cables.

2-3.4.2 **Power Plant.** Load may be connected to the switch box (figure 2-6) by either of two methods. One method is to connect the load cable to the J1 connector (6, figure 2-6). The other method is to connect load cables to the load terminah (1, 2, 3, 4, and 5, figure 2-6). Connect unit A to unit B as follows:

#### **NOTE**

A paralleling cable is furnished with each generator set. Cables are located in a storage box inside battery access doors.

a Connect paralleling cables as follows:

- (1) Connect one end of cable (13) to connector J3 (15) of the switch box located on unit A.
- (2) Route the other end of cable (13) through power cable sock (10) and connect to connector J16 (8) on Unit B generator set.
- (3) Connect the other paralleling cable (11) between the two paralleling receptacles (7) located on the generator set control panels.

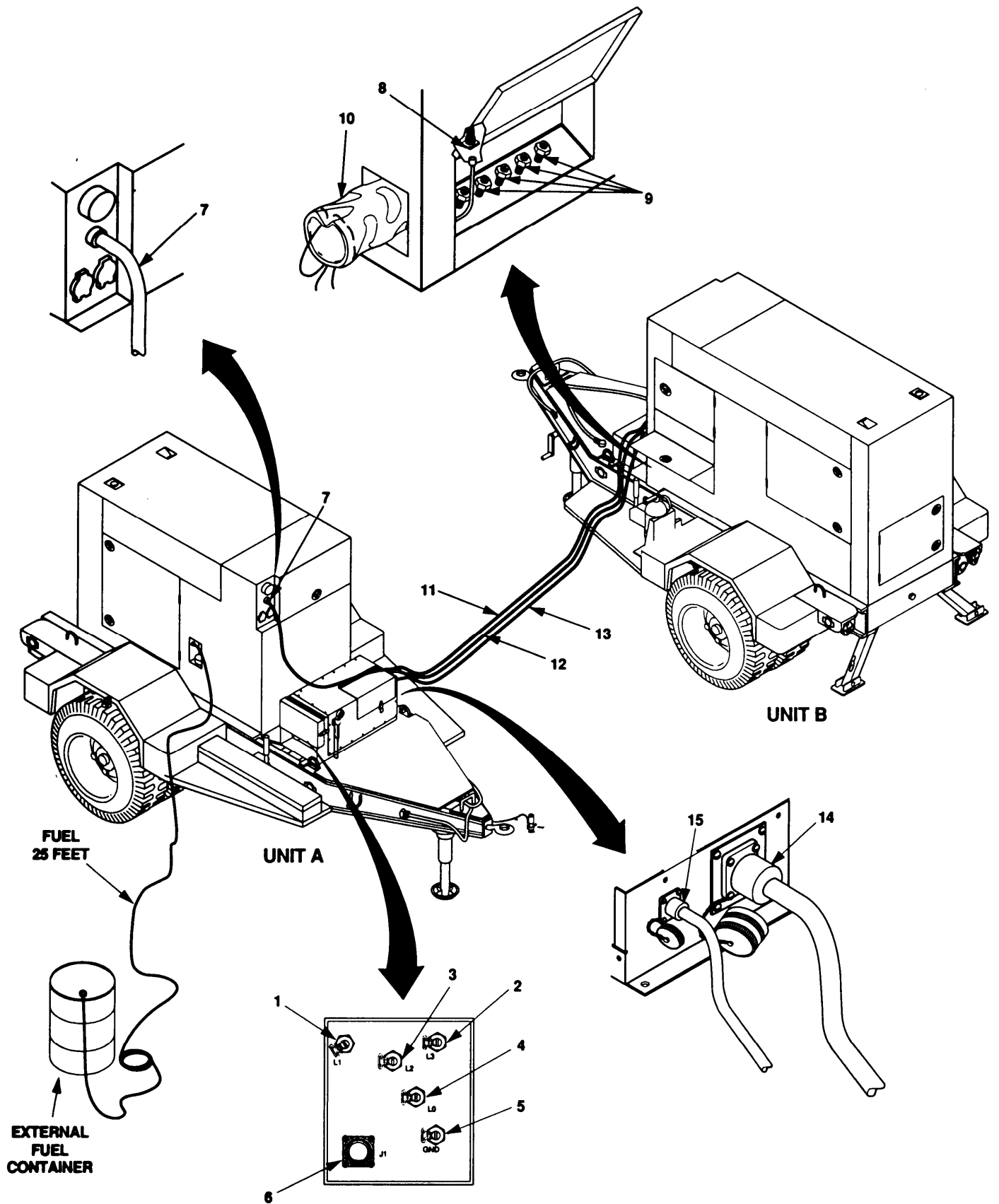


Figure 2-6 Connecting Power Plant.

- b. Remove power cable (12) from fender and connect as follows:
  - (1) Connect the plug end of power cable (12) to connector J2 (14) of the switch box located on unit A
  - (2) Route the other end of cable (12) through power cable sock (10) and connect leads to appropriate load terminals (9) on unit B. Leads will be labeled with load terminal designations.

**2-3.5 External Fuel Source.** Each generator set has provisions for obtaining fuel from an external source, such as a 55-gallon diesel fuel container. This enables operation for long intervals without frequent refilling of the fuel tanks. To use an external fuel source:

**warning**

Before performing any maintenance that requires climbing on or under trailer, make sure that trailer handbrakes are set and trailer is supported to prevent rolling or tipping. Injury to personnel could result from trailer suddenly rolling or tipping.

- a. Place external fuel source away, but no more than 25 feet (7.6 meters) away, from the equipment.
- b. Remove fuel container adapter (figure 2-7) from accessory box. The fuel container adapter consists of strainer clamp (1), adapter (2), pipe (3), and extension pipe (4).
- c. Make sure that the fuel container adapter components are clean.

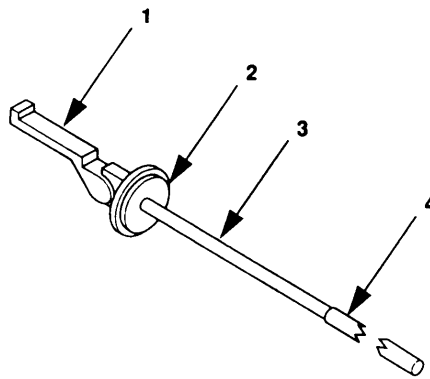


Figure 2-7. Fuel Container Adapter.

- d. Thread fuel pipe (3) into adapter (2). Thread extension pipe (4) into fuel pipe (3).
- e. Remove auxiliary fuel hose from generator set.
- f. Make sure that fittings on auxiliary fuel hose are clean.
- g. Thread one end of auxiliary fuel hose into fuel container adapter fitting and tighten.
- h. Connect free end of auxiliary fuel hose to generator set external fuel supply connection and tighten. Connection is located on generator set, near fuel tank filler cap.

- i. Insert fuel container adapter into external fuel source. Secure fuel container adapter by pressing down on strainer clamp (l).

## 2-4 INITIAL ADJUSTMENTS, CHECKS, AND SELF TEST.

Refer to TM 9-6115-645-10 for initial adjustments, checks and self test.

## 2-5 OPERATING PROCEDURES.

**2-5.1 Generator Set Operating Procedures.** Refer to TM 9-6115-645-10 for generator set operating procedures.

**2-5.2 Trailer Operating Procedures.** Refer to TM 9-2330-205-14&P for trailer operating procedures.

**2-5.3 Power Plant switch Box Operating Procedures.** The power plant can be operated either in a single generator set configuration or parallel operation of the generator sets. The following paragraphs provide operating procedures for a single generator, generators in parallel, or transfer of the load from one generator to another.

### 2-5.3.1 Operating a Single Generator Set.

#### **WARNING**

Do not operate equipment until it is properly grounded and all load terminals are not shorted. Failure to observe this warning can result in severe personal injury or death.

#### **NOTE**

Before operating generator sets, all connections must be made to the switch box assembly.

- a. Perform the Preventive Maintenance Checks and Services (PMCS) listed as "Before" in table 2-2.
- b. Release the clamping catch (8, figure 2-8) and open the control panel access cover (7).
- c. To start either generator set, rotate the MASTER switch to START position. Hold MASTER switch in START position until oil pressure reaches 25 psi (172 k PA), and voltage reaches the appropriate required value.
- d. Release MASTER switch to PRIME AND RUN position.
- e. Readjust VOLTAGE potentiometer to required voltage.
- f. Readjust FREQUENCY potentiometer to required frequency.
- g. Place AC CIRCUIT INTERRUPTER switch in the closed position.
- h. Check switch box to make sure that STATUS light (1 or 4) is lit for the generator set just started.
- i. At the switch box set the ON/OFF switch (3 or 6) in the ON position (ON Line light should LIGHT). Generator is now supplying power to the load.

- j. Close the control panel access cover (7) and secure with clamping catch (8).
- k. Perform the PMCS listed as "DURING" in table 2-2.
- l. To shut down generator set, place AC CIRCUIT INTERRUPTER switch in the OPEN position.
- m. On the switch box, place the ON LINE switch (3 or 6) for the operating generator set in the OFF position.

**NOTE**

Before shutting generator set off, allow it to operate five minutes with no load applied.

- n. On the generator control panel rotate the MASTER switch to the OFF position.

**2-5.3.2 Operating Generator Sets in Parallel.** The generator sets can be operated in parallel through the switch box or at the generator set load terminals. When paralleling at the generator set load terminals, refer to paralleling procedures in TM 9-6115-645-10. When paralleling at the switch box, perform the following procedures:

**WARNING**

Prior to making any connections for parallel operation, ensure that there is no input to the load and that the generator sets are shut down. Failure to observe this warning can result in serious injury or death by electrocution.

**WARNING**

Never attempt to start the generator set if it is not properly grounded. Failure to observe this warning can result in serious injury or death by electrocution.

- a. Ensure that load requirement is equal to or below the combined rated capacity of the two generator sets.
- b. Perform the Preventive Maintenance Checks and Services (PMCS) listed as "BEFORE" in table 2-2.
- c. Install load and paralleling cables.

**CAUTION**

Do not close the AC CIRCUIT INTERRUPTER switch (13) on either of the generator sets or close the load contactor at load until specifically directed to do so. Closing any of these devices at any other time may severely damage one or both of the generator sets.

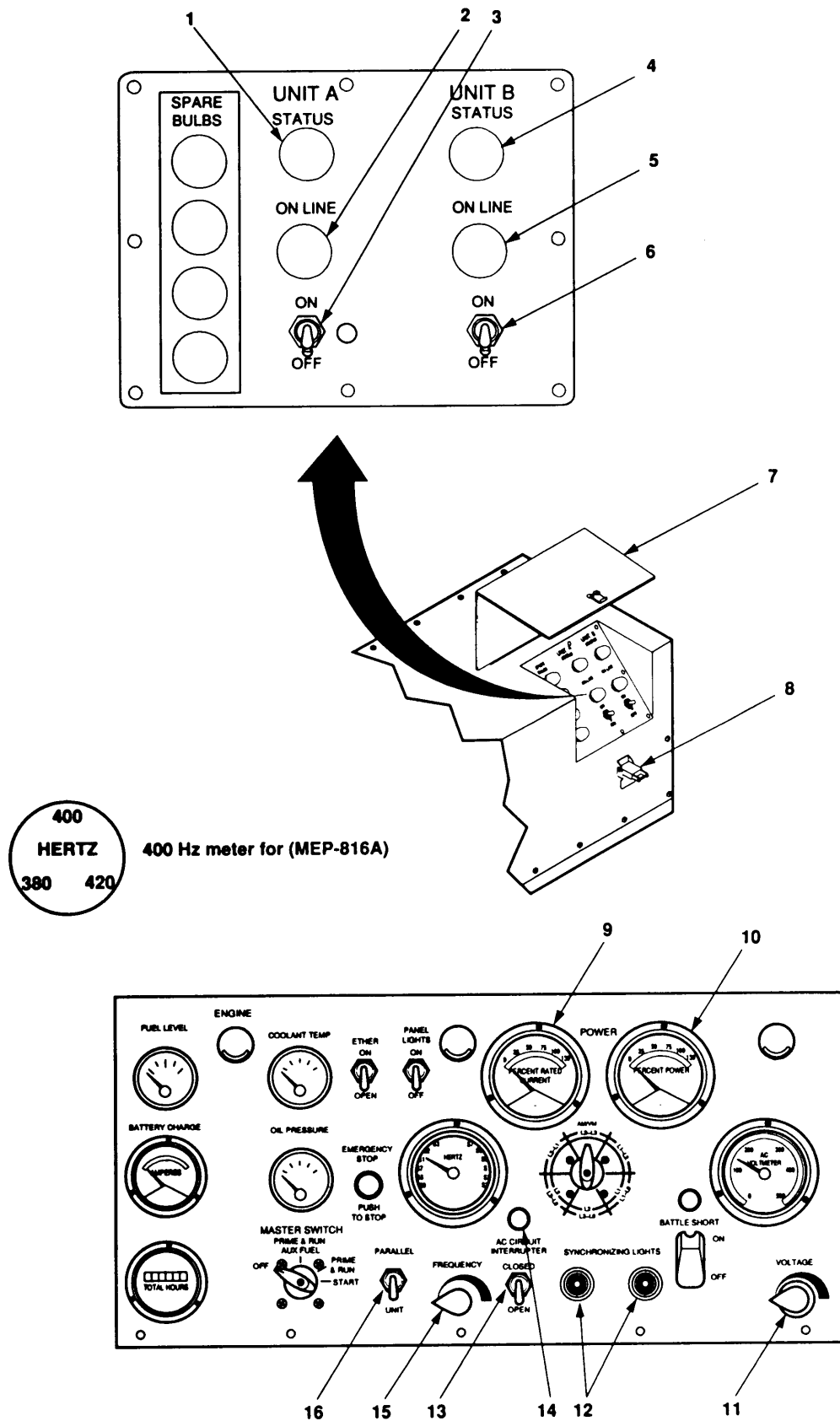


Figure 2-8. Power Plant Operation.

- d. Refer to paragraph 2-5.3.1 (steps c. through i.), to start a generator set and bring it on line.
- e. On operating generator set (generator set 1) position UNIT-PARALLEL switch (16) to PARALLEL.
- f. Start generator set 2 and adjust voltage and frequency to match generator set 1.
- g. At switch box, set generator set 2 ON-OFF switch (3 or 6) to ON (Switch box STATUS & ON-LINE lights for both generators should be lit).
- h. At generator set 2 control panel:
  - (1) Set UNIT-PARALLEL switch (16) to PARALLEL. Both SYNCHRONIZING LIGHTS (12) should be going bright to dark together.

**CAUTION**

If SYNCHRONIZING LIGHTS on generator set 2 do not go bright and dark in unison, the phasing is wrong. Shut down generator sets and check that load cables are connected properly. Failure to observe this caution can result in damage to generator sets.

- (2) Increase frequency until SYNCHRONIZING LIGHTS (12) blink together one or more times per second.
- (3) Decrease frequency until SYNCHRONIZING LIGHTS (12) blink together once every 3-4 seconds.

**CAUTION**

Check that load contactor at load is open before attempting to place generators on line. Failure to observe this caution can result in damage to generator sets.

- (4) When both SYNCHRONIZING LIGHTS (12) are dark, position and hold AC CIRCUIT INTERRUPTER switch (13) of generator set 2 in the CLOSED position until indicator light (14) goes out. SYNCHRONIZING LIGHTS (12) should go out (both generators are now operating in parallel with no load).
- i. Rotate FREQUENCY adjust potentiometer (15) of generator set 1 until percent power meter (10) reads approximately "0".
- j. Rotate VOLTAGE adjust potentiometer (11) of generator set 1 until AC AMPERES meter (9) reads approximately "0".
- k. Close the load contactor at the load.



**NOTE**

If the REVERSE POWER indicator on the FAULT INDICATOR PANEL of either generator set lights, and the AC circuit interrupter relay opens, open the load contactor at load and resynchronize the generator sets (Repeat the necessary steps d through j above).

- l. Compare AC AMPERES meter (9) readings of both generator sets. If readings are not within 10 percent, notify next higher level of maintenance.
- m. Compare PERCENT POWER meter (10) readings of both generator sets. If readings are not within 10 percent, notify next higher level of maintenance.
- n. Close control panel access cover (7) and secure with clamping catch (8).
- o. Perform the PMCS listed as DURING in table 2-2.

**2-5.3.3 Removal from Parallel Operation.****WARNING**

If necessary to move a generator set which has been operating in parallel with another generator set, shut down remaining generator set connected to the load, prior to removing load and ground cables. Failure to observe this warning can result in injury or death by electrocution.

**CAUTION**

Prior to removal of generator set from parallel operation, make sure load does not exceed full load rating of generator set remaining online. Failure to observe this caution can result in damage to generator set.

- a. At the control panel of the generator set that is to be taken off line, position AC CIRCUIT INTERRUPTER switch (13) in the OPEN position until indicator (14) goes out.
- b. Set UNIT-PARALLEL switch (16) to UNIT.
- c. On the switch box place the ON LINE switch (3 or 6) for the operating generator set in the OFF position. (At switch box, STATUS and ON LINE lights for the generator shut down should be off).
- d. Rotate MASTER switch to OFF position.
- e. At the control panel of the operating generator set, place the UNIT—PARALLEL switch at UNIT.
- f. Perform the PMCS listed as AFTER in Table 2-2 for the generator set that was shut down.

**2-5.3.4 Load Transfer Procedures (Sets connected for parallel operation).**

- a. One generator set (generator set 1) should already be on line and supplying power to the load.
- b. For the generator set not running (generator set 2), perform the PMCS listed as BEFORE in table 2-2.

- c. On operating generator set (generator 1), set UNIT-PARALLEL switch (16, figure 2-9) to PARALLEL.
- d. Start generator set 2. Adjust voltage and frequency to match generator set 1.
- e. At switch box, set generator set 2 ON-OFF switch (3 or 6) to ON (Switch box STATUS and ON LINE lights for both generator sets should be lit).
- f. At generator set 2 control panel:
  - (1) Set UNIT-PARALLEL Switch (16) to PARALLEL. Both SYNCHRONIZING LIGHTS (12) should be going bright to dark together.

**CAUTION**

If synchronizing lights on generator set 2 do not go bright and dark in unison, the phasing is wrong. Shut down generator sets and check that load cables are connected properly. Failure to observe this caution can result in damage to generator sets.

- (2) Increase frequency until SYNCHRONIZING LIGHTS (12) blink together one or more times per second.
- (3) Decrease frequency until SYNCHRONIZING LIGHTS (12) blink together once every 3-4 seconds.
- (4) While both synchronizing lights are dark, position and hold AC CIRCUIT INTERRUPTER switch of generator set 2 in the CLOSED position until indicator lights. SYNCHRONIZING LIGHTS should go out (both generators are now operating in parallel).
- g. Once both of the generator sets are on line and supplying power to the load in parallel, perform the following steps to transfer the load.
  - (1) At the control panel of the generator set that is to be taken off line (generator set 1), set the AC CIRCUIT INTERRUPTER switch to the OPEN position. Set UNIT-PARALLEL switch to UNIT, MASTER SWITCH to OFF.
  - (2) At the control panel of the running generator set (generator set 2), place the UNIT-PARALLEL switch to UNIT. The load has now been transferred.
- h. Perform the generator PMCS listed as DURING for generator set 2 and AFTER for generator set 1.

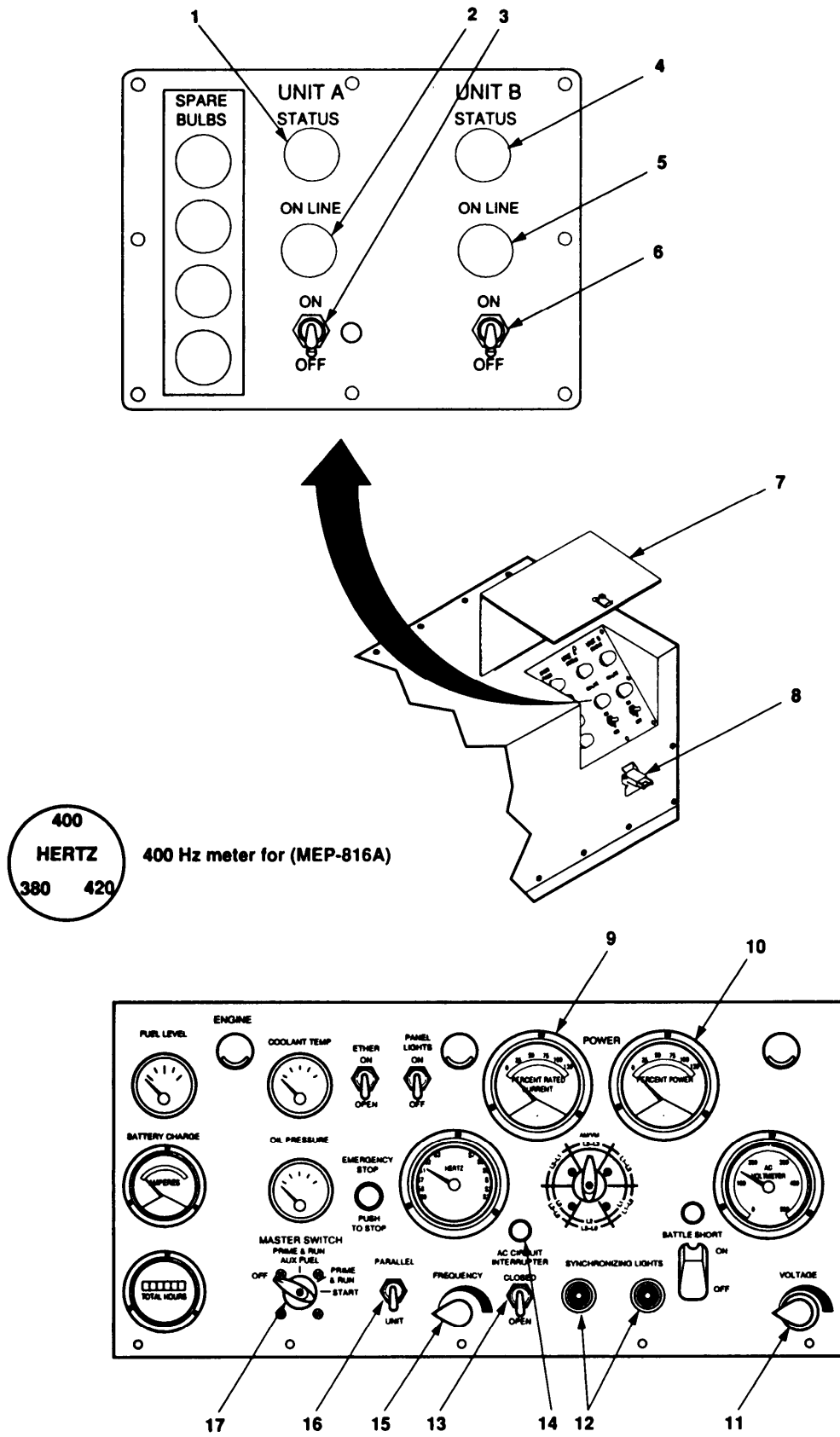


Figure 2-9. Load Transfer Operation.

2-6 IDENTIFICATION AND INFORMATION PLATES.

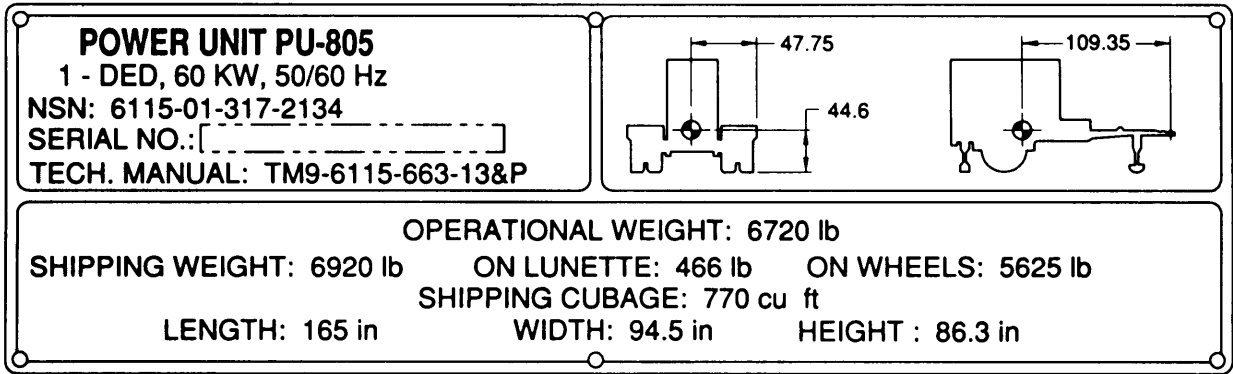


Figure 2-10. PU-805 Identification/Transportation Data Plates.

2-6.1 PU-805 Identification/Transportation Data Plate. Refer to figure 2-10. This plate is located on the trailer body.

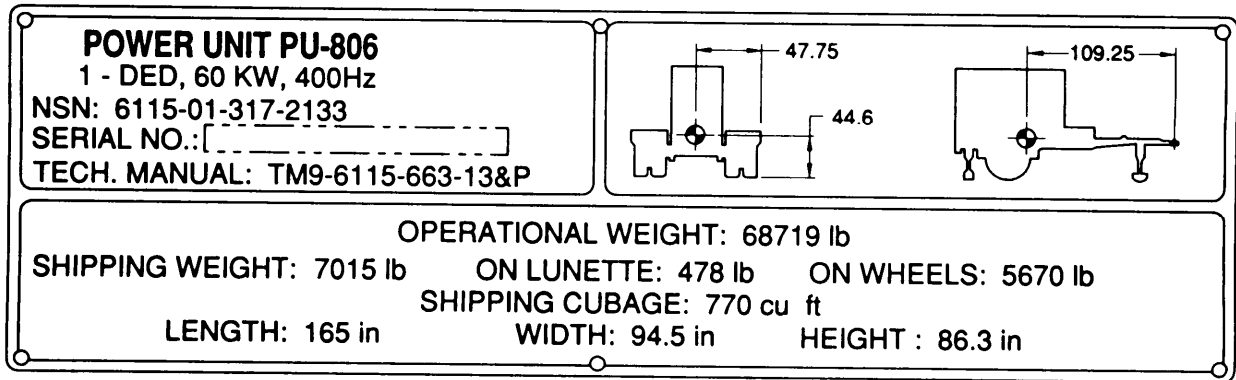


Figure 2-11. PU-806 Identification/Transportation Data Plates.

**2-6.2 PU-806 Identification/Transportation Data Plate.** Refer to figure 2-11. This plate is located on the trailer body.

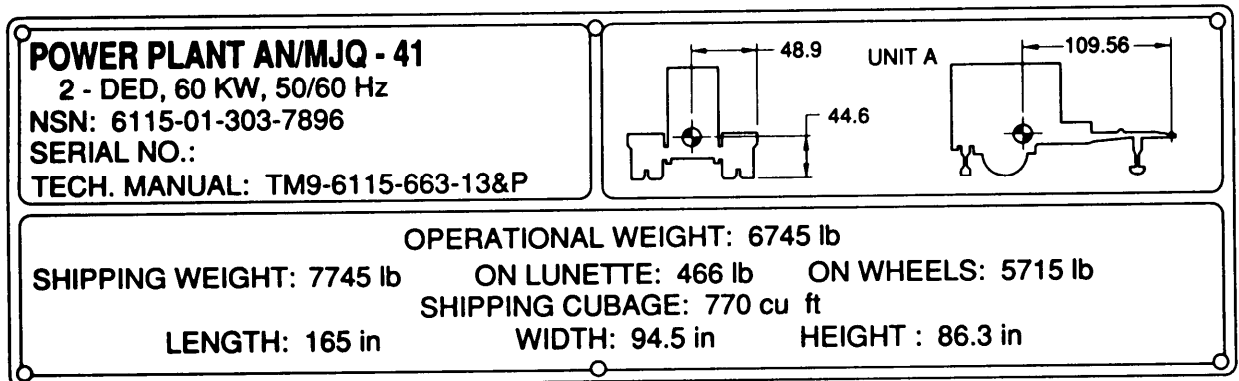


Figure 2-12. AN/MJQ-41 Unit A Identification/Transportation Data Plates.

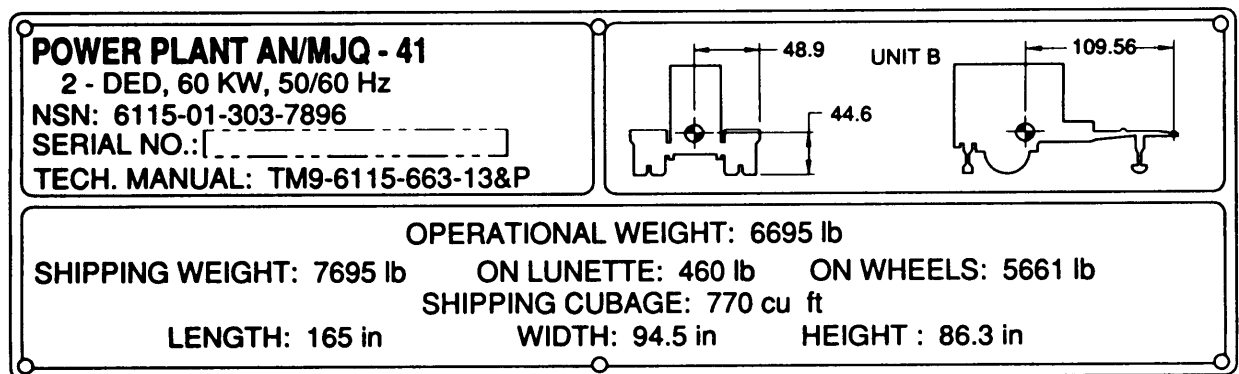


Figure 2-13. AN/MJQ-41 Unit B Identification/Transportation Data Plates.

**2-6.3 AN/MJQ-41 Identification Data Plate.** Refer to figure 2-12 and figure 2-13. This plate is located on the trailer body.

**2-6.4 Power Plant Instruction Plate.** Refer to figure 2-14. This plate covers power plant operating procedures for AN/MJQ-41. It is located inside of the switch box cover.

### **POWER PLANT OPERATING PROCEDURES**

#### **BEFORE OPERATION**

1. CHECK/SERVICE BOTH GEN SETS BEFORE OPERATION. CONNECT "GND" TERMINAL TO GROUND. CONNECT CONTACTOR POWER CABLE.

#### **INDICATOR LIGHTS**

1. STATUS LIGHT, INDICATES LINE BETWEEN GEN AND SW BOX IS HOT.
2. ON LINE LIGHT, INDICATES SWITCH BOX CONTACTOR IS CLOSED FOR INDICATED GEN.

#### **OPERATING PROCEDURES**

1. START EITHER GEN. ADJUST VOLTAGE AND FREQUENCY.
2. PUT GEN "CKT INTRPT SWITCH" IN "CLOSED" POSITION. (SWITCH BOX "STATUS" LIGHT SHOULD LIGHT.)
3. AT SWITCH BOX , SET "ON-OFF" SWITCH TO "ON". ("ON LINE" LIGHT SHOULD LIGHT.)

### **LOAD TRANSFER PROCEDURES (SETS CONNECTED FOR PARALLEL OPERATION PER TM)**

1. ON "OPERATING" GEN, (GEN NO. 1) SET "UNIT-PARALLEL" SWITCH TO "PARALLEL".
2. START GEN NO. 2. ADJUST VOLTAGE AND FREQUENCY TO MATCH GEN NO. 1.
3. AT SW BOX, SET GEN NO. 2 "ON-OFF" SWITCH TO "ON". ("ON LINE " AND "STATUS" LIGHTS SHOULD LIGHT.)
4. AT GEN NO. 2, SET "UNIT-PARALLEL" SWITCH TO "PARALLEL". BOTH "SYNCHRONIZING" LIGHTS SHOULD BE GOING BRIGHT TO DARK TOGETHER.
5. INCREASE FREQUENCY UNTIL "SYNCHRONIZING" LIGHTS BLINK TOGETHER ONE OR MORE TIMES PER SECOND.
6. DECREASE FREQUENCY UNTIL LIGHTS BLINK TOGETHER ONCE EVERY 3-4 SECONDS.
7. WHEN LIGHTS ARE DARK, SET GEN NO. 2 "CKT INTRPT SWITCH" TO "CLOSE". GEN CONTACTOR LIGHT SHOULD LIGHT AND "SYNCHRONIZING" LIGHTS SHOULD GO OUT.
8. AT GEN NO. 1, SET "CKT INTRPT SWITCH" TO "OPEN", SET " UNIT-PARALLEL" SWITCH TO "UNIT". TURN "MASTER" SWITCH TO "STOP". (AT SWITCH BOX, "ON LINE" AND "STATUS" LIGHTS FOR GEN NO. 1 SHOULD GO OFF.)
9. AT GEN NO. 2, SET "UNIT-PARALLEL" SWITCH TO "UNIT".

Figure 2-14. Power Plant Instruction Plates.

**2-7 PREPARATION FOR MOVEMENT.**

**2-7.1 Shut Down Generator Set.** Refer to paragraph 2-5.3.1 and stop both generator sets.

**2-7.2 Disconnecting Load and/or Paralleling Cables.****WARNING**

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

**NOTE**

Before connecting the load determine voltage and frequency requirements of the system or device that is being supplied with power. Refer to TM 9-6115-645-10 and verify that voltage reconnection board is in proper position for voltage requirements and the frequency select switch is in the proper position. If board requires repositioning notify the next higher level of maintenance.

- a. Disconnect power cable W19 from both generator sets.
- b. Disconnect parallel cables from both units.

**2-7.2.1 Power Unit.** Refer to TM 9-6115-645-10 for removal of load cables.

**2-7-2.2 Power Plant.** Load may be connected to the switch box (figure 2-15) by either of two methods. One method is to connect the load cable to the J1 connector (6). The other method is to connect load cables to the load terminals (1, 2, 3, 4, and 5). Disconnect the load cable using the appropriate method. Disconnect unit A from unit B as follows:

- a. Disconnect power cable (12) as follows:
  - (1) Disconnect leads from load terminals (9) and remove from power cable sock (10).
  - (2) Disconnect plug end of power cable (12) from connector J2 (14).
- b. Disconnect paralleling cables as follows:
  - (1) Disconnect paralleling cables (11) from paralleling receptacles (7) on both generator sets. Store paralleling cable with unit B generator set.
  - (2) Disconnect end of cable (13) from J16 (8) on unit B generator set and remove from power cable sock (10).
  - (3) Disconnect the other end of cable (13) from connector J3 (15) of the switch box located on unit A. Store paralleling cable with unit A generator set.

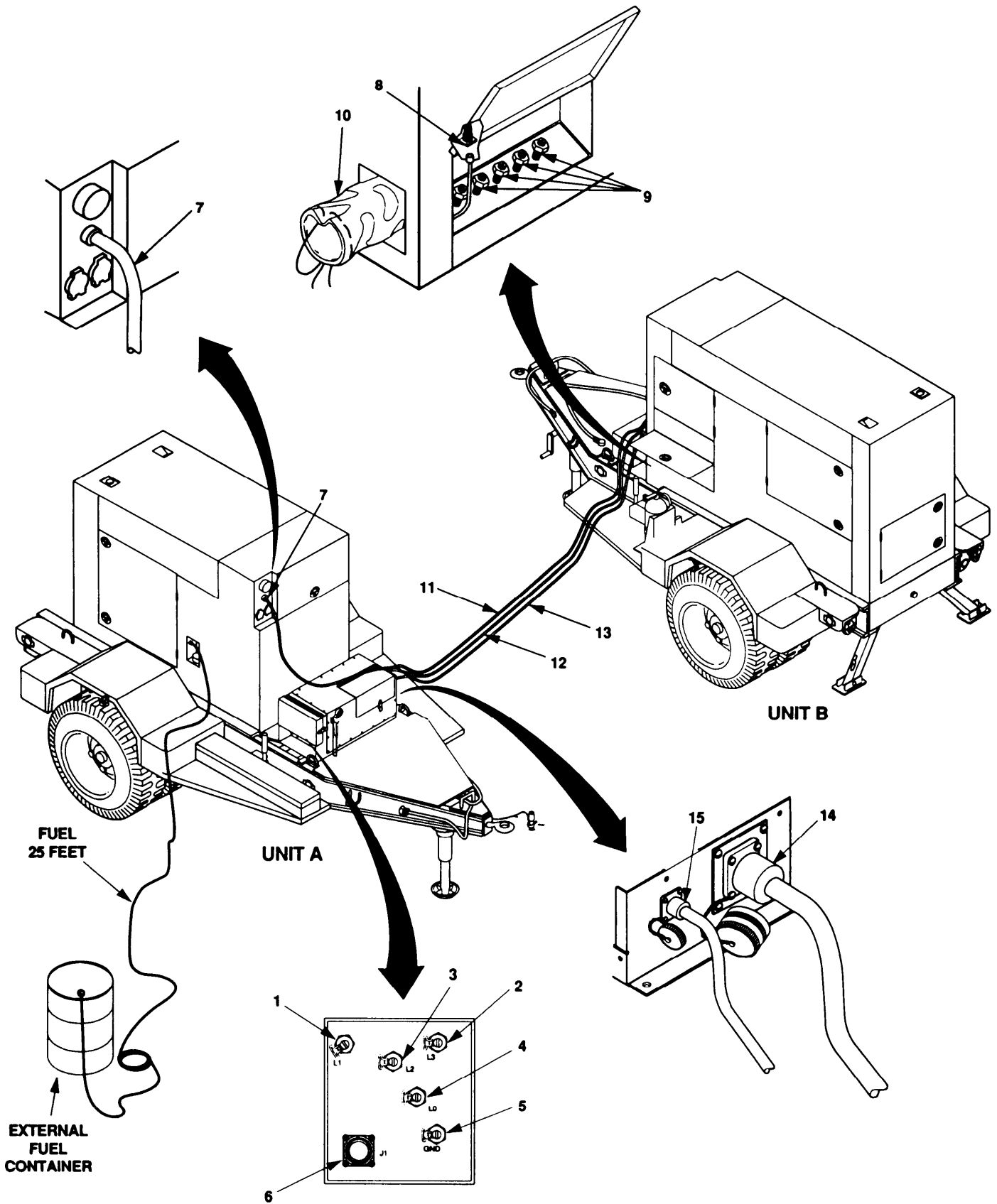


Figure 2-15. Disconnection of Power Plant.



**2-7.3 Disconnect Ground Cable.** Disconnect ground cable as follows:

- a. Using slide hammer, remove ground rod as follows:
  - (1) Loosen clamp screw (6, figure 2-16) and remove ground cable.
  - (2) Remove wing nut (1), washer (2), and terminal (3) from ground stud (4). Roll up ground cable and store in accessory box.
  - (3) Install washer (2) and wing nut (1) removed in step a.(2) on ground stud (4).
  - (4) Remove coupler (7) and ground cable clamp (5) from ground rod section (8).
  - (5) Install coupler (7) on ground rod section (8).

**WARNING**

Connect nuts securely to slide hammer. Faulty connections could result in death or serious injury.

**CAUTION**

Impact disk must be tightened to end of threads on slide hammer. Also, lock washer and nut must be tightened firmly against impact disk. If not tightened properly, the threads and impact disk could be damaged.

- (6) Refer to paragraph 2-3.3, step b and assemble slide hammer.
- (7) Connect slide hammer end (9) to ground rod coupler (7).
- (8) Using slide hammer, pull ground rod out of the ground until the second coupler is exposed.
- (9) Disconnect slide hammer (9) from top of ground rod coupler (7).
- (10) Disconnect top ground rod section from second ground rod section.
- (11) Repeat steps 7 through 10 for the second and third ground rod sections.
- (12) Remove couplers (7) from each ground rod section (8).
- (13) Clean ground rod sections (8) and couplers (7).
- (14) Refer to paragraph 2-3.3, step i, and disassemble slide hammer.

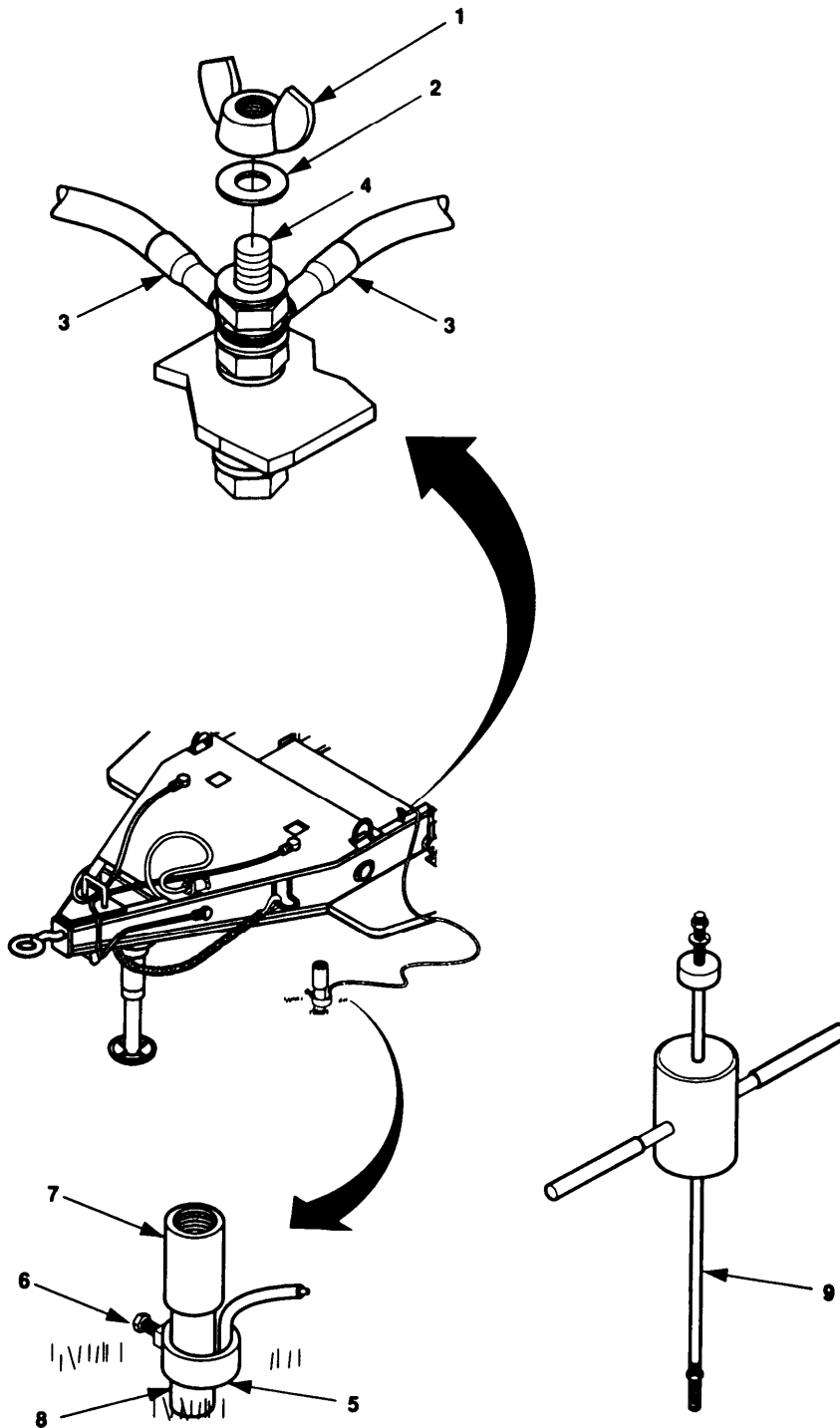


Figure 2-16. Ground Rod *Removal*.

**2-7.4 Disconnect External Fuel Source.** Disconnect auxiliary fuel hose as follows:

- a. Disconnect the auxiliary fuel hose from the generator set external fuel supply connector. Elevate the free end of the auxiliary fuel hose to drain fuel back into the external fuel source. Place free end of auxiliary fuel hose on a clean surface.
- b. Disconnect auxiliary fuel hose from fitting on container adapter (2, figure 2-17).
- c. Store auxiliary fuel hose in the generator set storage compartment located behind the battery access door.
- d. Remove extension pipe (4), pipe (3), adapter (2), and strainer clamp (1) and store in the accessory box.

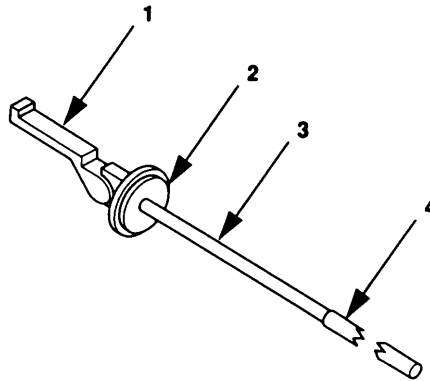


Figure 2-17. Auxiliary Fuel Source (Typical).

## **Section IV. OPERATION UNDER UNUSUAL CONDITIONS**

### **2-8 GENERATOR SETS.**

Refer to TM 9-6115-645-10.

### **2-9 TRAILER.**

Refer to TM 9-2330-205-14&P for the trailer.

**CHAPTER 3**  
**OPERATOR MAINTENANCE**

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## Section 1. OPERATOR LUBRICATION

### 3-1 OPERATOR LUBRICATION.

Lubrication instructions for the generator set are contained in LO 9-6115-645-12.

## Section II. TROUBLESHOOTING

### 3-2 TROUBLESHOOTING.

Refer to TM 9-6115-645-10 for generator set troubleshooting instructions, TM 9-2815-256-10 for engine troubleshooting instructions, and refer to TM 9-2330-205-14&P for trailer troubleshooting instructions. The symptom index for the power plant lists faults associated with switch box operation. Figures 3-1, 3-2, 3-3, and 3-4 provide a go-no-go flowchart of each malfunction. Each malfunction listed includes a reference to the applicable figure that contains a chart to help you determine probable causes and corrective actions to take. The symptom index cannot list all faults that may occur, nor all the tests or inspections and corrective actions. If a malfunction is not listed or cannot be corrected by listed corrective actions, notify next higher level of maintenance for assistance.

#### SYMPTOM INDEX

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Unit A ON indicator lamp fails to light with generator set running . . . . .	Figure 3-1
Unit B ON indicator lamp fails to light with generator set running . . . . .	Figure 3-2
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Unit fails to parallel through switch box . . . . .	Figure 3-4

## Section III. MAINTENANCE PROCEDURES

### 3-3 OPERATOR MAINTENANCE.

Refer to TM 9-6115-645-10 for generator set maintenance instructions and refer to TM 9-2330-205-14&P for trailer maintenance instructions. The maintenance functions for the power units/power plant are provided in paragraphs 3-4 and 3-5.



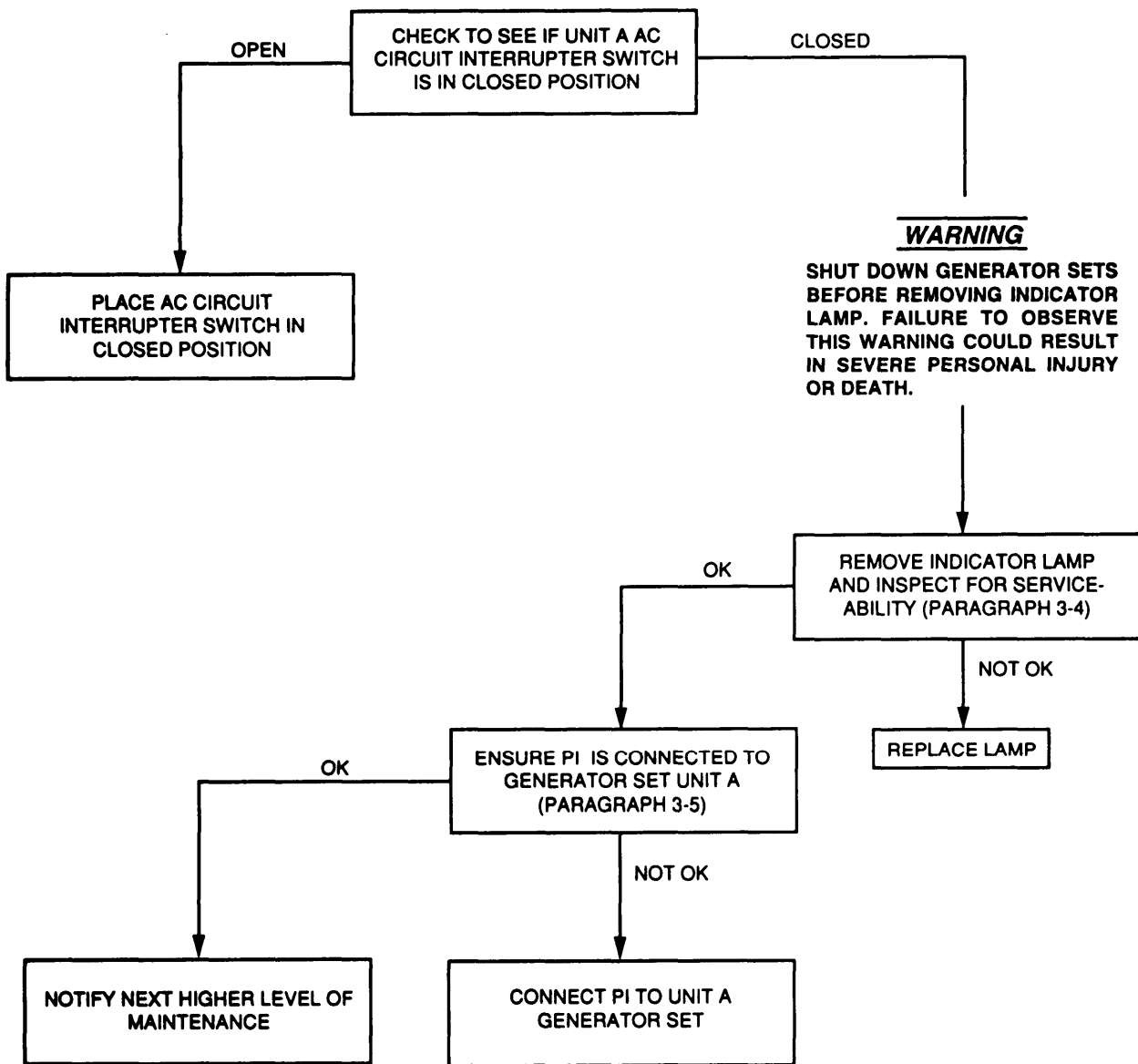


Figure 3-1 Unit A STATUS Indicator Lamp Fails to Light With Generator Set Running.

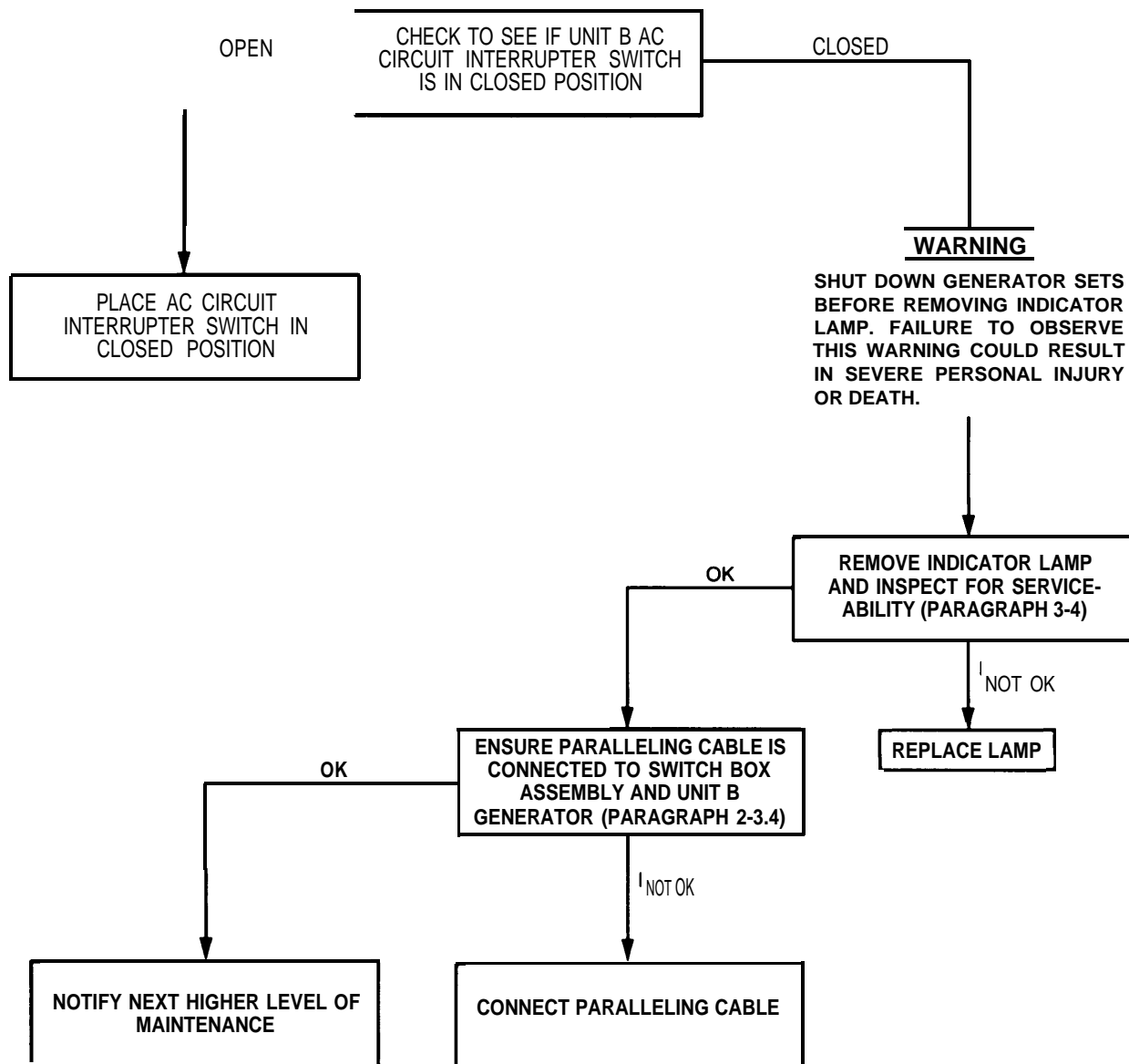


Figure 3-2. Unit B STATUS Indicator Lamp Fails to Light With Generator Set Running.

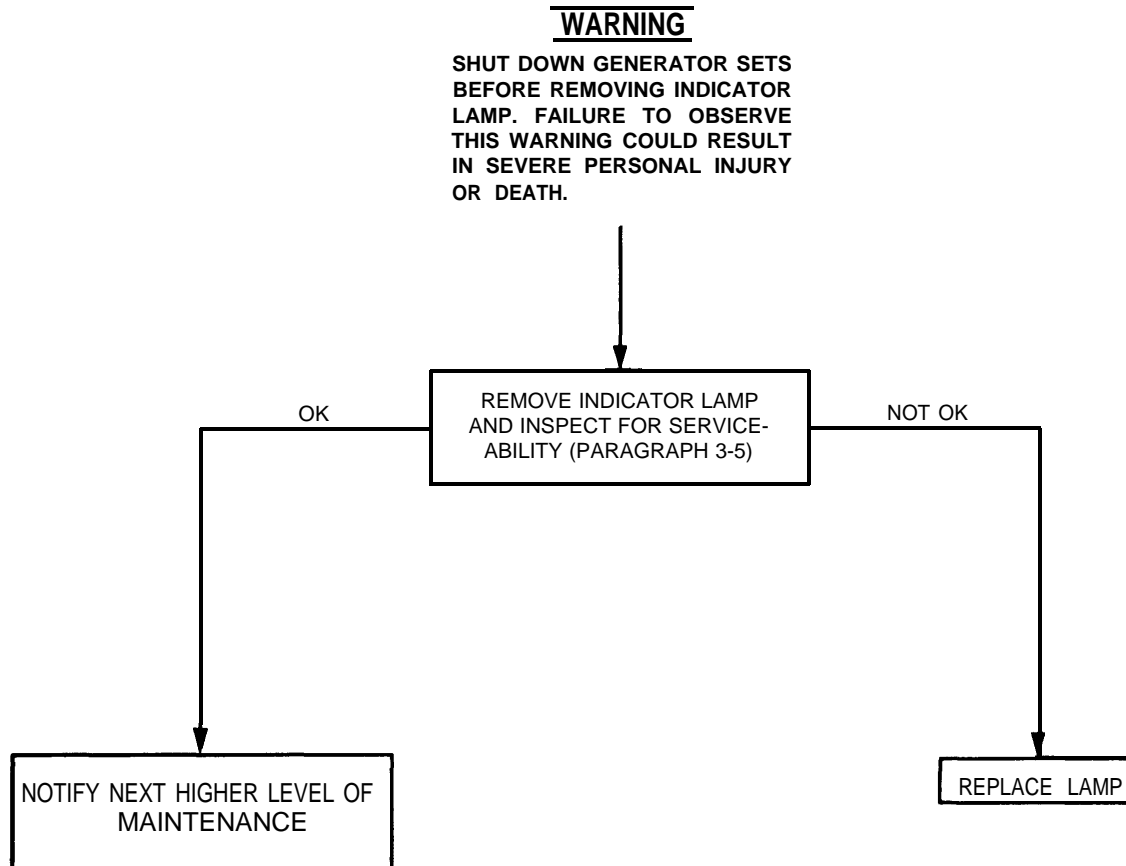


Figure 3-3. ON LiNE Indicator Lamp Fails to Light When ON/OFF Switch is Placed to ON Position.

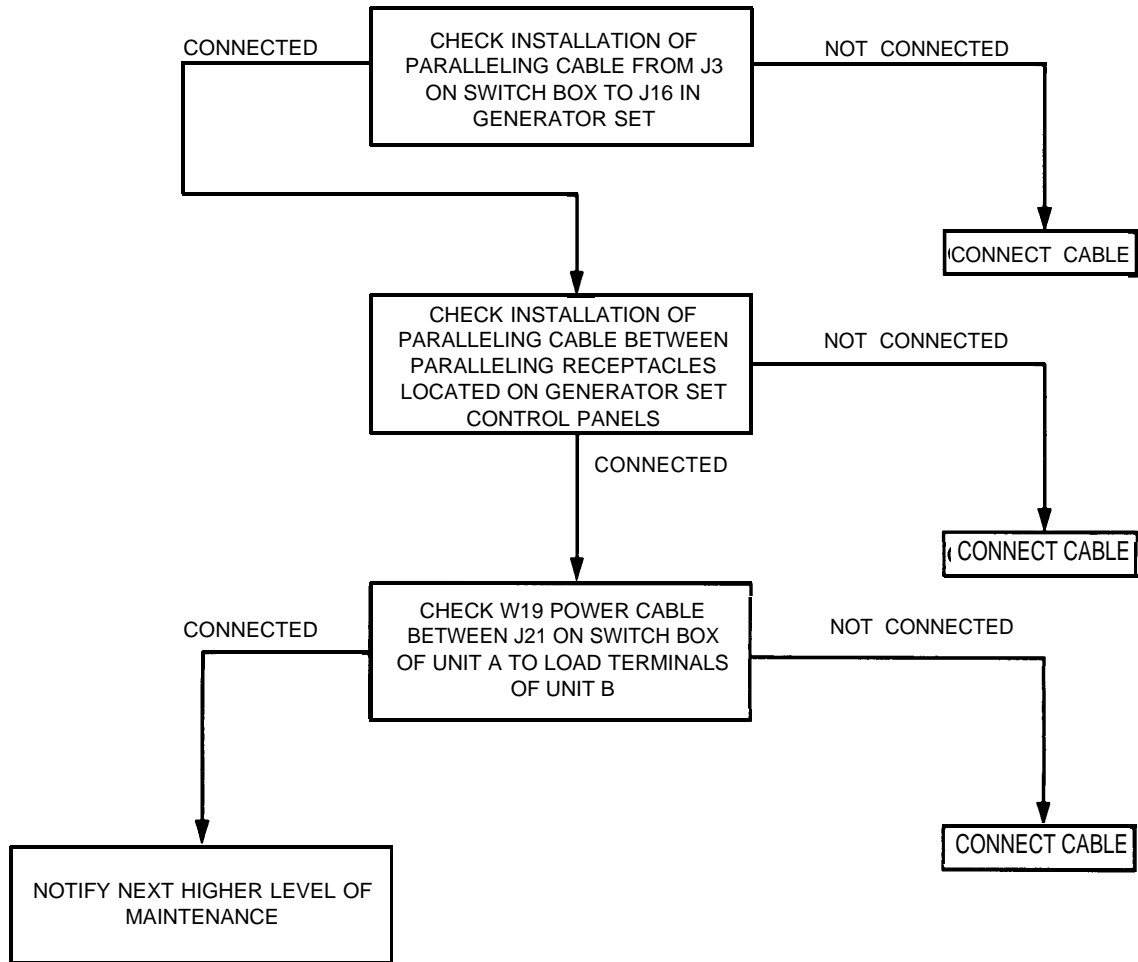


Figure 3-4. Unit Fails to Parallel Through Switch Box.

---

**3-4 INDICATOR LAMP AND/OR LENS REPLACEMENT.**

---

This task covers: a Removal

b. Installation

---

**INITIAL SETUP****Equipment Conditions**

## Reference

Both generator sets shut down, paragraph 2-5.3.1.

Trailer support devices are lowered, paragraph 2-3.2.1.

---

**REMOVAL**

1. Release clamping catch (7, figure 3-5) and open control panel access cover (3).
2. Grip and unscrew lens cap (1).
3. Remove lamp (2) by grasping the base and pulling outward.

**INSTALLATION**

1. Insert lamp (2) into lens cap (1) and push inward.
2. Install lens cap (1) with lamp (2) by threading lens cap into housing and tightening lens cap firmly.
3. Close control panel access cover (3) and secure clamping catch (7).

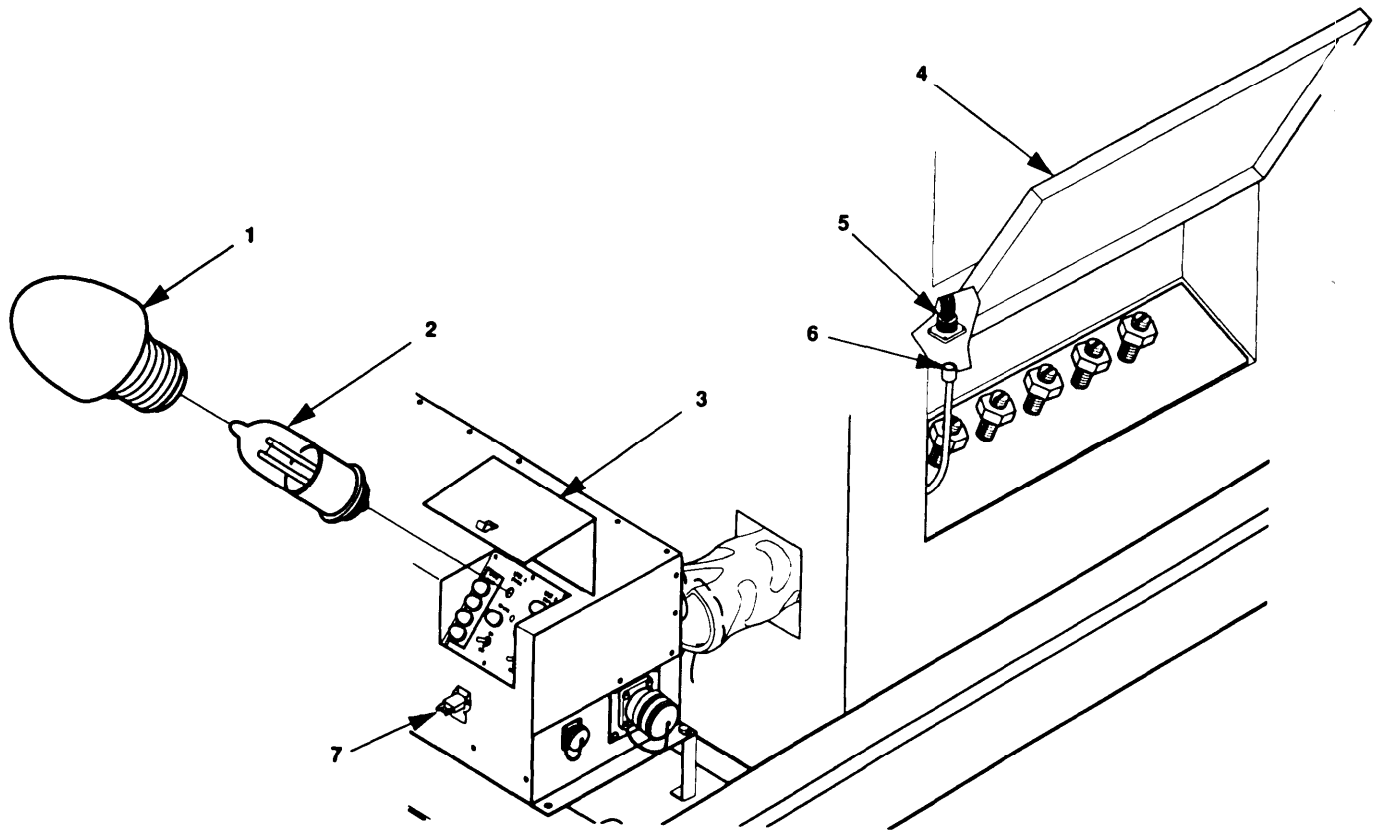


Figure 3-5. Indicator Lamps and P1 Connector Maintenance.

---

**3-5 CONNECTING P1 TO UNIT A.**

---

This task covers: a. Removal                      b. Installation

---

**INITIAL SETUP**

**Equipment Conditions**

Reference

Both generator sets shut down, paragraph 2-5.3.1.  
Trailer support devices are lowered, paragraph 2-3.2.1.

---

1. Open access panel (4, Figure 3-5) to unit A generator load terminals.
2. Connect P1 (6) to J16 (5) inside generator set.

# CHAPTER 4

## UNIT MAINTENANCE

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## **Section 1. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT**

### **4-1 COMMON TOOLS AND EQUIPMENT.**

For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

### **4-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.**

No special tools or support equipment are required for maintenance of the power units or power plant. Refer to TM 9-6115-645-24P for generator set special tools and/or support equipment. Refer to TM 9-2815-256-24P for engine special tools and/or support equipment.

### **4-3 REPAIR PARTS.**

Refer to TM 9-6115-645-24P for generator set parts and TM 9-2815-256-24P for engine parts. Refer to TM 9-2330-205-14&P for trailer repair parts. Power plant and power unit repair parts not covered in the generator, engine, or trailer RPSTL are listed and illustrated in Appendix F.



## Section II. SERVICE UPON RECEIPT

### 4-4 SERVICE UPON RECEIPT OF MATERIEL.

**4-4.1 Unpacking Power Unit.** (Refer to figure 41 and figure 4-2.) The power unit is boxed prior to shipment. The PU-805 and PU-806 are identical with the exception of the electrical output frequency of the generator sets. Two PU-805 Power Units make up the AN/MJQ-41 power plant. Therefore, the unpacking procedures are typical for each configuration. Each generator set is packed in place on its respective trailer. Before beginning the unpacking procedure, locate and remove Depreservation Guide.

- a. Remove and set aside packing list from side of box. Also remove and set aside shortage packing list if there is one.

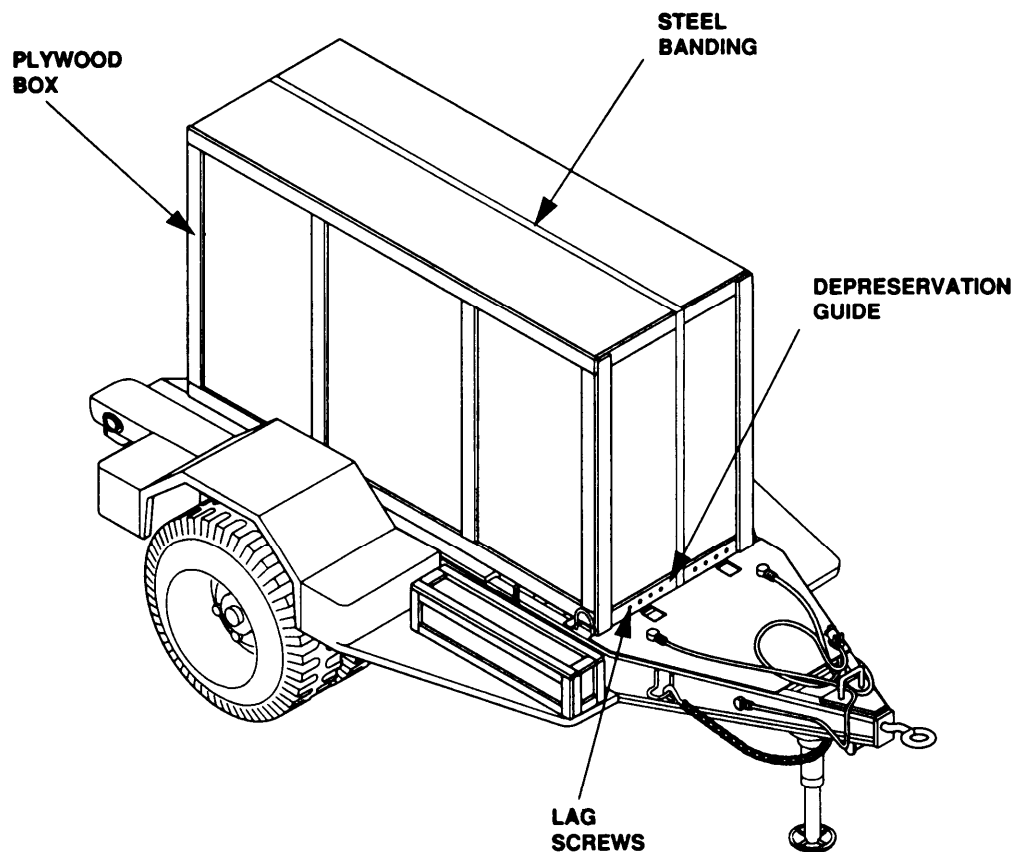


Figure- 4-1. Power Unit Packed for Shipment.

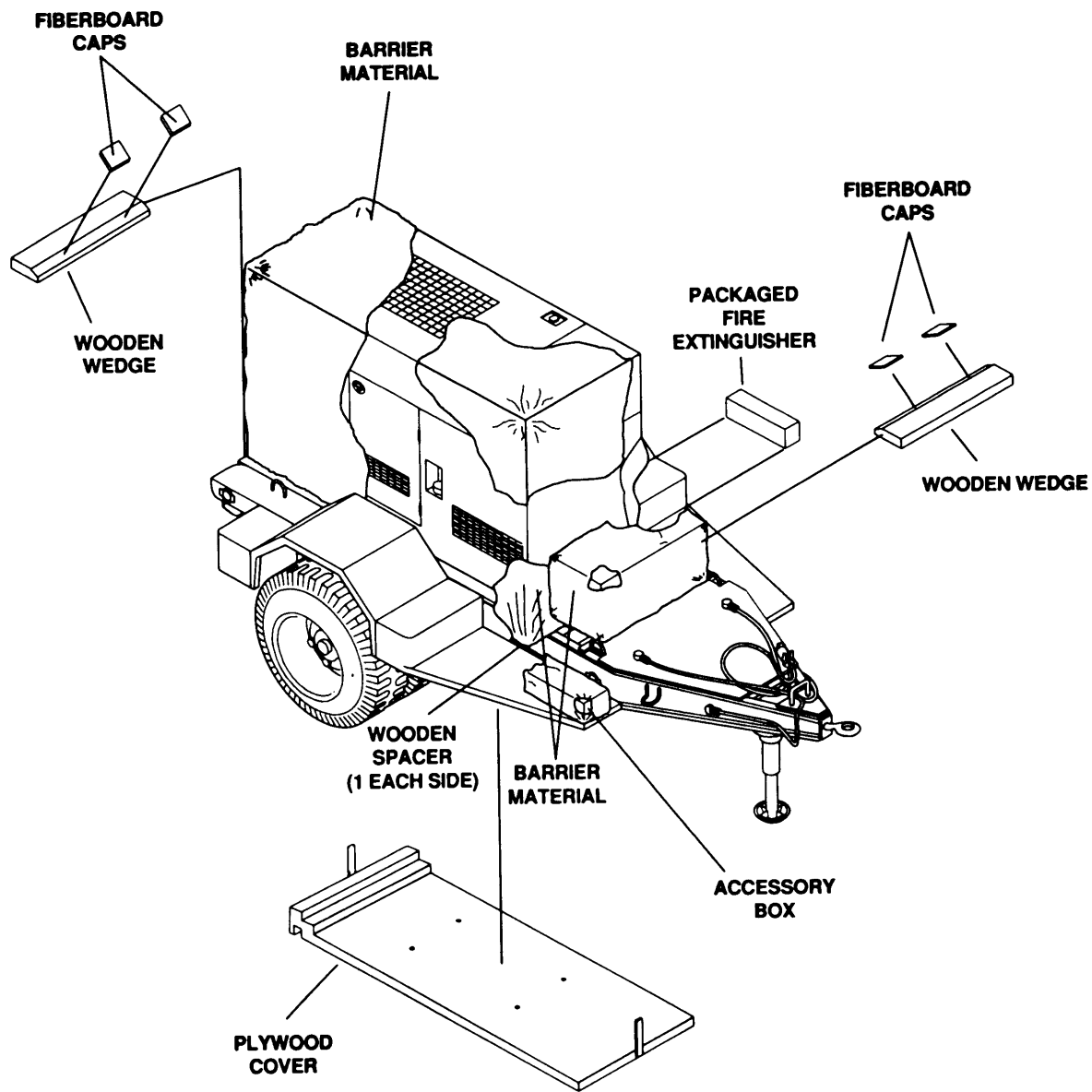


Figure 4-2. Unpacking Power Unit.

**WARNING**

Steel strapping used in packaging has sharp edges. To avoid injury to personnel, use care when cutting and handling steel strapping.

- b. Using metal cutters, carefully cut metal strapping from box covering generator set accessory box, and when unpacking unit A, the switch box. Remove metal strapping.
- c. Remove box cover over generator set by lifting off the cover.
- d. Refer to figure 4-2 and remove wooden wedges, spacers, and fiberboard caps from around generator set skid bases.
- e. Technical manuals are packaged and maybe attached to barrier material. If so, remove and save technical manuals.
- f. Remove barrier material from generator sets.
- g. Remove packaged fire extinguisher from within generator set enclosures. Unpack and secure fire extinguisher in bracket on trailer.
- h. Open accessory box and remove all packaging/cushioning material from accessories.
- i. Using the packing list(s) removed in step a., inventory the accessories. Check missing items against shortage packing (if any). Report any discrepancies to your supervisor.
- j. Refer to paragraph 4-19 and install accessory box.
- k. Stow accessories in accessory box.
- l. Stow technical manuals in generator set document box.

#### **4-4.2 Checking Unpacking Equipment.**

- a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364, Report of Discrepancy (ROD).
- b. Check the equipment against the packing list(s) to see if the equipment is complete. Report all discrepancies in accordance with the instructions in DA PAM 738-750.
- c. Check to see whether the equipment has been modified.

#### **4-43 Deprocessing Unpacked Equipment.**

Refer to DA Form 2258, Depreservation Guide for Vehicles and Equipment, packed with the equipment. The depreservation guide explains what was done to the equipment prior to packing. It also explains what has to be done before placing the equipment in operation. Perform all depreservation actions required by the depreservation guide.

### **4-5 INSTALLATION INSTRUCTIONS.**

#### **4-5.1 TOOLS, TEST EQUIPMENT, AND MATERIALS REQUIRED FOR INSTALLATION.**

A general mechanics tool kit is required for installation of the power plant/power unit.

#### **4-5.2 ASSEMBLY OF EQUIPMENT.**

#### 4 - 5 . 2 . 1 ASSEMBLY OF POWER PLANT .

Refer to figure 4-2A and assemble the AN/MJQ-41 as follows.

- a. For unit A (set with switch box) connect power cable leads as follows.
  - (1) Connect lead marked L1 to generator set load terminal L1.
  - (2) Connect lead marked L2 to generator set load terminal L2.
  - (3) Connect lead marked L3 to generator set load terminal L3.
  - (4) Connect lead marked L4 to generator set load terminal L4.
  - (5) Connect lead marked GND to generator set GND terminal.
- b. For units A & B remove 60 inch ground wire from accessory box and connect as follows.
  - (1) Remove wing nut (1, figure 4-2A) two flat washers (2), hex nut (3), and flat washer (4) from ground stud (5).
  - (2) Place ground wire (6) over ground stud (5).

#### **WARNING**

Ensure nut (3) is properly secured creating a good ground. Failure to observe this warning could result in severe personal injury or death.

- (3) Install flat washer (4), hex nut (3), two flat washers (2), and wing nut (1).
- (4) Route ground Wire (6) thru power cable sock (7).
- (5) Connect ground wire (6) to generator set ground terminal (8).

#### 4-5.2.2 ASSEMBLY OF POWER UNIT.

Refer to figure 4-2A and assemble the PU-805 and PU-806 as follows.

- a. Remove 60 inch ground wire from accessory box and connect as follows.
  - (1) Remove wing nut (1, figure 4-2A), two flat washers (2), hex nut (3), and flat washer (4) from ground stud (5).
  - (2) Place ground wire (6) over ground stud (5).

#### **WARNING**

Ensure nut (3) is properly secured creating a good ground. Failure to observe this warning could result in severe personal injury or death.

- (3) Install flat washer (4), hex nut (3), two flat washers (2), and wing nut (1).
- (4) Route ground Wire (6) thru power cable sock (7).
- (5) Connect ground wire (6) to generator set ground terminal (8).

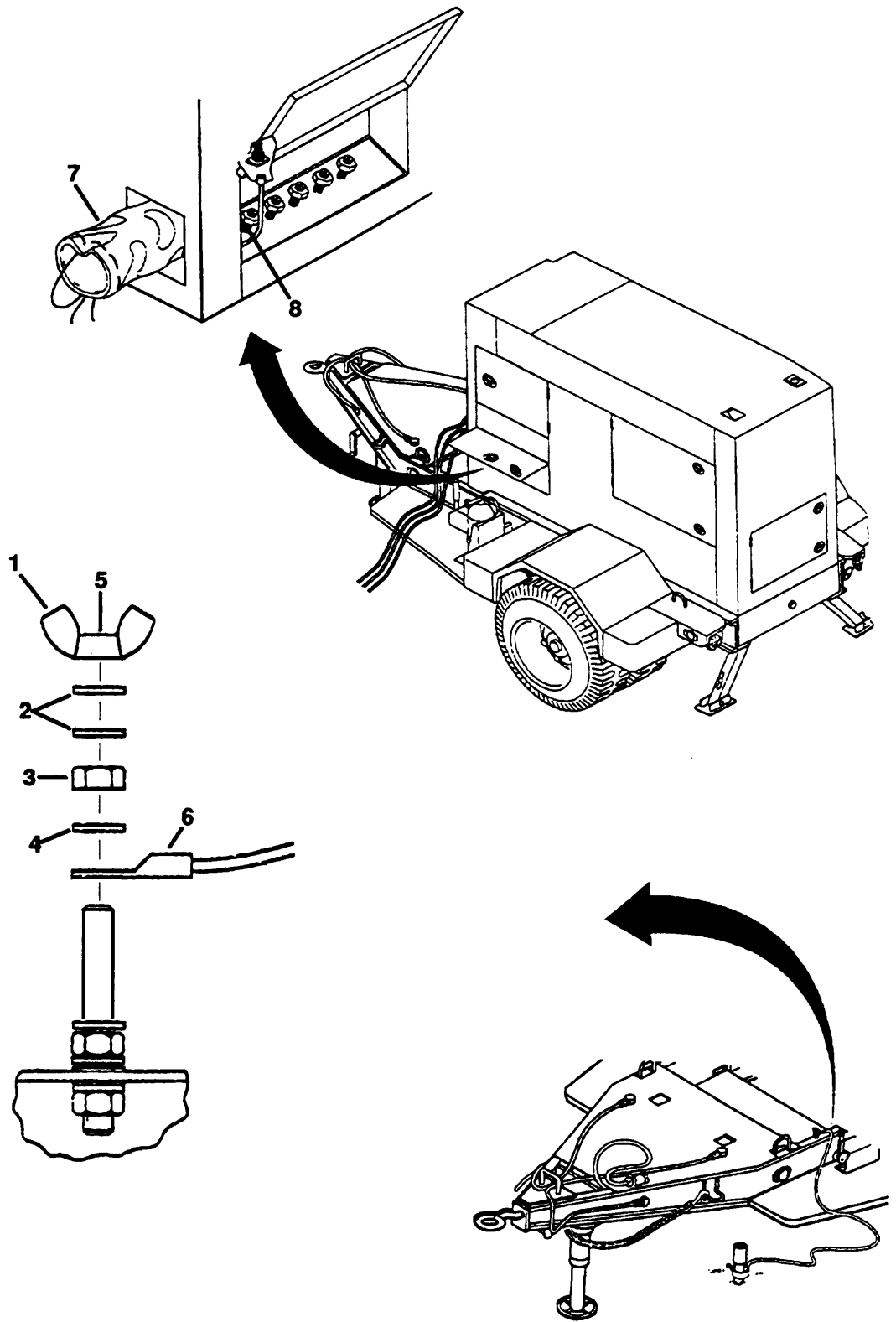


Figure 4-2A. Installation Instructions

**4-6 PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT.**

Refer to TM 9-6115-645-24 for generator set and TM 9-2815-256-24 for engine. Refer to TM 9-2330-205-14&P for trailer.

### Section III. UNIT LUBRICATION

#### 4-7 POWER UNIT/POWER PLANT LUBRICATION.

Refer to LO 9-6115-645-12 for generator set and TM 9-2330-205-14&P for trailer.

## Section IV. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 4-8 INTRODUCTION TO UNIT PMCS TABLE.

Table 4-1 (PMCS table) has been provided so you can keep your equipment in good operating condition and ready for its primary mission.

**48.1 Warnings, Cautions, and Notes.** Always observe the **WARNINGS**, **CAUTIONS** and **NOTES** appearing in your PMCS table. Warnings and cautions appear before applicable procedures. You must observe **WARNINGS** to prevent serious injury to yourself and others. You must observe **CAUTIONS** to prevent your equipment from being damaged. You must observe **NOTES** to ensure procedures are performed properly.

### 48.2 Explanation of Table Entries.

**48.2.1 Item No. Column.** Numbers in this column are for reference. When completing DA Form 2404 (Equipment Inspection and Maintenance Worksheet), include the item number for the check/service indicating a fault. Item numbers also appear in the order that you must do checks and services for the intervals listed.

**48.2.2 Interval Column.** This column tells you when you must do the procedure in the procedure column. Perform procedures such as Monthly or Quarterly at the listed calendar interval. Perform procedures designated by number of hours when the equipment has been operated for that many hours.

**4-8.2.3 Item to be Checked or Serviced Column.** This column lists the item to be checked or serviced.

**4-8.2.4 Procedure Column.** This column gives the procedure for checking or servicing the item listed in the item to check/service column. You must perform the procedure to know if the power unit or power plant is ready or available for its intended mission or operation. You must do the procedure at the time stated in the interval column.

**4-8.2.5 Not Fully Mission Capable if: Column.** Information in this column tells you what faults will keep your equipment from being capable of performing its primary mission. If you make checks or services that show faults listed in this column, do not operate the equipment.

**48.3 Other Table Entries.** Be sure to observe all special information and notes that appear in your table.

**4-8.4 Special Instructions.** Preventive maintenance is not limited to performing the checks and services listed in the PMCS table. Refer to figure 4-3 for PMCS routing. Covering unused receptacles, stowing unused accessories, and other routine procedures such as equipment inventory, cleaning components, and touch-up painting are not listed in the table. These are things you should do any time you see that they need to be done. If a routine check is listed in the PMCS table, it is because experience has shown that problems may occur with this item. Take along tools and cleaning cloths needed to perform the required checks and services.



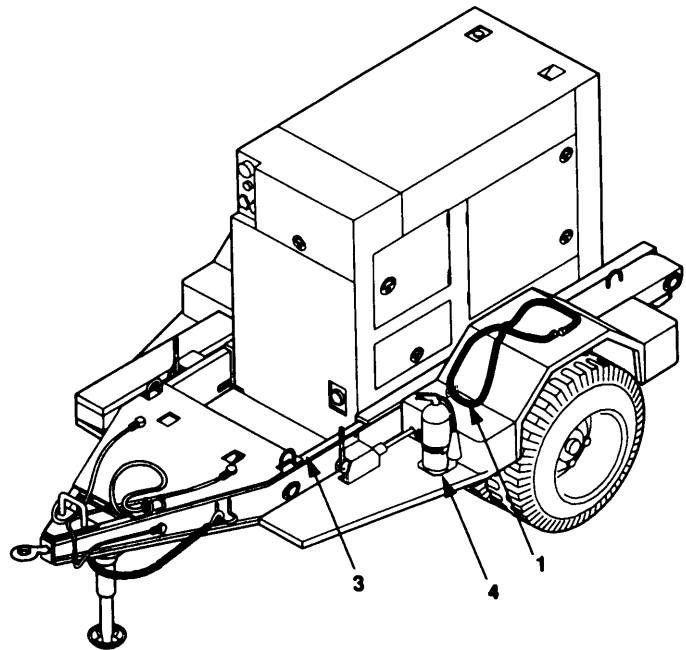
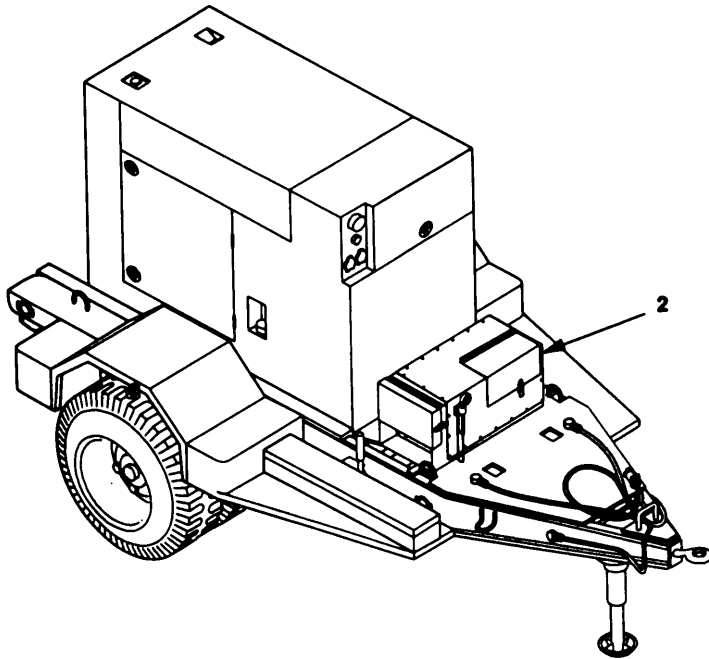


Figure 4-3. Unit PMCS Routing Diagram.

**Table 4-1. Unit Preventive Maintenance Checks and Services for AN/MJQ-41, PU-805, and PU-806**

**NOTE**

This PMCS table lists the checks and services as performed on a single Power Unit. These procedures must be duplicated on each Power Unit that makes up the AN/MJQ-41.

Unit B of the ANMJQ-41, PU-805, and PU-806 does not have a switch box. Maintenance for the switch box is only applicable to Unit A of the AN/MJQ-41.

Item No.	Interval	Item to be Checked or Serviced	Procedure	Not Fully Mission Capable if:
<p><b><u>WARNING</u></b></p> <p>Before performing any maintenance that requires climbing on or under trailer, make sure that trailer handbrakes are set, trailer front landing leg is lowered, and rear leveling-support jack is lowered. Injury to personnel could result from trailer suddenly rolling or tipping.</p>				
1	Semi-annually	POWER CABLE (AN/MJQ-41 only)	Inspect power cable for worn, frayed or cracked insulation, loose terminal lugs, and loose connections. Tighten as needed.	Power cable is unserviceable.
2	Semi-annually	SWITCH BOX ASSEMBLY (AN/MJQ-41 only)	a. Inspect switch box assembly. Refer to paragraph 4-12.  b. Inspect mounting brackets for cracks or loose or missing hardware.	
3	Semi-annually	MOUNTING RAILS	Inspect for cracks and deformation.	Mounting rail is cracked or deformed.
4	Semi-annually	FIRE EXTINGUISHER	a. Inspect for broken seal and damage to handle.  b. Weigh to determine whether charge is sufficient. Weight is about 13 pounds when fully charged. If weight is 12.5 pounds or less, send to specialized activity for recharging.	Fire extinguisher not charged.

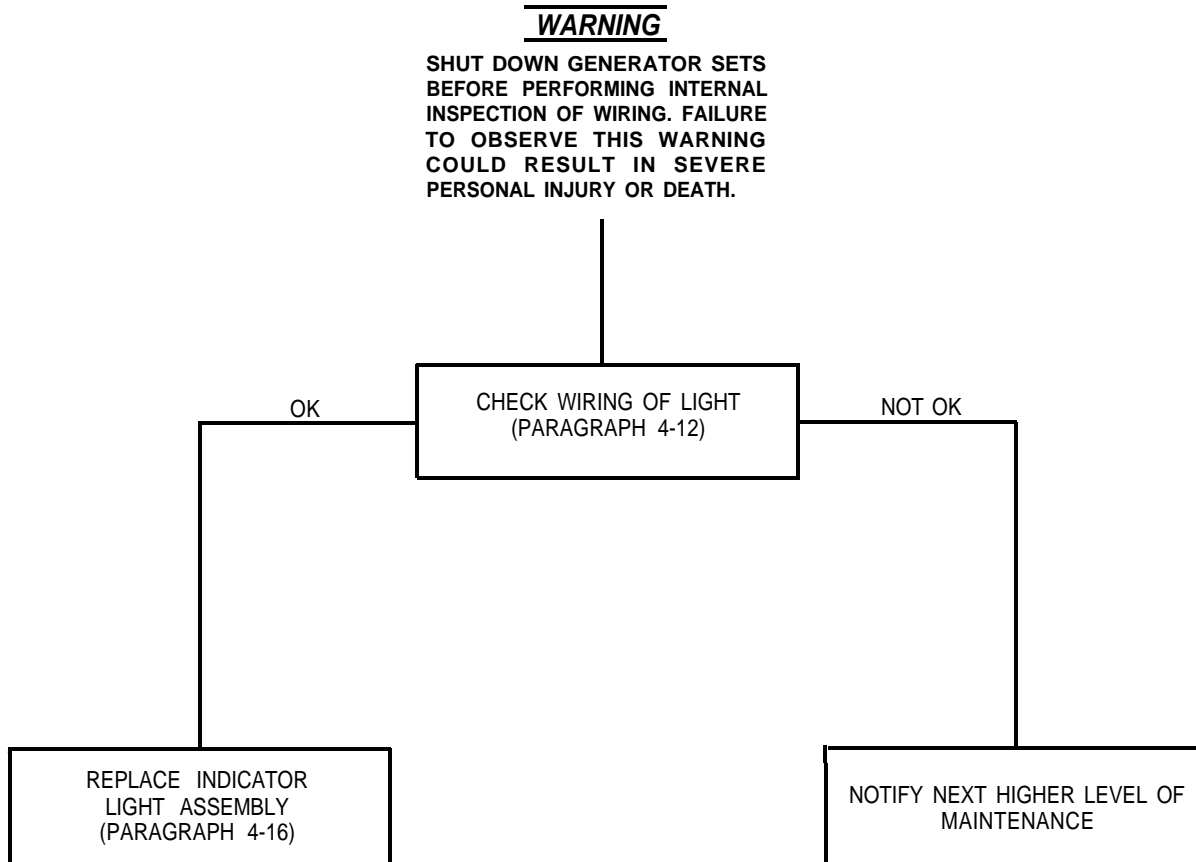
## Section V. TROUBLESHOOTING

### 4-9. GENERAL.

Refer to TM 9-6115-645-24 for generator set troubleshooting procedures, and to TM 9-2815-256-24 for engine troubleshooting procedures. Refer to TM 9-2330-205-14&P for trailer troubleshooting procedures. The symptom index for the power plant lists faults associated with switch box operation. Figure 4-4, figure 4-5, figure 4-6, figure 4-7, and figure 4-8 provide a go-no-go flowchart of each malfunction. Each malfunction listed includes a reference to the applicable figure that contains a chart to help you determine probable causes and corrective actions to take. The symptom index cannot list all faults that may occur, nor all the tests or inspections and corrective actions. If a malfunction is not listed or cannot be corrected by listed corrective actions, notify next higher level of maintenance for assistance.

### SYMPTOM INDEX

Symptom	Troubleshooting Procedure
Indicator lamp is good but does not light . . . . .	Figure 4-4
Unit A has no power . . . . .	Figure 4-5
Unit B has no power . . . . .	Figure 4-6
Power is absent at all switch box load terminals . . . . .	Figure 4-7
Cables are connected properly, but unit fails to parallel through switch box. . . . .	Figure 4-8



*Figure 4-4. Indicator Lamp is Good But Does Not LIGHT.*

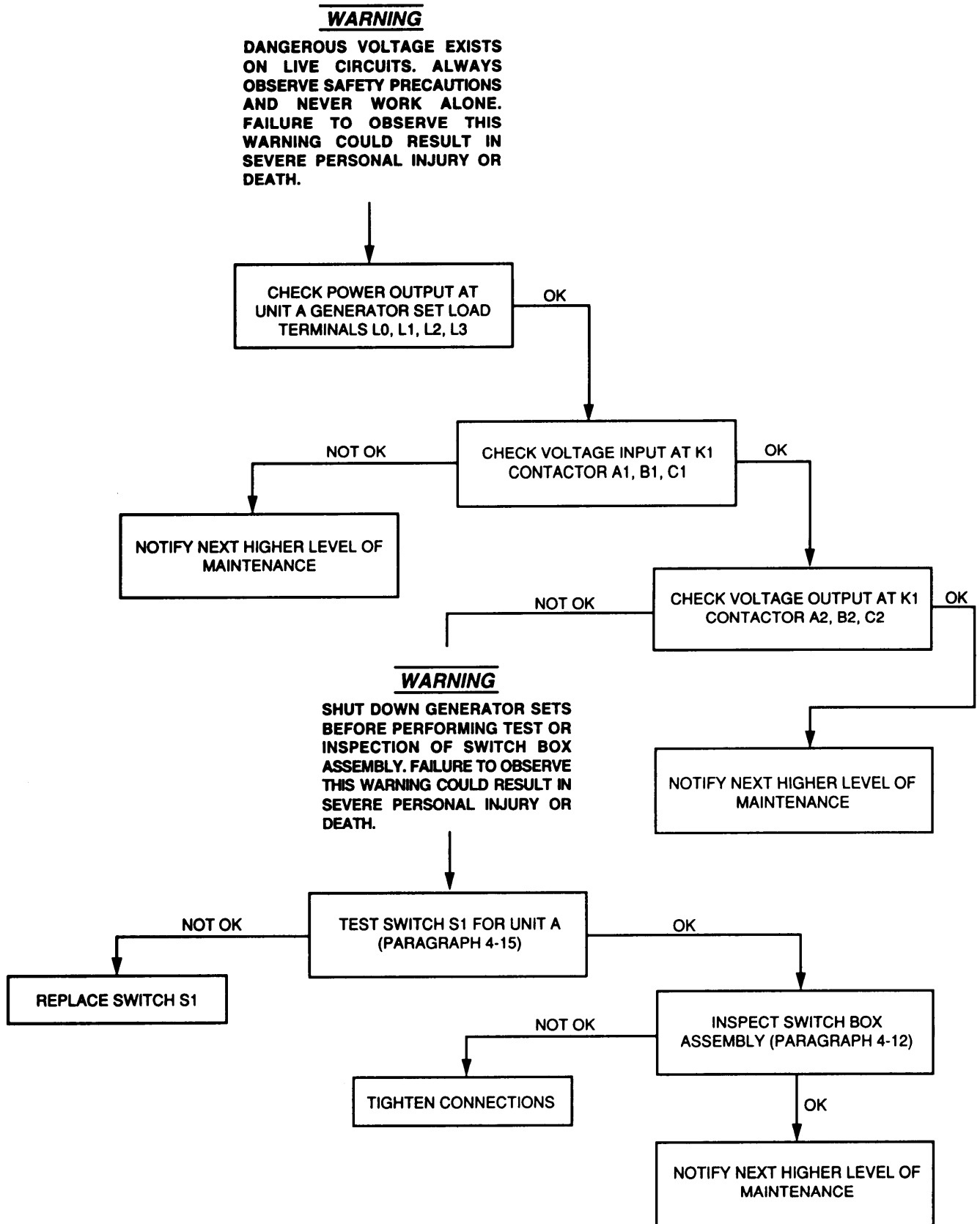


Figure 4-5. Unit A Has No Power.

**WARNING**

DANGEROUS VOLTAGE EXISTS ON LIVE CIRCUITS. ALWAYS OBSERVE SAFETY PRECAUTIONS AND NEVER WORK ALONE. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

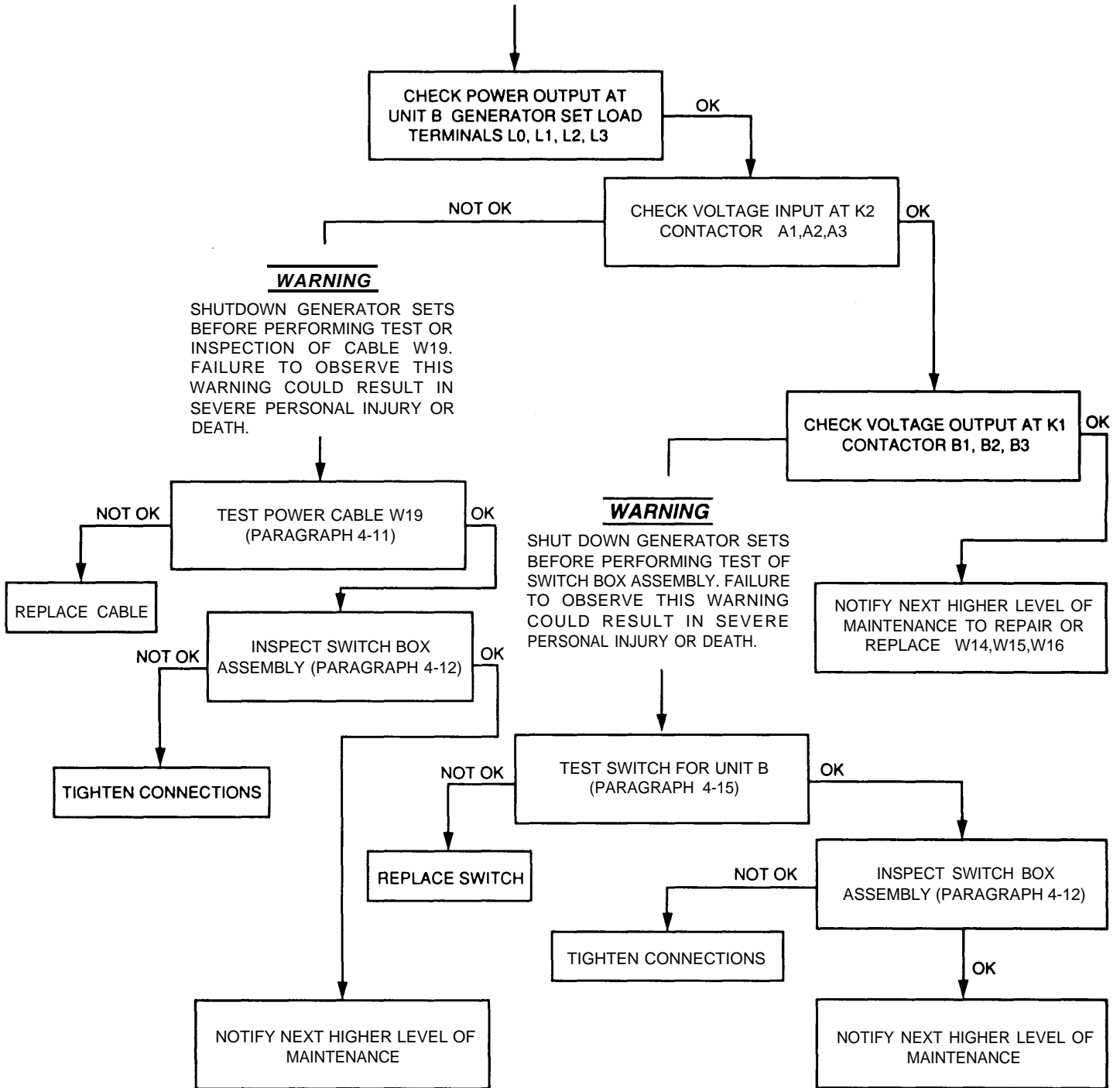


Figure 4-6. Unit B Has No Power.

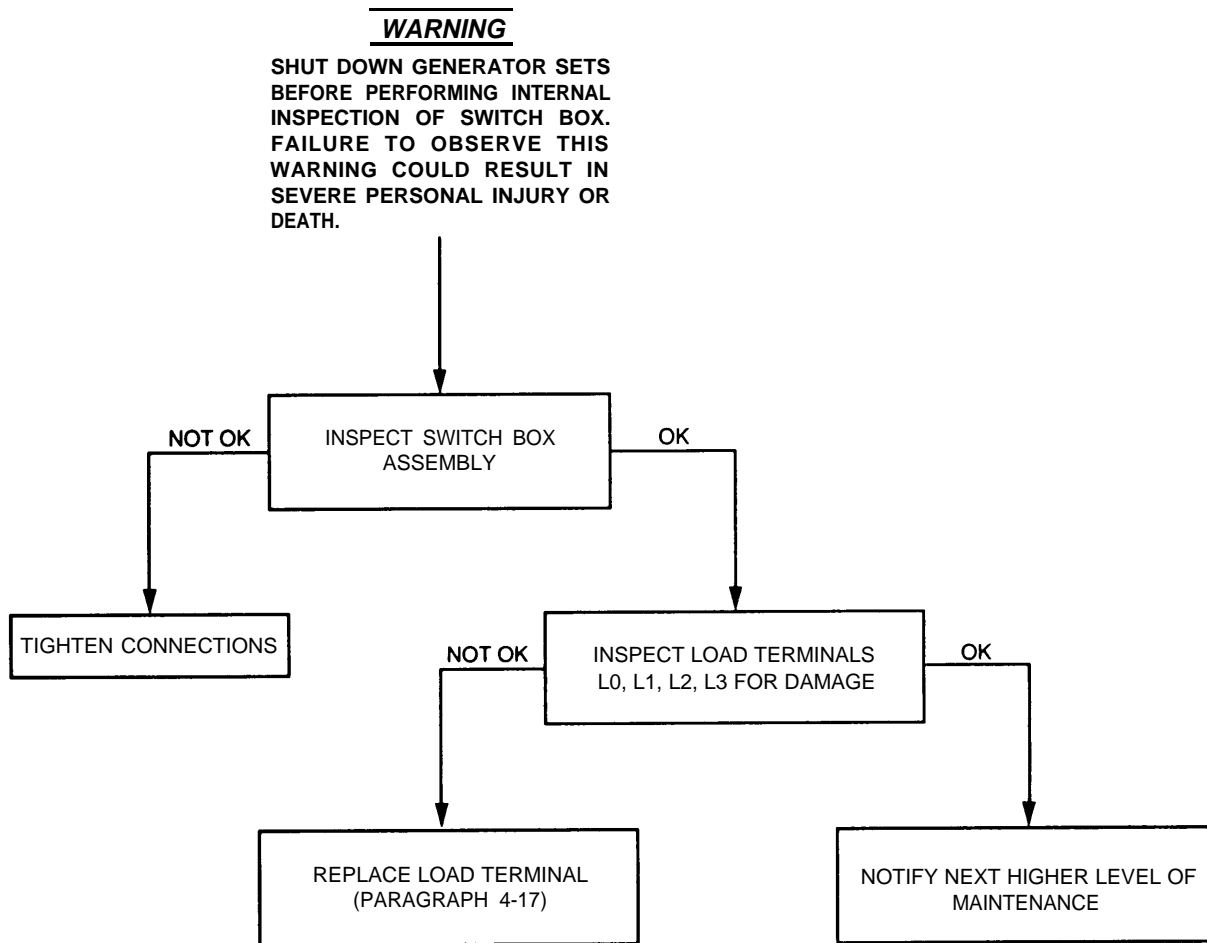


Figure 4-7. Power is Absent At All Switch Box Load Terminals.

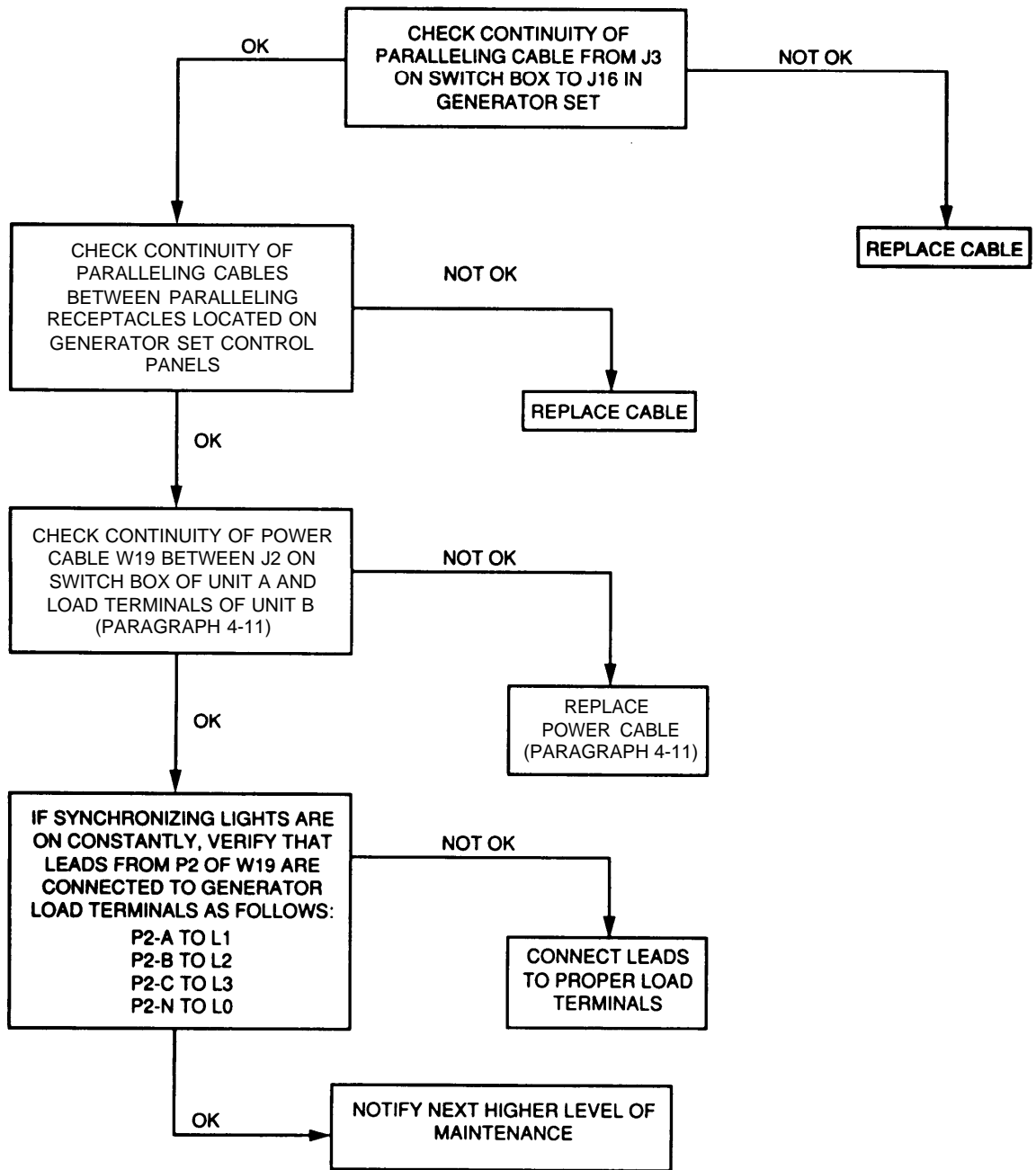


Figure 4-8. Cables Are Connected Properly, But Unit Fails to Parallel Through Switch Box.



**Section VI. MAINTENANCE PROCEDURES**

**4-10 MAINTENANCE OF GENERATOR SETS.**

Refer to TM 9-6115-645-24 for generator sets and to TM 9-2815-256-24 for engine.

**4-11 POWER CABLE W19 MAINTENANCE.**

This task covers: a. Removal b. Test	c. Installation
-----------------------------------------	-----------------

**INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
 (item 1, appendix B)  
 Multimeter (item 2, appendix B)

Equipment Conditions

Reference  
 Both generator sets shut down,  
 paragraph 2-5.3.1.

**REMOVAL**

1. Disconnect electrical leads of power cable from unit B.
2. Disconnect cable from J2 of the switch box assembly on unit A

**TEST**

1. Set multimeter for resistance.
2. Refer to FO-1 and check continuity of each electrical lead from P2.

***NOTE***

Pins G1, G2, G3, and G4 are common points and should read continuity to the green wire. Ensure that G1, G2, G3, and G4 are common points and read continuity to each other.

***Table 4-2. Cable Assembly W19.***

Wire Color	From	To
Black	P2-A	L1
Red	P2-B	L2
Blue	P2-C	L3
White	P2-N	L0
Green	P2-G1	GND
Green	P2-G2	GND
Green	P2-G3	GND
Green	P2-G4	GND

**INSTALLATION**

1. Connect new W19 to J2 of the switch box on unit A
2. Connect the four leads of the power cable to the generator set on unit B.

---

**4-12 SWITCH BOX ASSEMBLY MAINTENANCE.**

---

This task covers: a Removal  
b. Inspection

c. Installation

---

**INITIAL SETUP****Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)

**Materials/Parts**

Washers, Lock

**Equipment Conditions**

## Reference

Both generator sets are shut down,  
paragraph 2-5.3.1.

---

**Equipment Conditions (continued)**

## Reference (continued)

Trailer support devices are  
lowered, paragraph 2-3.2.1.

**REMOVAL**

1. Remove four nuts (14, figure 4-9), flat washers (5), and screws (6) that secure switch box assembly.
2. Disconnect W1, W2, W3, and W4 from the generator set load terminals (9).
3. Disconnect W5 from the generator set ground terminal (10).
4. Disconnect P1 (7) from J16 (8) of the generator set.
5. Remove switch box assembly.

**INSPECTION**

1. Release clamping catch (15) and open the control panel access cover (4).
2. Inspect control panel assembly (16) for missing or broken parts.
3. Close control panel access cover (4) and secure with clamping catch (15).
4. Release clamping catch (17) and open load terminal door (18).
5. Inspect load terminals and ground terminal for missing or broken parts.
6. Close load terminal door (18) and secure with clamping catch (17).
7. Remove 21 screws (3), lock washers (2), and flat washers (1). Discard lock washers.

**CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. Slide the switch box cover from the switch box assembly carefully to prevent damage to control panel wiring harness.

8. Carefully position switch box cover (19) in front of switch box assembly.
9. Disconnect P3 (11) from J4 (13).
10. Remove switch box cover (19).
11. Inspect for loose component mounting and missing connections. Tighten all loose connections.
12. Inspect all leads and wires for worn or deteriorated insulation that reveals bare spots in conductors. If found, notify next higher level of maintenance.
13. Position switch box cover (19) in front of switch box assembly.
14. Connect P3 (11) to J4 (13).
15. Position switch box cover (19) over switch box assembly and align mounting holes.
16. Install a flat washer (1), new lock washer (2), and screw (3) that secure the switch box cover (19).

**INSTALLATION**

1. Position switch box assembly on switch box support (22) and front platform.
2. Route electrical leads (20) and cable harness (21) through the power cable sock (12).
3. Align mounting holes of the switch box assembly and switch box support (22).
4. Install four screws (6), eight flat washers (5), and nuts (14), to secure switch box assembly.
5. Connect P1 (8) to J16 (7) of generator set.
6. Connect W1, W2, W3, W4, and W5 to the load terminals (9) of the generator set as follows
  - a. Connect W1 to L1.
  - b. Connect W2 to L2.
  - c. Connect W3 to L3.
  - d. Connect W4 to L0.
7. Connect W5 to GND (10).

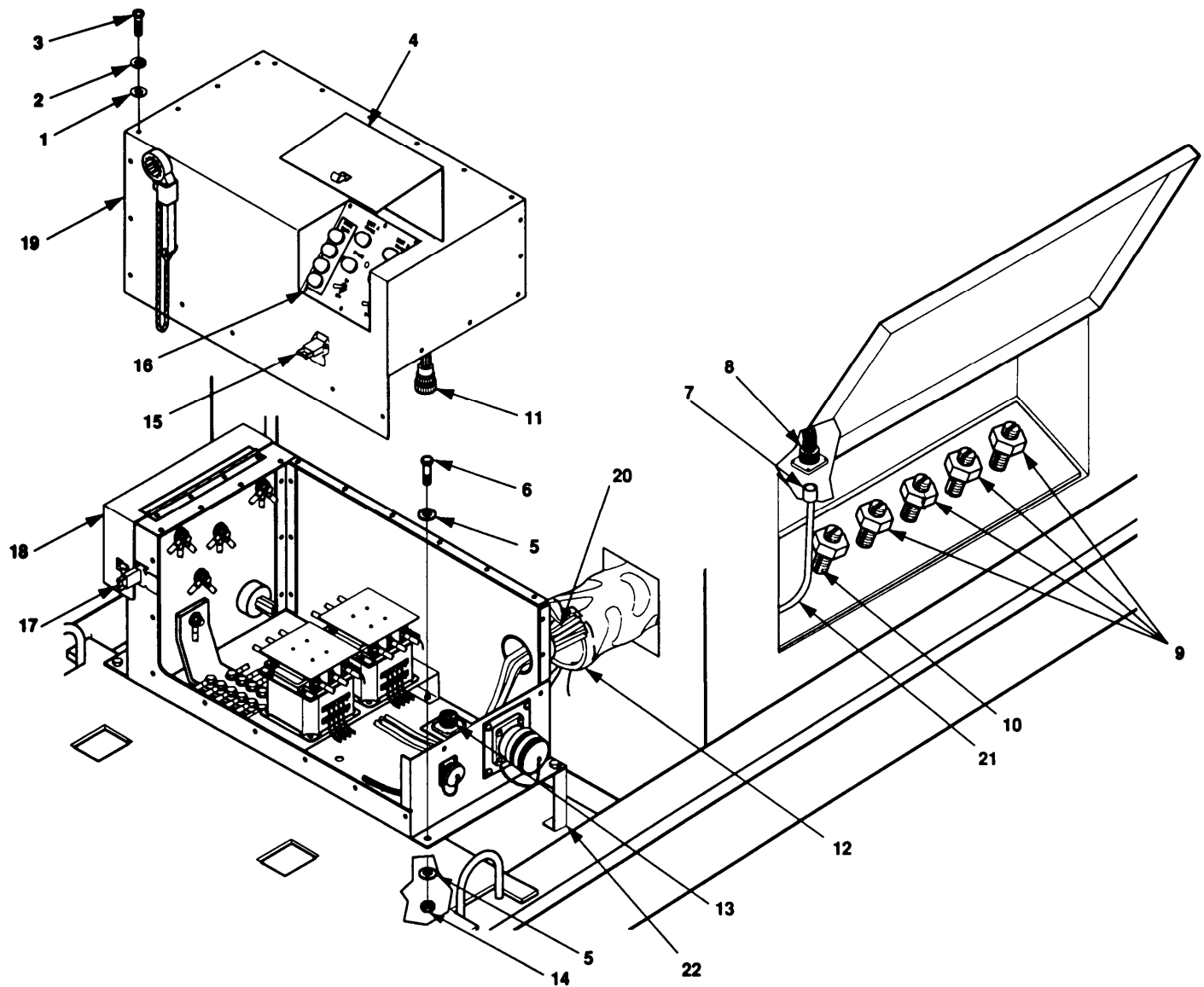


Figure 4-9. Switch Box Assembly Maintenance.

---

**4-13 LOAD TERMINAL WRENCH ASSEMBLY MAINTENANCE.**

---

This task covers: a. Removal  
b. Repair  
c. Installation

---

**INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)

Materials/Parts

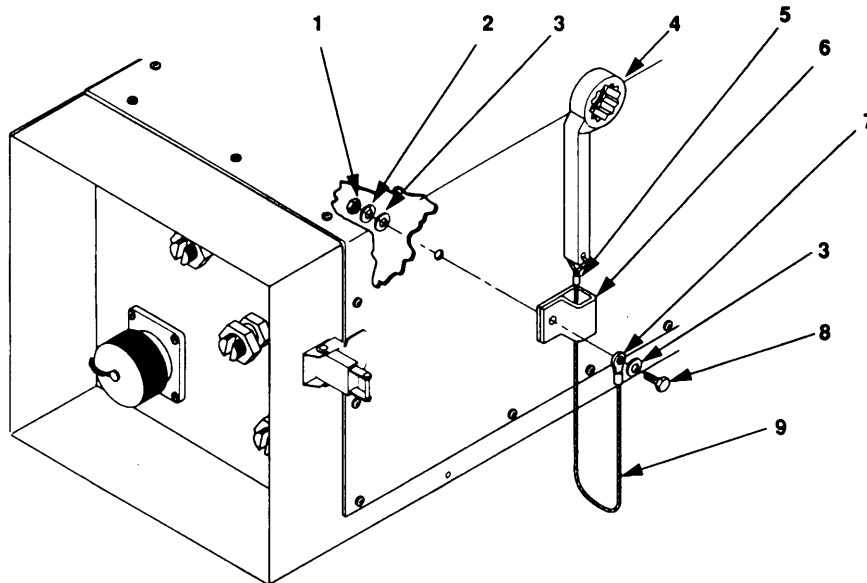
Washers, Lock

Equipment Conditions

Reference

Both generator sets shut down,  
paragraph 2-5.3.1.  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

---



*Figure 4-10. Switch Box Load Terminal Wrench Assembly Replacement.*

**REMOVAL**

1. Refer to paragraph 4-12 and perform steps 7 through 10.
2. Remove nut (1, figure 4-10), lock washer (2), and flat washer (3). Discard lock washer.
3. Remove screw (8), flat washer (3), loop clamp (6), and box wrench (4) with attached rope (9).

---

**REPAIR**

---

When the rope (9) requires replacement, perform the following

- a. Cut old rope (9) from box wrench (4).
- b. On new rope, flare each end to prevent unraveling.
- c. Install new terminal lug (7) to one end of rope (9).
- d. Thread other end of rope (9) through the opening in handle of load terminal wrench (4).
- e. Install conductor splice (5) to secure rope (9) to the wrench (4).

---

**INSTALLATION**

---

- 1. Place the loop clamp (6) so that mounting holes are in alignment with switch box cover holes.
- 2. Drop terminal lug end of rope (9) with box wrench (4) through loop clamp (6) as shown in figure 4 10.
- 3. Install screw (8), two flat washers (3), one terminal lug (7), new lock washer (2), and nut (1) that secures loop clamp (6) to switch box cover.
- 4. Refer to paragraph 412 and perform steps 13 through 16 of Inspection.

---

**4-14 CLAMPING CATCH MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
 (item 1, appendix B)  
 Drill, 1/4-inch  
 (item 2, appendix B)  
 Riveter, Blind Head  
 (item 5, appendix B)

Materials/Parts

Rivets, Blind Head

Equipment Conditions

Reference

Both generator sets shut down,  
 paragraph 2-5.3.1.  
 Trailer support devices are  
 lowered, paragraph 2-3.2.1.

---

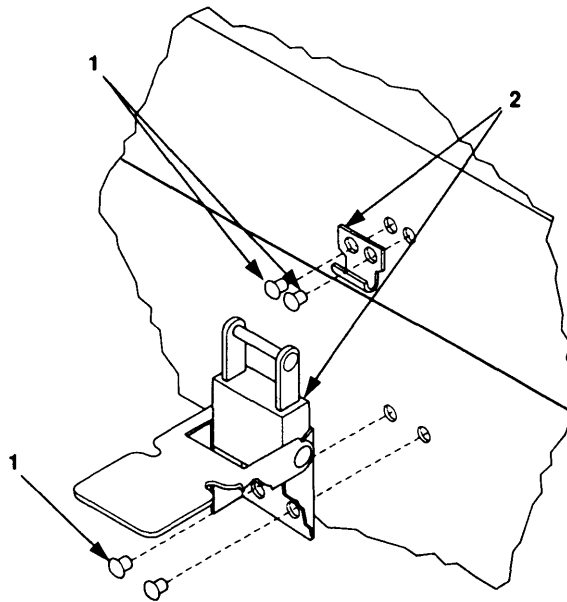


Figure 4-11. Clamping Catch Replacement

### **REMOVAL**

1. Drill out rivets (1, figure 4-11) that secure clamping catch (2).
2. Remove defective clamping catch (2).

### **INSTALLATION**

1. Position new clamping catch (2) and secure with rivets (1).
2. Close cover.

---

## **4-15 SWITCH BOX SWITCHES MAINTENANCE.**

---

This task covers: a. Removal  
                  b. Test  
                  c. Installation

---

### **INITIAL SETUP**

---

#### **Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Multimeter, AN/PSM-45  
(item 2, appendix B)

#### **Equipment Conditions**

Reference  
Both generator sets shut down,  
paragraph 2-5.3.1.  
Trailer support devices are  
lowered, paragraph 2-3.2.1.



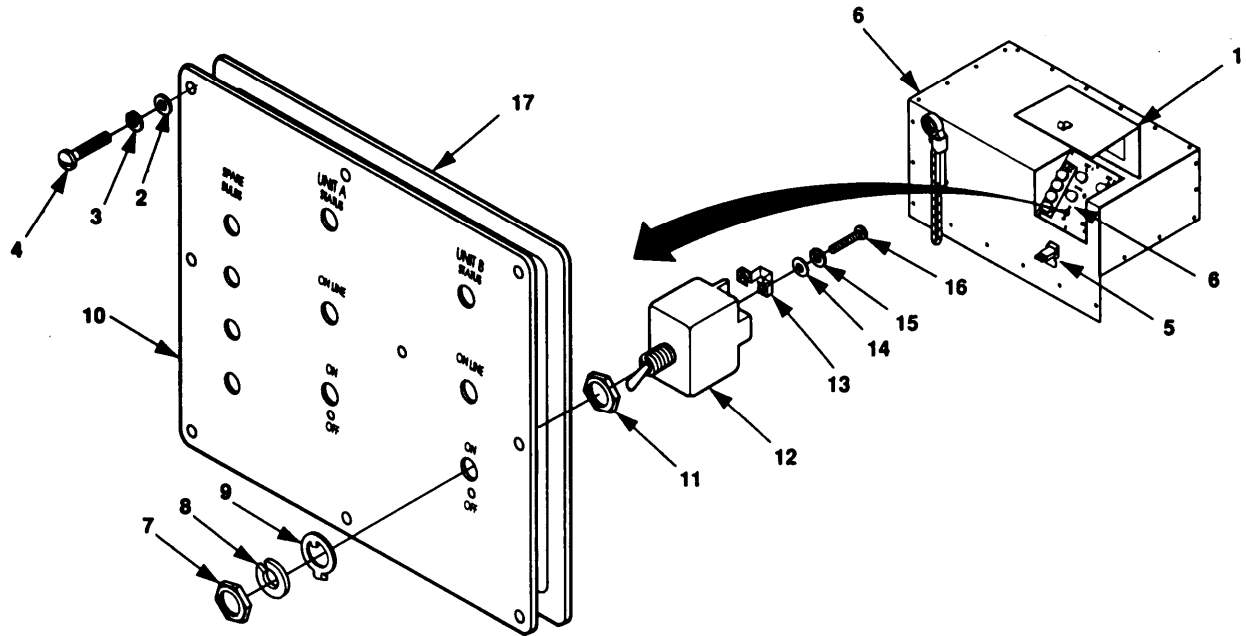


Figure 4-12. Switch Replacement

### REMOVAL

1. Release clamping catch (5, Figure 4-12) and open the control panel access cover (1).
2. Remove 8 screws (4), flat washers (2), and lock washers (3). Remove control panel assembly (10).
3. Tag wires on terminals 3, 4, and 6 of switch (12).
4. Remove terminal screws (16), lock washers (15), flat washers (14), and conductor bus (13) from switch terminals.
5. Remove nut (7), lock washer (8), locking ring (9), and switch (12).

### TEST

1. Set multimeter for continuity test.
2. With switch (12) in center position, check continuity of switch between terminals 3 and 5.
3. If no continuity in step 2, replace switch.

4. With switch (12) in OFF position, check continuity of switch between:
  - a. Terminals 3 and 5
  - b. Terminals 2 and 6
  - c. Terminals 3 and 6
  - d. If there is continuity in step a, b, or c, replace switch.

## **INSTALLATION**

1. Remove nut (7), lock washer (8), and locking ring (9) from new switch.
2. Hand tighten nut (11) on switch.

### ***NOTE***

Make sure terminals 3 and 6 of switch are toward bottom of panel when installing switch.

3. Insert switch body (12) into mounting hole and position nut (11) against control panel assembly (10).
4. Install locking ring (9) into keyway of switch until alignment tip goes into control panel assembly (10).
5. Install lock washer (8) against locking ring (9).
6. Install nut (7) and tighten, making sure that locking ring (9) alignment tip is engaged in control panel assembly (10).
7. Remove screws (16) with washers from terminals of new switch (12).
8. Install conductor bus (13) between terminals 2 and 5.
9. Install tagged wires, screws (16), and washers (14 and 15) to terminals.
10. Position control panel assembly (10) with gasket (17) on switch box cover (6) and align mounting holes.
11. Install 8 new lock washers (3), flat washers (2), and screws (4).
12. Close switch box cover (1) and secure with clamping catch (5).

---

**4-16 INDICATOR LIGHT MAINTENANCE.**

---

This task covers: a. Removal  
b. Test

c. Installation

---

**INITIAL SETUP**Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Multimeter AN/PSM-45  
(item 2, appendix B)  
Solder gun (item 2, appendix B)

Materials/Parts

Solder (item 4, appendix E)  
Washers, Lock

Equipment Conditions

Reference  
Both generator sets shut down,  
paragraph 2-5.3.1.  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

---

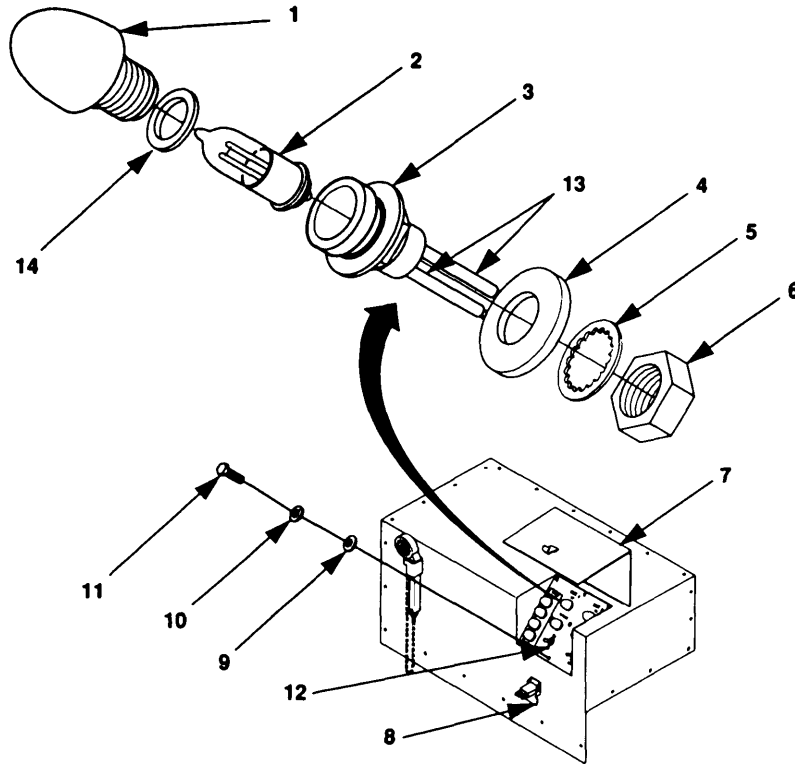
**REMOVAL**

1. Release clamping catch (8, figure 4-13) and open control panel access cover (7).
2. Remove 8 screws (11), flat washers (9), lock washers (10) and control panel assembly (12). Discard lock washers.

***NOTE***

The switch box assembly has eight lamps. Replacement procedures are the same for each indicator lamp.

3. Tag leads connected to each terminal (13) of indicator lamp housing to be replaced, and unsolder each lead.
4. Remove and retain lens (1), O-ring (14) and lamp (2).
5. Remove mounting nut (6) and internal tooth lock washer (5).
6. Slide indicator housing (3) out of control panel assembly (12) and remove O-ring (4).



*Figure 4-13. Indicator Light Replacement.*

**TEST**

Using multimeter, measure continuity between pins (13). If no continuity replace lamp (2). If continuity exists, replace indicator housing (3).

**INSTALLATION**

1. Remove mounting nut (6), internal tooth lock washer (5), and O-ring (4) from new indicator housing (3).
2. Install O-ring (4) on indicator housing (3) and insert indicator housing (3) through control panel assembly (12).
3. Install internal tooth lock washer (5) on indicator housing (3).
4. Install mounting nut (6) on indicator housing (3).
5. Solder wires to the applicable terminals (13) and remove tags.
6. Position control panel assembly (12) with gasket on switch box cover (15) and align mounting holes.

- 7. Install eight lock washers (10), flat washers (9), and screws (11) that secure control panel assembly (12).
- 8. Install lens (1), O-ring (14), and lamp (2).
- 9. Close the control panel access cover (7) and secure with clamping catch (8).

#### **4-17 SWITCH BOX LOAD TERMINAL MAINTENANCE.**

This task covers: a. Removal                                  c. Installation  
                                                                                b. Repair

#### **INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
 (item 1, appendix B)

Materials/Parts

Terminal, Load  
 Wire, Round Steel, 0.072 inch diameter  
 QQ-W-423 Composition 302

Equipment Conditions

Reference  
 Both generator sets shut down,  
 paragraph 2-5.3.1.  
 Trailer support devices are  
 lowered, paragraph 2-3.2.1.

#### **REMOVAL**

- 1. Remove 21 screws (2, figure 4-14), lock washers (3), and flat washers (4).
- 2. Release clamping catch (5) and open load terminal door (1).

**CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage.

- 3. Carefully position switch box cover (15) in front of switch box assembly.
- 4. Disconnect P3 (6) from J4 (7).
- 5. Remove switch box cover (15).
- 6. Disconnect external load terminal lead from the defective terminal (14).

**NOTE**

For removal of ground load terminal go to step 8.

7. Remove nut (8), internal tooth lock washer (9), and leads (10) from defective load terminal (14).
8. Remove nut (11) that secures the load terminal (14) to the mounting plate.
9. Remove load terminal (14).

## **REPAIR**

### ***NOTE***

Repair consists of replacing a missing or damaged bail. Removal of terminal is not required. Any other damage to the terminal requires replacement. The bail is fabricated using bulk wire National Stock Number (NSN) 9505-00-235-5071.

1. Release clamping catch (5) and open load terminal door (1).
2. Cut off 5 3/4 inches of bulk wire.
3. Make sure nut (13) is installed on terminal body (14).
4. Fabricate and install terminal clip in accordance with figure 4-15.
5. Close load terminal door (1, figure 4-14) and secure with clamping catch (5).

## **INSTALLATION**

1. Position new load terminal (14) on mounting plate so that alignment pin fits in hole provided.
2. Install and tighten nut (11).
- 3\* Install leads (10).
4. Install internal tooth lock washer (9) and nut (8) on load terminal (14).
5. Close the load terminal door (1) and secure with clamping catch (5).
6. Connect P3 (6) to J4 (7).
7. Position the switch box cover (15) over switch box assembly and align the mounting holes.
8. Install twenty-one lock washers (3), flat washers (4), and screws (2).

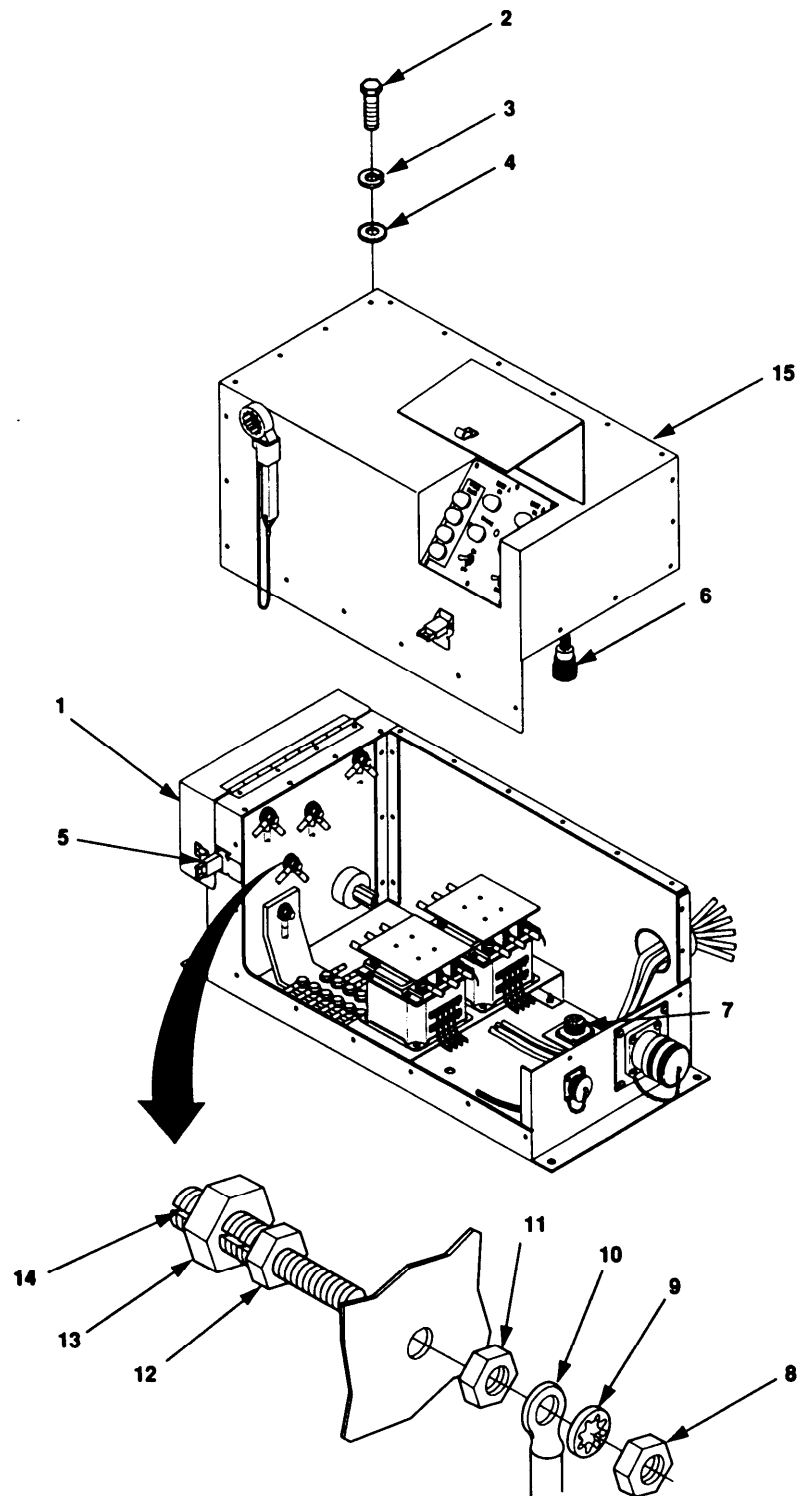


Figure 4-14. Switch Box Load Terminal Maintenance.

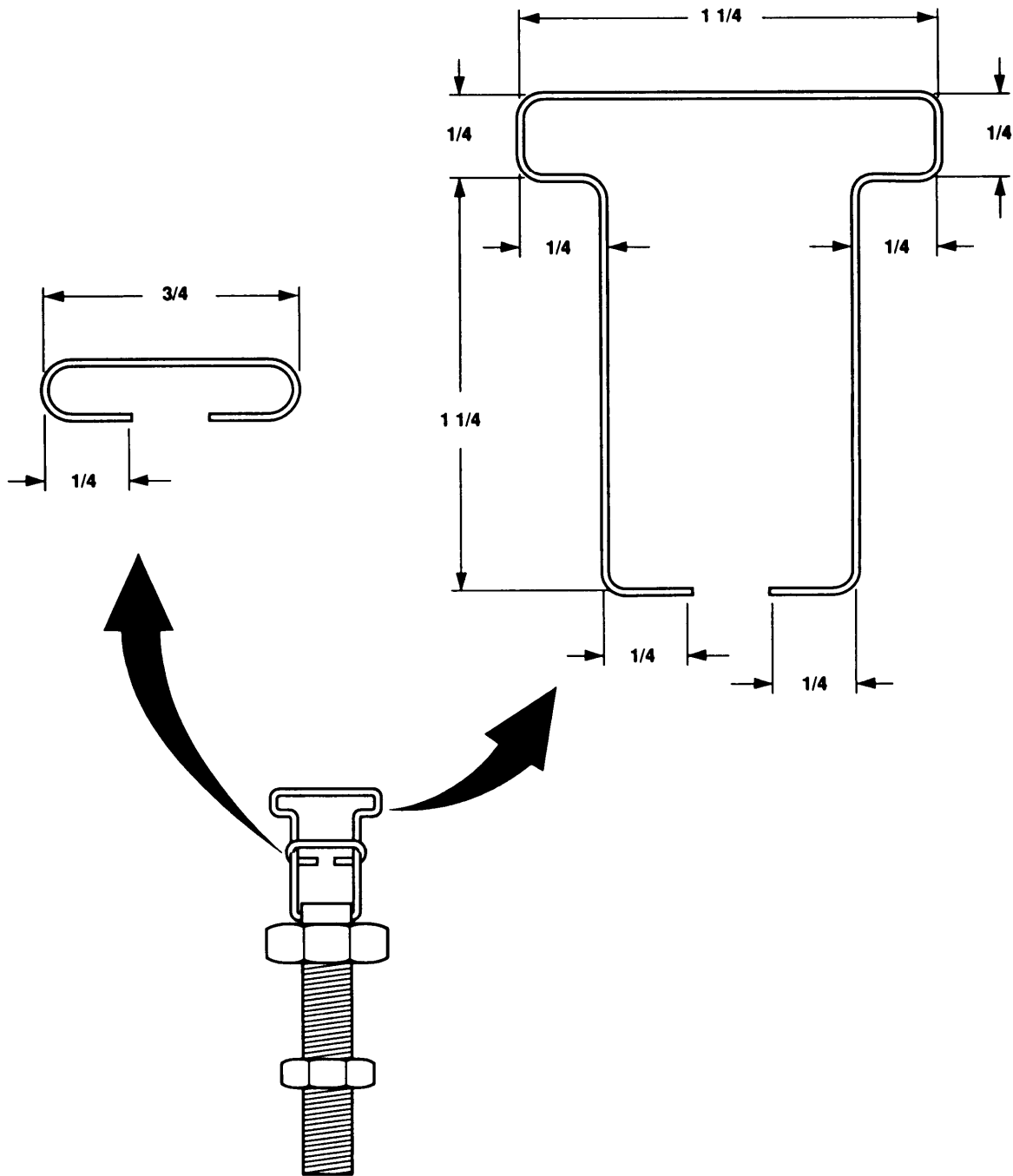


Figure 4-15. Switch Box Load Terminal Repair.



---

**4-18 REAR STEPS MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP****Tools**Tool Kit, General Mechanic's  
(item 1, appendix B)**Equipment Conditions**Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.**Materials/Parts**Nut, Self-locking

---

**REMOVAL**

1. To remove either rear step, remove two self-locking nuts (5, figure 4-16), flat washers (3), and bolts (2) that secure rear step (4) to trailer frame. Discard self-locking nuts.
2. Remove five self-locking nuts (5), flat washers (3), and bolts (2), that secure rear step (4) to fender (1). Discard self-locking nuts.
3. Remove rear step (4) from trailer.

**INSTALLATION**

1. Position rear step on trailer frame and align five mounting holes of the rear step (4) and fender (1).
2. Install five bolts (2) ten flat washers (3), and five new self-locking nuts (5) that secure the rear step (4) to fender (1). Do not tighten bolts.
3. Install two bolts (2), four flat washers (3), and two new self-locking nuts (5) to secure rear step (4) to trailer frame.
4. Tighten all bolts.

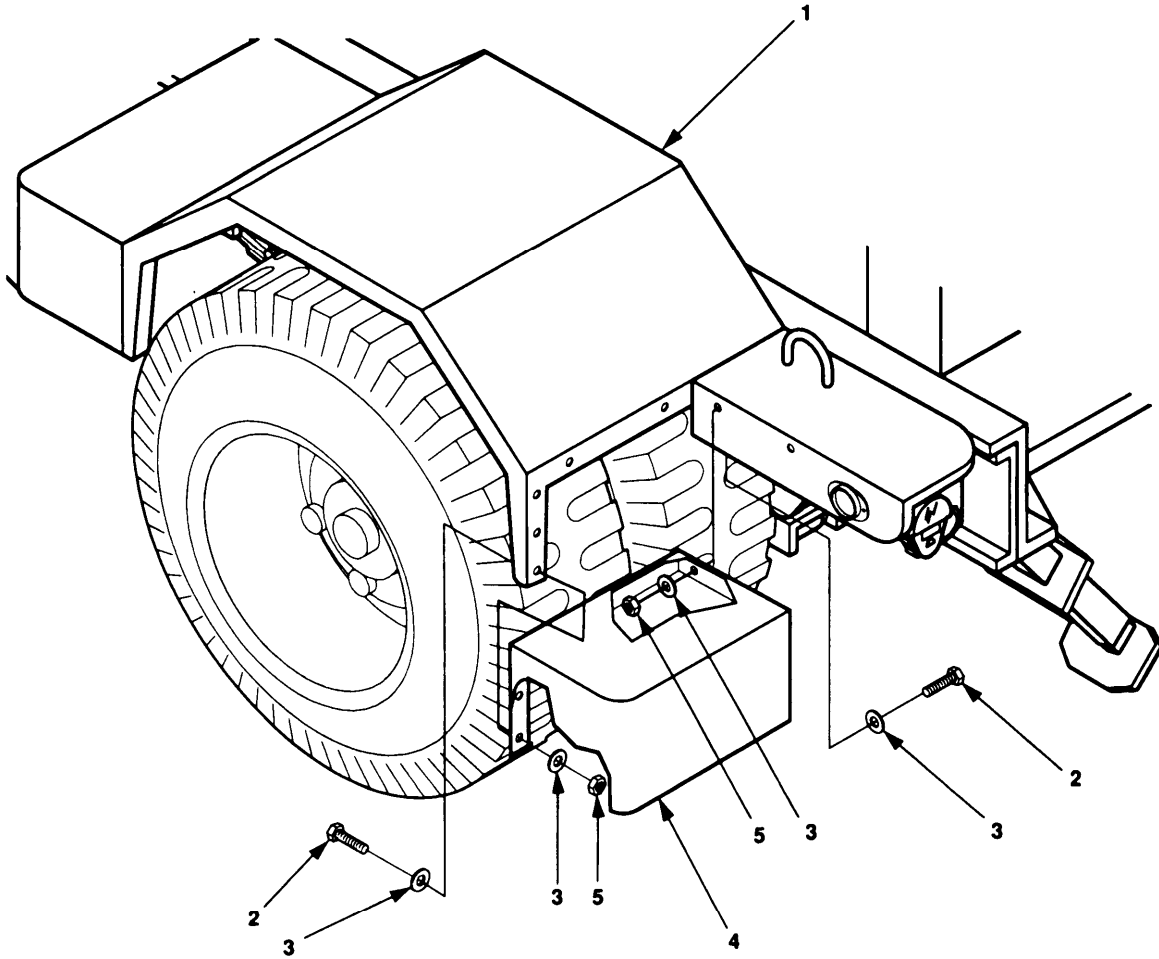


Figure 4-16. Rear Step Replacement.

---

**4-19 ACCESSORY BOX MAINTENANCE.**


---

This task covers: a. Removal  
b. Repair

c. Installation

---

**INITIAL SETUP**
**Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Drill, 1/4-inch (item 2, appendix B)  
Riveter, Blind Head  
(item 5, appendix B)

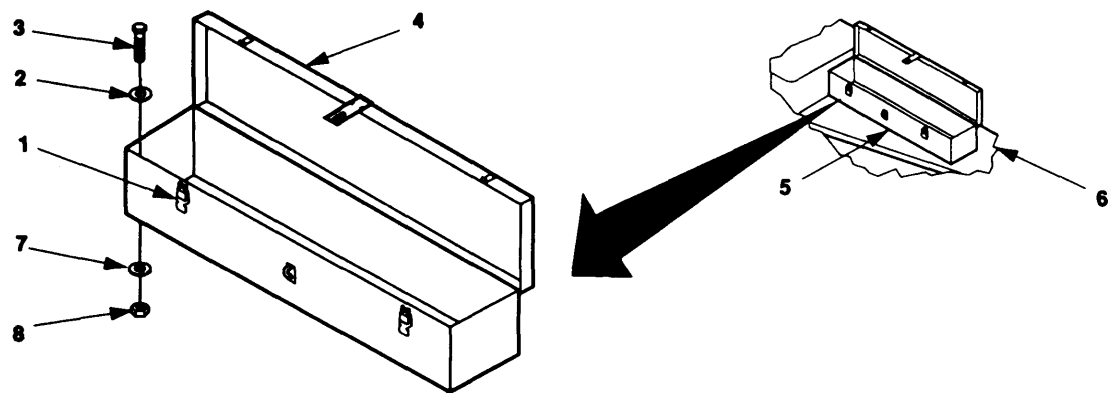
**Materials/Parts**

Nuts, Self-locking  
Rivets, Blind Head

**Equipment Conditions**

Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

---



*Figure 4-17. Accessory Box Replacement.*

**REMOVAL**

1. Release clamping catches (1, figure 4-17) and open accessory box cover (4).
2. Remove any stored accessories from accessory box (5).
3. Remove five self-locking nuts (8), flat washers (2 and 7), and bolts (3) that secure accessory box (5) to trailer chassis (6).
4. Lift accessory box (5) off trailer chassis (6).

**REPAIR**

Refer to paragraph 4-14 and replace clamping catches.

**INSTALLATION**

1. Position accessory box (5) over mounting holes in trailer chassis (6).
2. Install five bolts (3), flat washers (2 and 7) and new self-locking nuts (8) that secure accessory box (5).
3. Store accessories removed in step 2 of the removal procedure in accessory box (5).
4. Close accessory box cover (4) and secure with clamping catches (1).

---

**4-20 STRAP ASSEMBLY MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP**

**Tools**

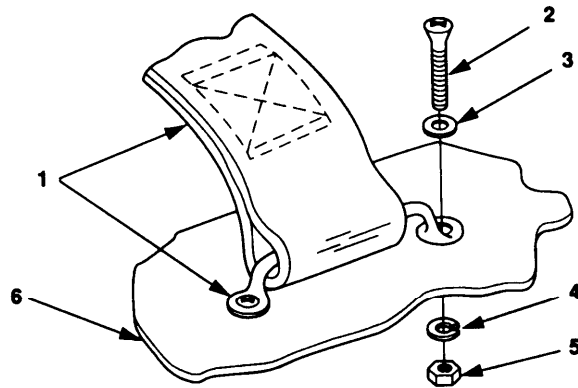
Tool Kit, General Mechanic's  
(item 1, appendix B)

**Materials/Parts**

Washers, Lock

**Equipment Conditions**

Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.



*Figure 4-18. Strap Assembly Maintenance.*

**REMOVAL**

1. Remove two nuts (5, figure 4-18), lock washers (4), flat washers (3), and screws (2) that secure strap assembly (1) to trailer chassis.
2. Remove strap assembly (1).

**INSTALLATION**

1. Position strap assembly (1) over mounting holes.
2. Install two screws (2), new lock washers (4) and nut (5) that secure strap assembly.

---

**4-21 FENDER MAINTENANCE.**

---

This task covers: a Removal

b. Installation

---

**INITIAL SETUP**

**Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)

**Materials/Parts**

Nuts, Self-locking

**Equipment Conditions**

Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

**Personnel Required**

Two

---

**REMOVAL**

1. Remove seventeen self-locking nuts (5, figure 4-19), flat washers (4), bolts (2), and flat washers (3) securing fender (1) to trailer frame. Discard self-locking nuts.
2. Remove fender (1).

**INSTALLATION**

1. Position fender (1) on trailer.
2. Install one bolt (2) on front step (6) and one bolt (2) on rear step (7), leaving new self-locking nuts loose.
3. Install fifteen bolts (2), flat washers (3 and 4), and new self-locking nuts (5). Tighten all self-locking nuts.

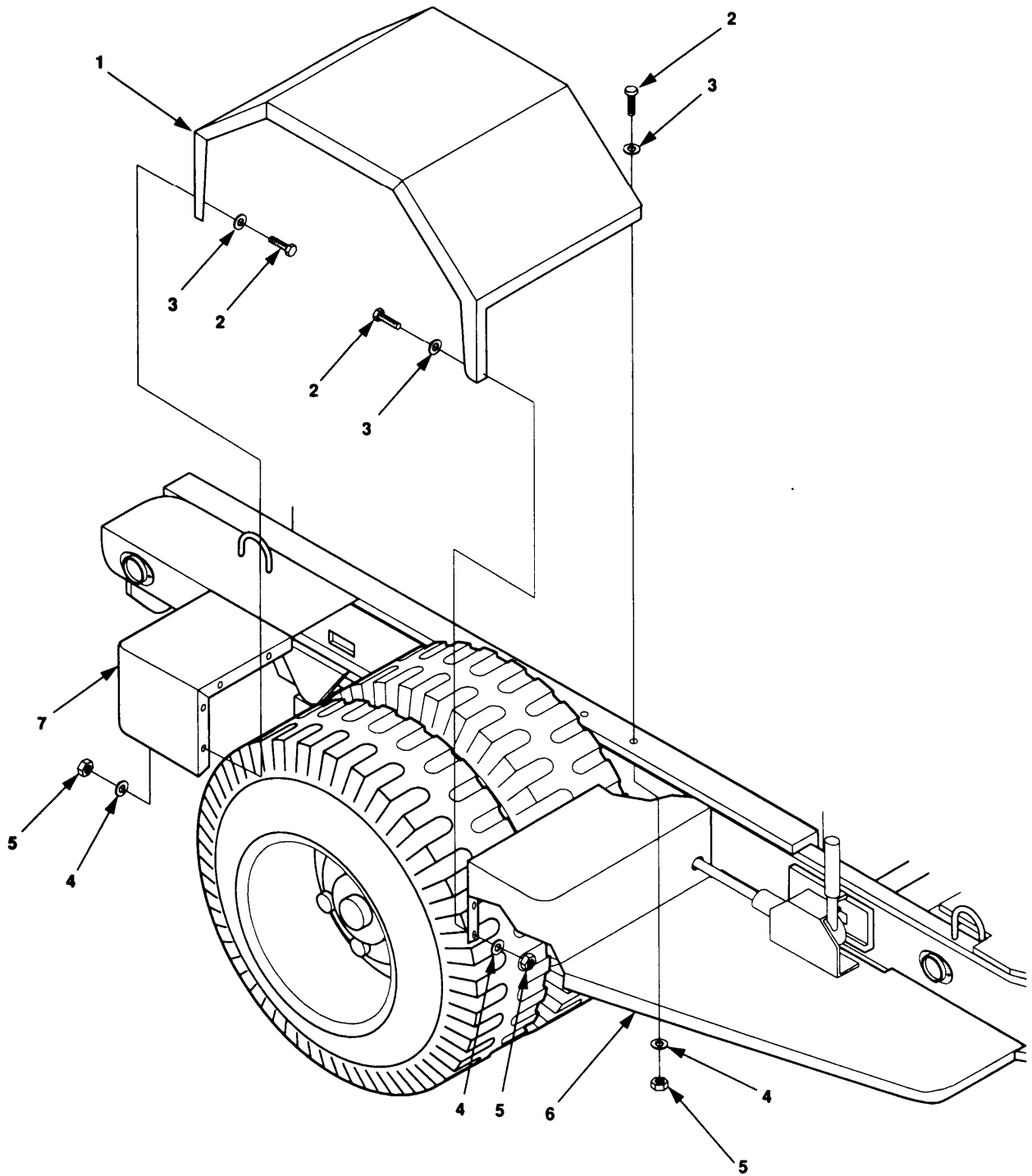


Figure 4-19. Fender Replacement.

---

**4-22 FRONT STEPS MAINTENANCE.**

---

This task covers: a. Removal

c. Installation

---

**INITIAL SETUP****Tools**Tool Kit, General Mechanic's  
(item 1, appendix B)**Equipment Conditions**Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.**Materials/Parts**Cotter pin (TM 9-2330-205-14&P)  
Nuts, Self-locking

---

**REMOVAL**

1. When replacing roadside front step, remove fire extinguisher bracket (paragraph 4-24). When replacing curbside front step, remove accessory box (paragraph 4-19).
2. Release brake.
3. Remove cotter pin (13, figure 4-20), spacer (16), and clevis pin (22) securing handbrake cable to handbrake lever mechanism (15).
4. Remove two screws (14) that secure handbrake bracket (19) to trailer frame.
5. Remove two self-locking nuts (21), flat washers (18), and screws (17) securing handbrake bracket (19) to front step (3). Discard self-locking nuts.
6. Remove handbrake bracket (19) and handbrake mechanism (15).
7. Remove two self-locking nuts (11), flat washers (12), and screws (23) that secure brake cable bracket (24) to front step (3). Remove cable (20). Discard self-locking nuts.
8. Remove seven self-locking nuts (2), flat washers (1), and screws (10), securing front step (3) to front edge offender. Discard self-locking nuts.
9. Remove three self-locking nuts (9), flat washers (5), and screws (4), securing the front step (3) to trailer frame. Discard self-locking nuts.
10. Remove five self-locking nuts (8), flat washers (7), and screws (6) securing front step (3) to chassis. Discard self-locking nuts.
11. Remove front step (3).

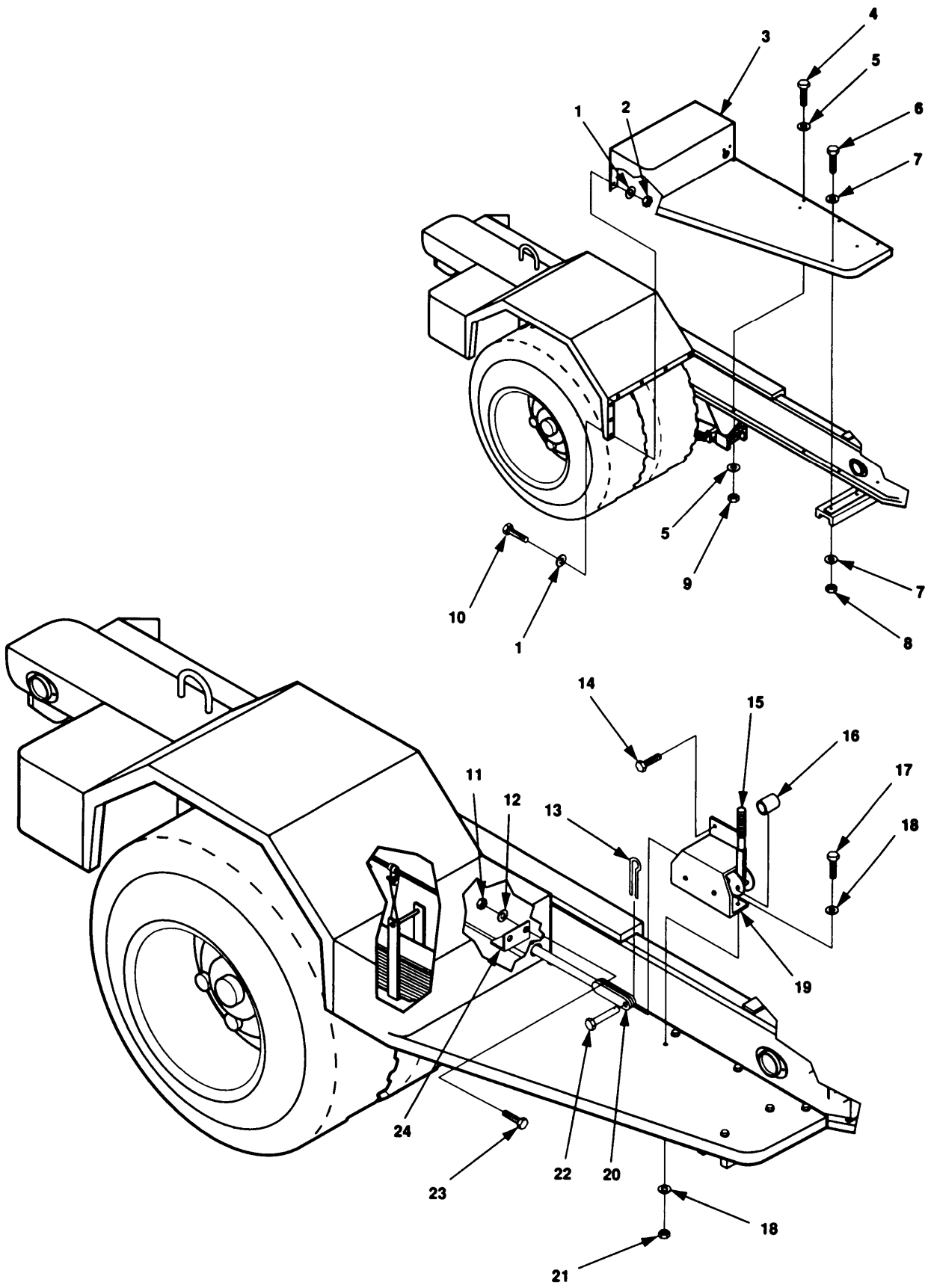


Figure 4-20. Front Stop Replacement.



**INSTALLATION**

1. Position front step (3) on cross braces and trailer frame. Insert handbrake cable (20) through hole in front step (3).
2. Install five screws (6), flat washers (7), and new self-locking nuts (8) that secure front step (3) to chassis.
3. Install three screws (4), flat washers (5), and new self-locking nuts (9) that secure front step (3) to trailer frame.
4. Install seven screws (10), flat washers (1), and new self-locking nuts (2) that secure front step (3) to fender.
5. Install two screws (23), flat washers (12), and new self-locking nuts (11) that secure bracket to front step (3).
6. Position handbrake bracket (19) and handbrake lever mechanism (15) on front step.
7. Install two screws (14) that secure cable bracket to front step.
8. Position handbrake cable (20) on handbrake lever mechanism (15). Insert clevis pin (22) and spacer (16), and secure with cotter pin (13).
9. Install either fire extinguisher bracket or accessory box removed in step 1. Refer to paragraph 4-19 to install accessory box Install fire extinguisher bracket (paragraph 4-24).

---

**4-23 FRONT PLATFORM MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)

Materials/Parts

Nuts, Self-locking  
Washers, Lock

Equipment Conditions

Reference  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

---

## **REMOVAL**

1. When removing the front platform on unit A, refer to paragraph 4-12 and remove switch box. Remove two hex nuts (8, figure 4-21), flat washers (2), two lock washers (7), and two screws (1) that secure the two switch box supports (3).
2. Remove fifteen self-locking nuts (9), thirty-six flat washers (6 and 10), and fifteen screws (5) that secure the platform (4) to the trailer. Discard self-locking nuts.

### ***NOTE***

Three flat washers (10) are used under the platform on each side, to shim the platform.

3. Remove front platform.

## **INSTALLATION**

1. Position new front platform (4) on the trailer over mounting holes.
2. Install fifteen screws (5), thirty-six flat washers (6 and 10), and fifteen new self-locking nuts (9) to secure platform (4).
3. When replacing front platform for Unit A, refer to paragraph 4-12 and install switch box assembly. Install two screws (1), new lock washers (7), four flat washers (2), and two nuts (8), that secure switch box supports.

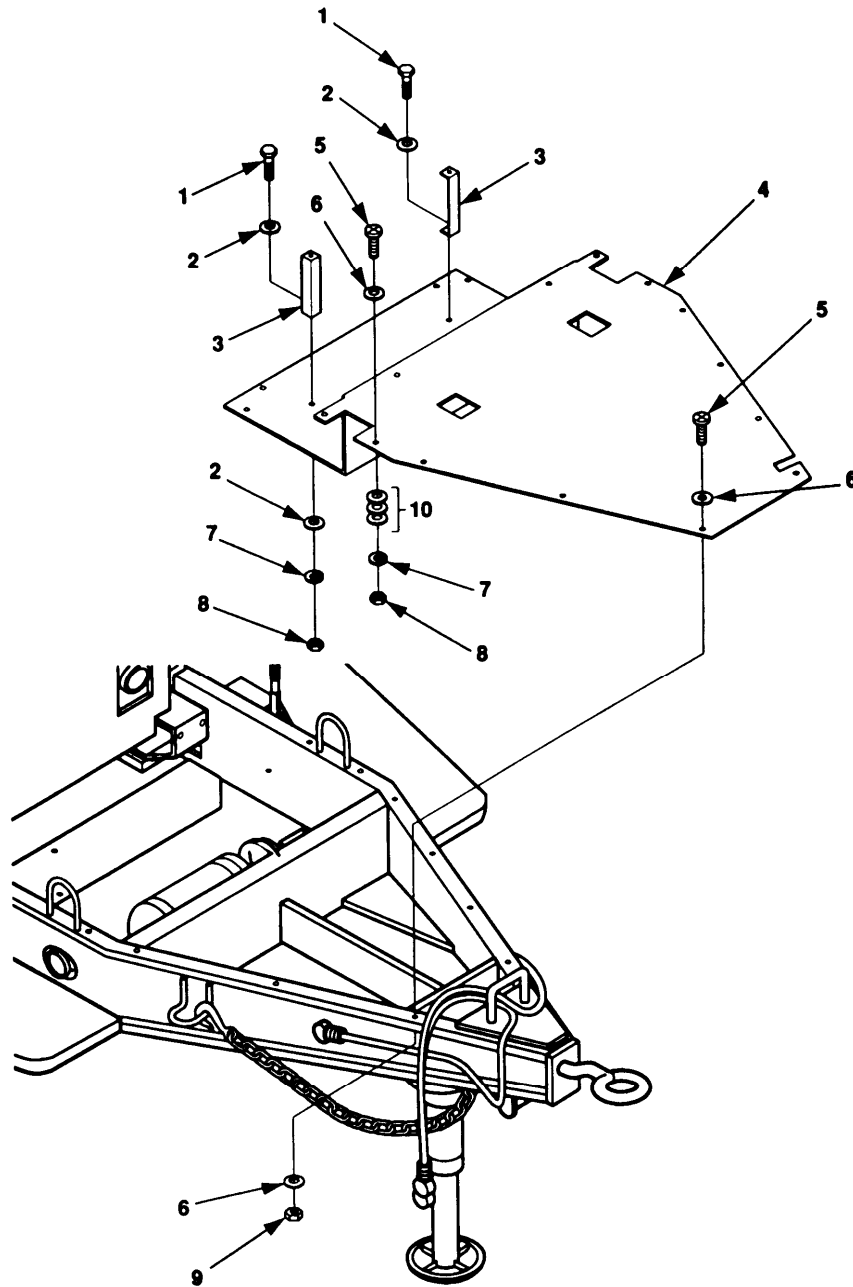


Figure 4-21. Front Platform Replacement.

---

**4-24 FIRE EXTINGUISHER BRACKET MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP****Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)

**Materials/Parts**

Nuts, Self-locking

**Equipment Conditions****Reference**

Trailer handbrakes set, front support  
leg/landing leg lowered, and rear leveling-  
support jack lowered; paragraph 2-3.2.1.

---

**REMOVAL**

1. Remove fire extinguisher from bracket.
2. Remove four self-locking nuts, flat washers, cap screws, and remove fire extinguisher bracket.

**INSTALLATION**

1. Install fire extinguisher bracket, four cap screws, flat washers, and self-locking nuts. Tighten self-locking nuts.
2. Place fire extinguisher in bracket.

## Section VII. ADMINISTRATIVE STORAGE

### 4-25. ADMINISTRATIVE STORAGE.

**4-25.1 Short Term Storage.** This type of storage is used when the equipment is expected to be stored from 1 to 45 days. The storage may be at destination after domestic shipment, or may be administrative storage when there is a shortage of maintenance manpower. For administrative storage:

- a. Perform current maintenance services and serviceability criteria evaluations before placing equipment in administrative storage. Correct shortcomings and deficiencies and check that all modification work orders have been applied.
- b. If possible, select an inside storage site. If inside storage is not available, a truck, van, conex container, or other container may be used.
- c. When in administrative storage, the equipment should be capable of being made mission ready within 24 hours unless a different time frame is directed by the approving authority.

**4-25.3 Intermediate Term Storage.** This type of storage is used when the equipment is expected to be stored from 45 to 180 days. Level A or B preservation and packing may be required.

**4-25.3 Long Term Storage.** This type of storage is used when the equipment is expected to be stored for more than 180 days. Level A preservation and packing may be required.



## CHAPTER 5

### DIRECT SUPPORT MAINTENANCE

Subject Index	Page
Section I	Repair Parts; Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment . . . . . 5-2
5-1	Common Tools and Equipment.. . . . 5-2
5-2	Special Tools, TMDE, and Support Equipment . . . . . 5-2
5-3	Repair Parts . . . . . 5-2
Section II	Troubleshooting . . . . . 5-3
5-4	General . . . . . 5-3
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5-5	General . . . . . 5-13
5-6	Replace Generator Set . . . . . 5-13
5-7	Switch Box Assembly Maintenance . . . . . 5-15
5-8	Control Panel Assembly Maintenance . . . . . 5-23
5-9	Wiring Harness Maintenance . . . . . 5-25
5-10	Electrical Leads Maintenance . . . . . 5-26
5-11	Bus Bar Maintenance . . . . . 5-27
5-12	Contactors Maintenance . . . . . 5-29
5-13	Fuel Drain Assembly Maintenance . . . . . 5-32
5-14	Trailer Modifications Repair.. . . . 5-33

## **Section 1. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT**

### **5-1 COMMON TOOLS AND EQUIPMENT.**

For Authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

### **5-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.**

No special tools or support equipment are required for maintenance of the power units or power plant. Refer to TM 9-6115-645-24P for generator set and TM 9-2815-256-24P for engine, and TM 9-2330-205-14&P for trailer.

### **5-3 REPAIR PARTS.**

Refer to TM 9-6115-645-24P for generator set and TM 9-2815-256-24P for engine. Refer to TM 9-2330-205-14&P for trailer parts. Power plant and power unit repair parts not covered in the generator, engine, or trailer RPSTL are listed and illustrated in Appendix F.



## Section II. TROUBLESHOOTING

### 5-4. GENERAL.

Refer to TM 9-6115-645-24 for generator set troubleshooting procedures, and to TM 9-2815-256-24 for engine troubleshooting procedures. Refer to TM 9-2330-205-14&P for trailer troubleshooting procedures. The symptom index for the power plant lists faults associated with switch box assembly operation. Figures 5-1 through 5-9 provide a go-no-go flowchart of each malfunction. Each malfunction listed includes a reference to the applicable figure that contains a chart to help you determine probable causes and corrective actions to take. The symptom index cannot list all faults that may occur, nor all the tests or inspections and corrective actions. If a malfunction is not listed or cannot be corrected by listed corrective actions, notify next higher level of maintenance for assistance.

### SYMPTOM INDEX

Symptom	Troubleshooting Procedure
Unit A STATUS lamp does not light with generator set AC CIRCUIT INTERRUPTER switch closed . . . . .	Figure 5-1
Unit A has no input power to K1 . . . . .	Figure 5-2
Unit A has no output power from K1 . . . . .	Figure 5-3
Unit A has output power from K1 but no output at one or more load terminals . . . . .	Figure 5-4
Unit B STATUS lamp does not light with generator set AC CIRCUIT INTERRUPTER switch closed . . . . .	Figure 5-5
Unit B has no input power to K2 . . . . .	Figure 5-6
Unit B has no output power from K2 . . . . .	Figure 5-7
Unit B has output power from K2 but no output at one or more load terminals . . . . .	Figure 5-8
Power cable W19 and paralleling cables are good, but unit fails to parallel through switch box	Figure 5-9

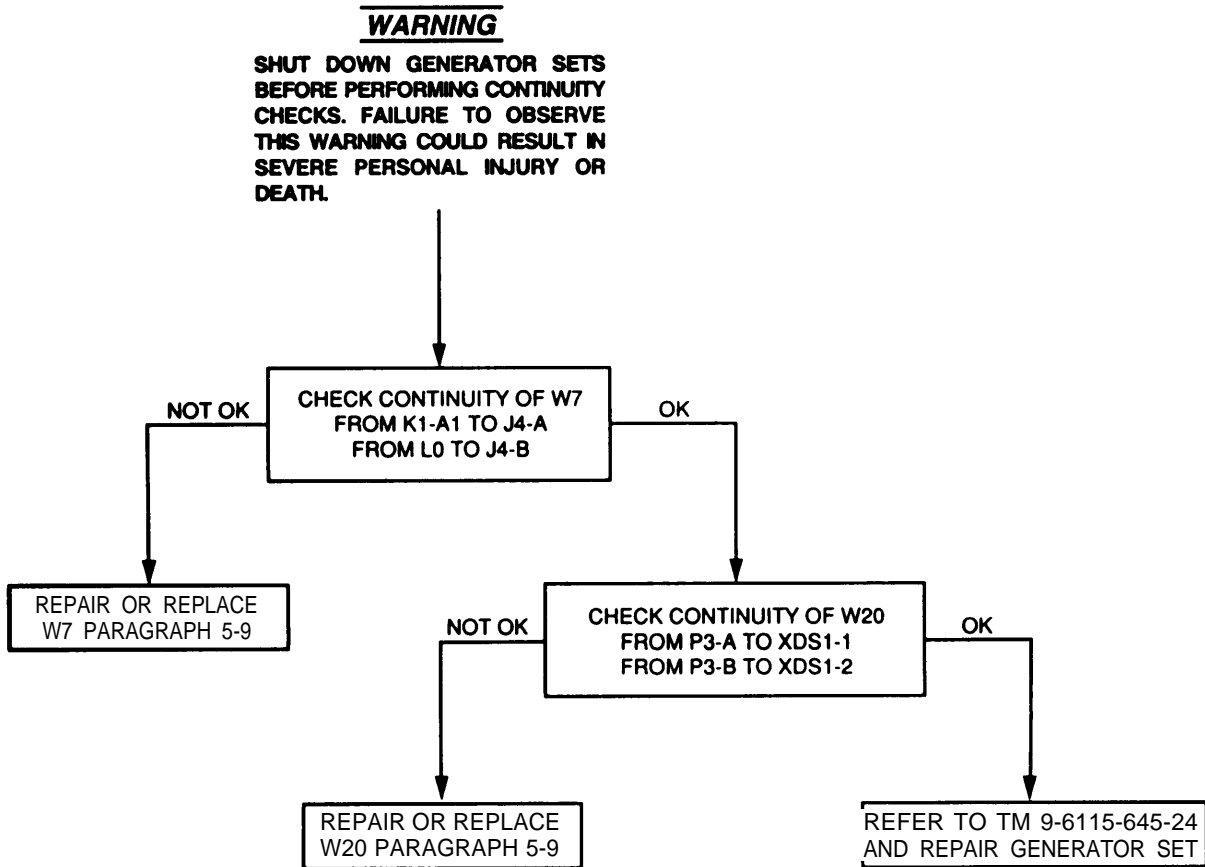


Figure 5-1. Unit A STATUS Lamp Does Not Light With Generator Set AC CIRCUIT INTERRUPTER Switch Closed.

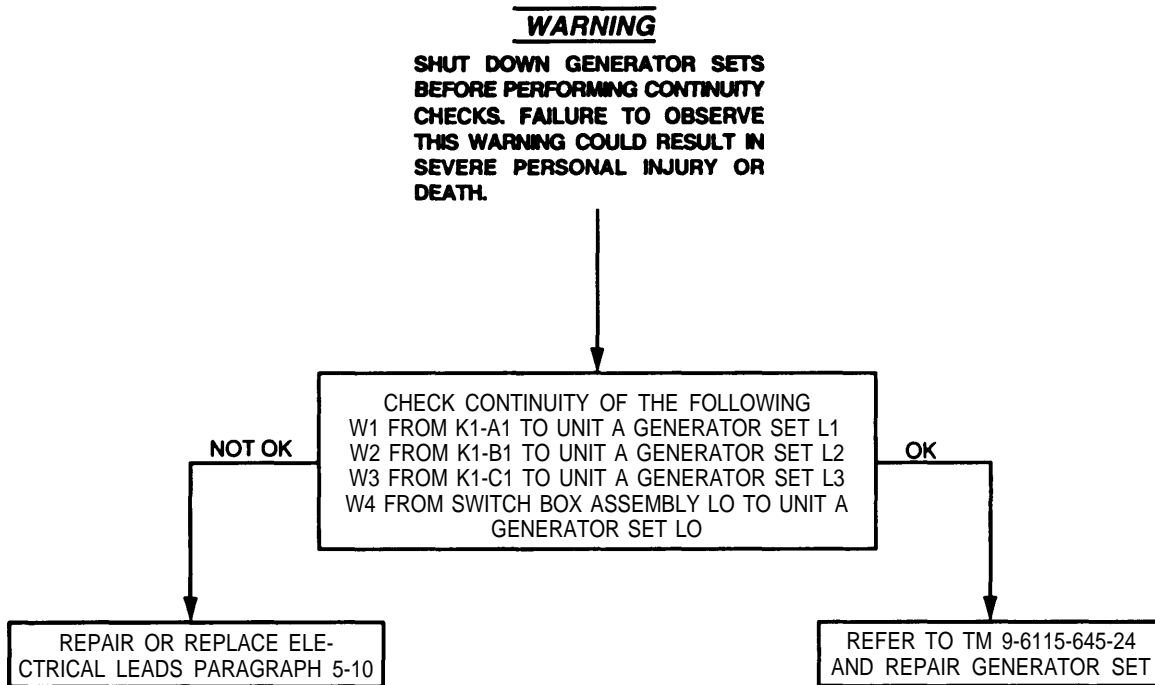


Figure 5-2. Unit A Has No Input Power to K1.

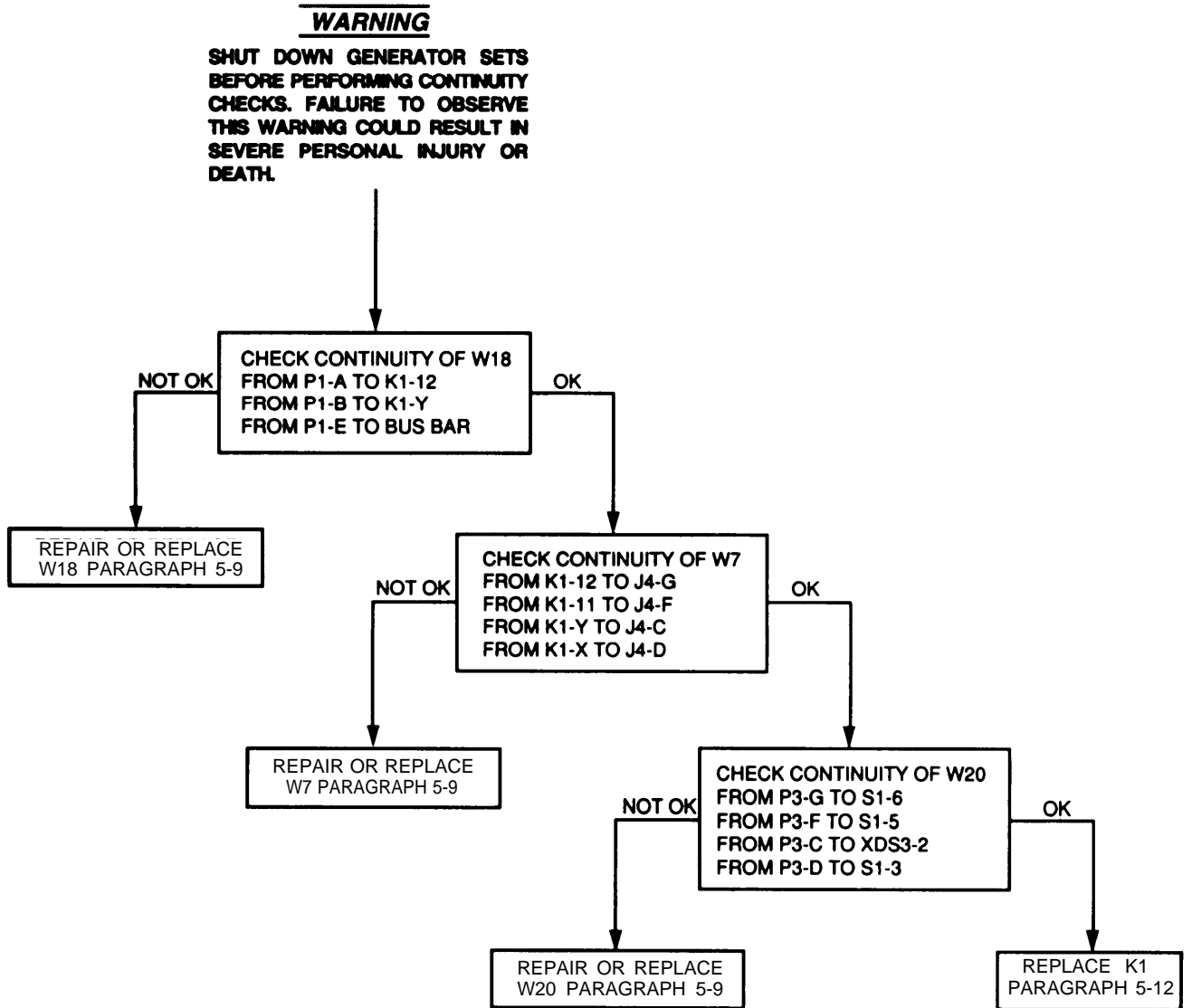


Figure 5-3. Unit A Has No Output Power from K1.

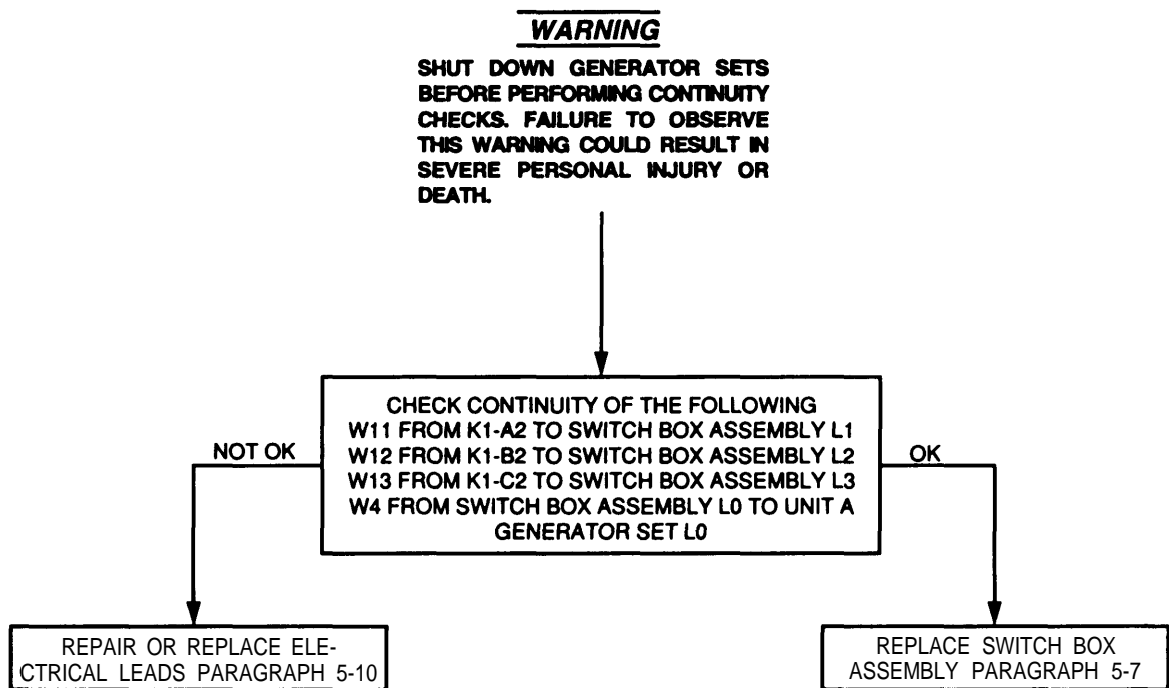


Figure 5-4. Unit A Has Output Power from K1 But No Output at One or More Load Terminals.

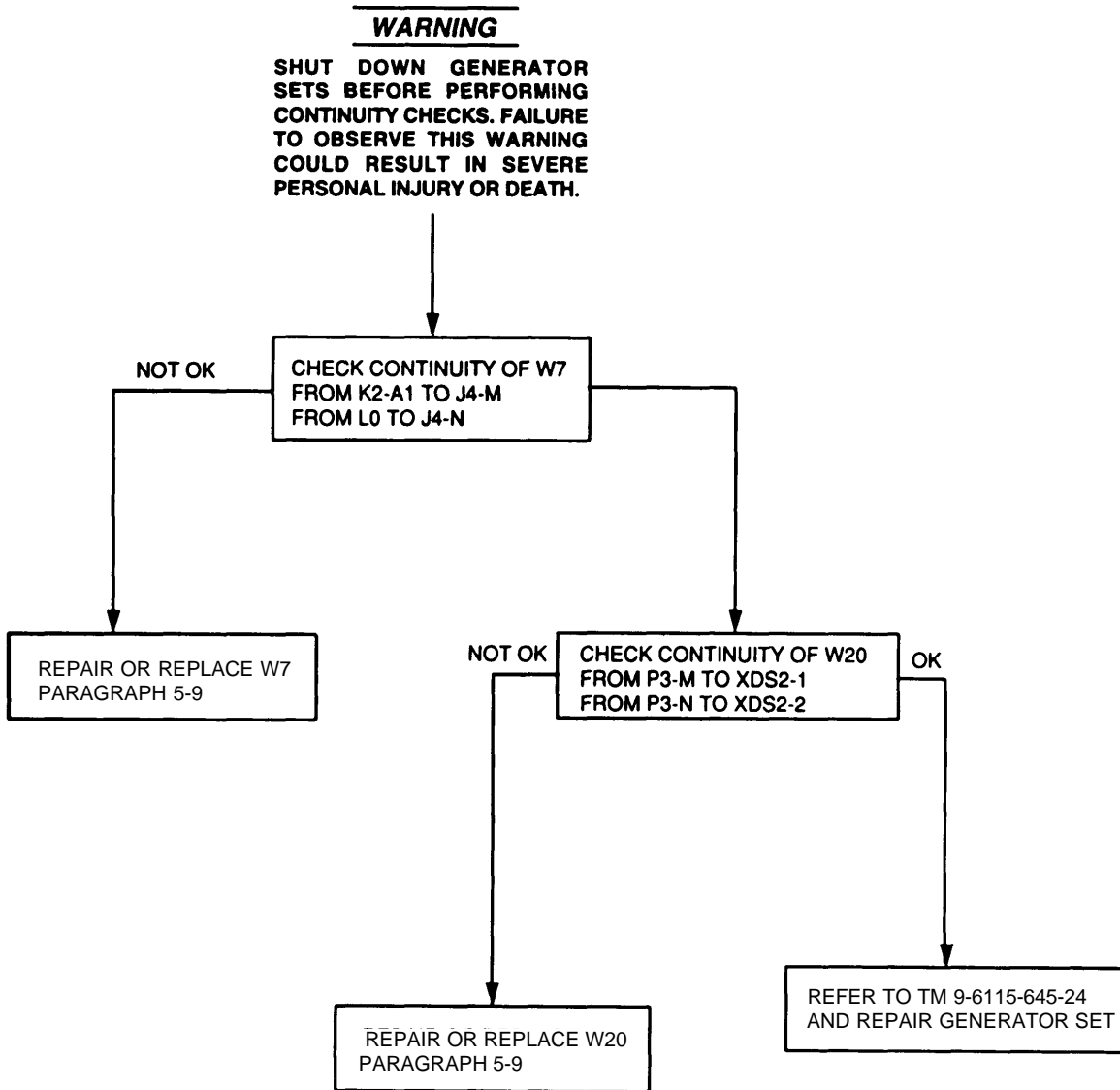
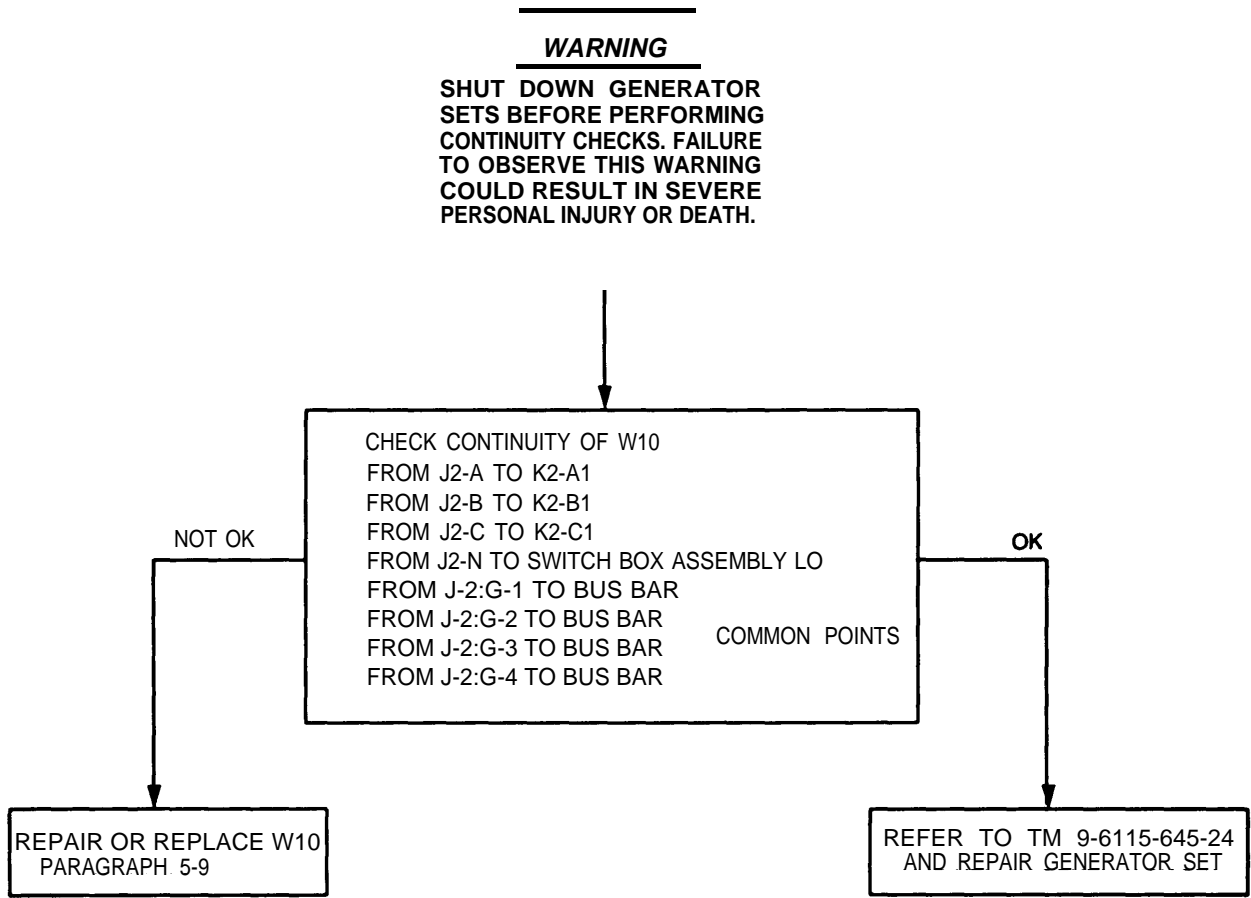


Figure 5-5. Unit B STATUS Lamp Does Not Light With Generator AC CIRCUIT INTERRUPTER Switch Closed.



*Figure 5-6. Unit B Has No Input Power to K2.*

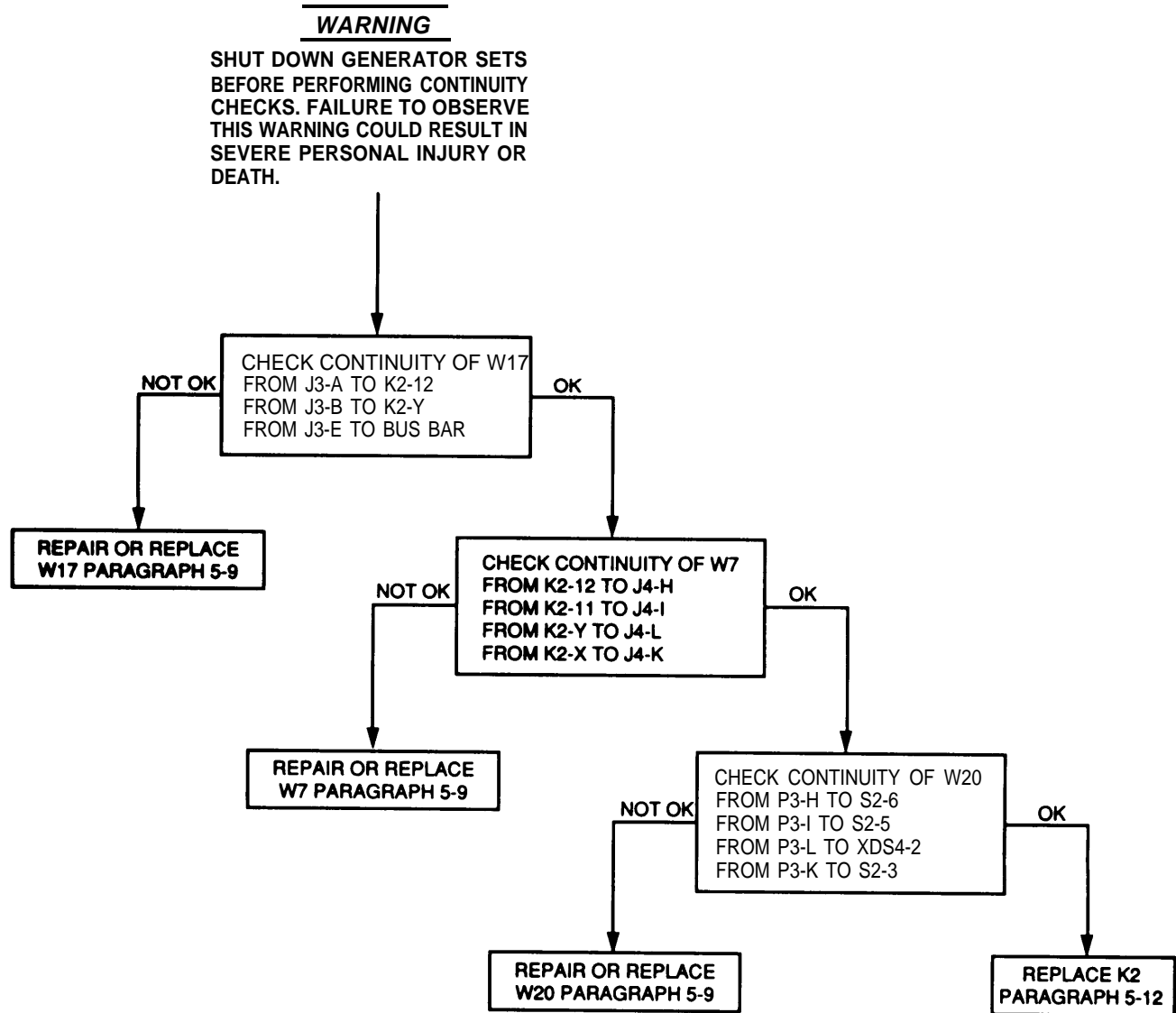


Figure 5-7. Unit B Has No Output Power from K2.



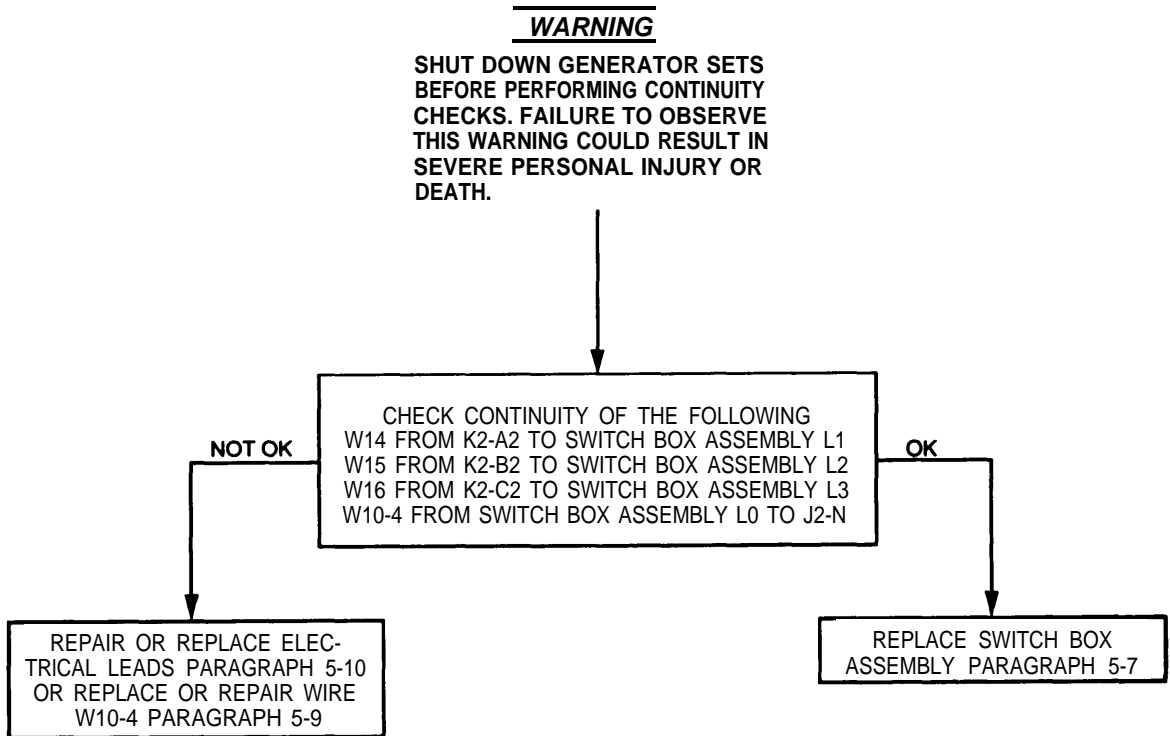
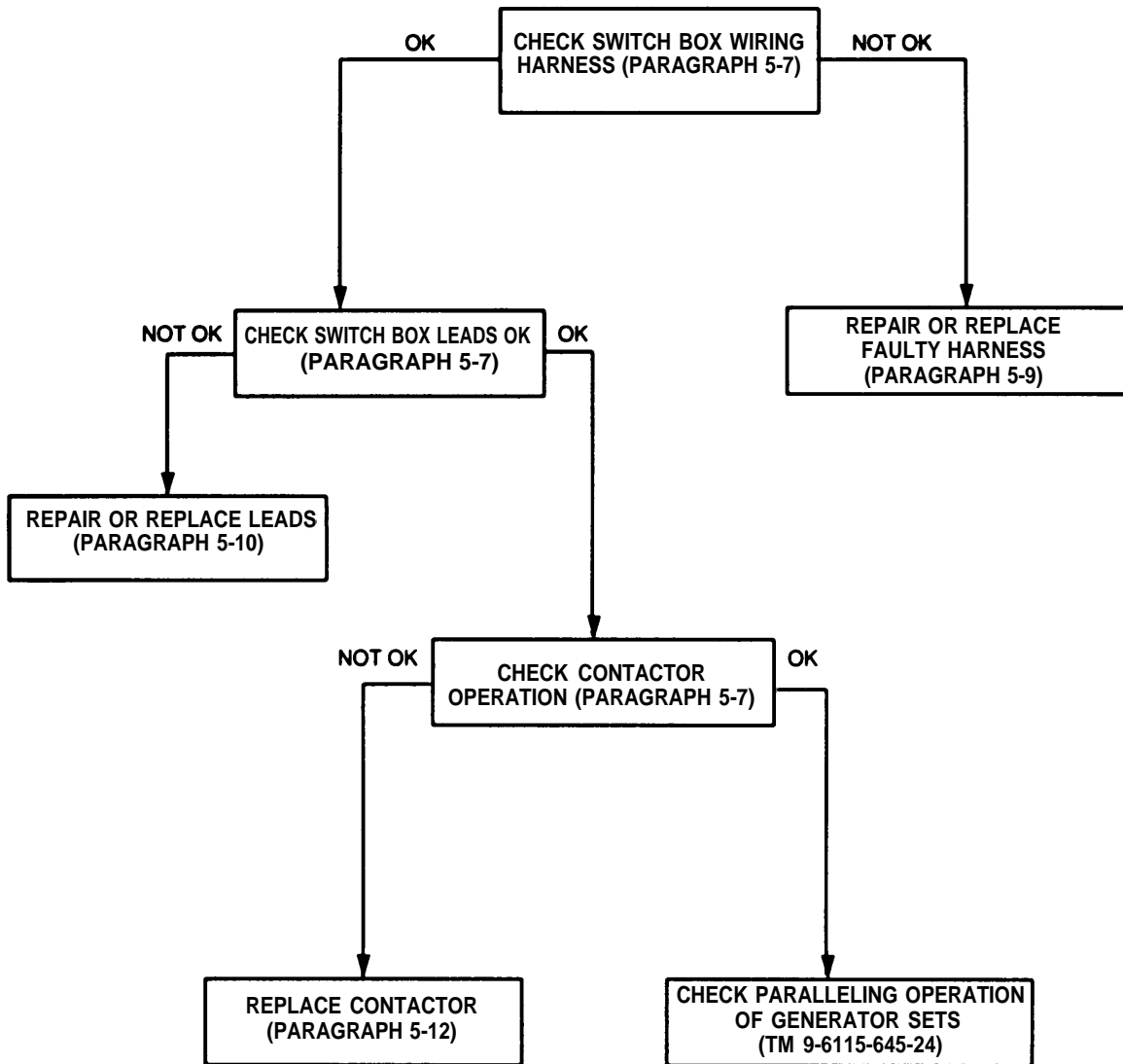


Figure 5-8. Unit B has Output Power from K2 But No Output at One or More Load Terminals.



*Figure 5-9. Power Cable W19 and Paralleling Cables are Good, but Unit Fails to Parallel Through Switch Box.*

### Section III. MAINTENANCE PROCEDURES

#### 5-5 GENERAL.

Refer to TM 9-6115-645-24 for generator set maintenance, and to TM 9-2815-256-24 for engine maintenance. Refer to TM 9-2330-205-14&P for trailer maintenance. Direct Support level maintenance procedures are provided in paragraphs 5-6 through 5-14.

---

#### 5-6 REPLACE GENERATOR SET.

---

This task covers: a. Removal

b. Installation

---

#### INITIAL SETUP

##### Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Lifting device with 6000 lb capacity

##### Equipment Conditions

Reference  
Both generator sets shut down, para 2-5.3.1.

##### Materials/Parts

Nuts, Self-locking  
Rope

##### Personnel Required

4

---

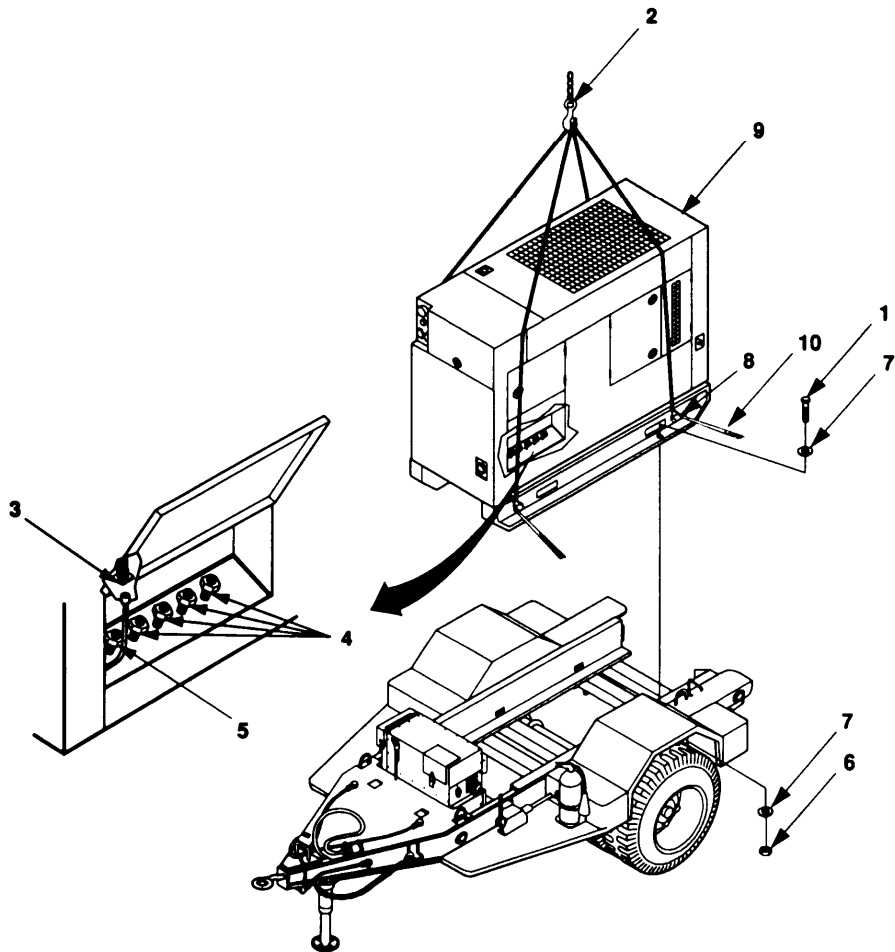
#### REMOVAL

1. When removing the generator set from unit A of the power plant, disconnect P1 (3, Figure 5-10) from generator set.
2. Loosen GND terminal of generator set and disconnect ground cable (5) from the generator set.
3. Remove the four screws (1), eight flat washers (7), and four self-locking nuts (6) securing the generator set to the trailer.
4. Insert ropes (10) through each of four lifting rings (8) on the generator set as shown in figure 5-10.
5. With one person at each rope (10) to steady and guide generator set (9), lift generator set.

#### INSTALLATION

#### **WARNING**

When lifting the generator set, use lifting equipment with a minimum lifting capacity of 6000 lb. Do not stand under the generator set while it is being lifted. Do not permit generator set to swing. Failure to observe this warning can result in severe personal injury or death.



**Figure 5-10. Generator Set Removal.**

1. Attach lifting equipment (2) with a minimum lifting capacity of 6000 lb as shown in figure 5-10.
2. Insert rope (10) through four Ming rings (8) on generator set (9).
3. With one person at each rope (10) to steady and guide the generator set (9), lift the generator set.
4. Guide generator set skids into position on the trailer and lower generator set onto trailer.
6. Install four screws (1), eight flat washers (7), and four new self-locking nuts (6) that secure generator set (9).
6. Disconnect lifting equipment (2).
7. Route ground cable (5) through power cable sock on front of generator set (9).
8. Connect ground cable (5) to GND terminal of generator set and tighten nut.

9. Reconnect electrical leads (4) and P1 (3) to generator set when installing generator set on unit A.

---

**5-7 SWITCH BOX ASSEMBLY MAINTENANCE.**

---

This task covers: a. Replacement

b. Test

---

**INITIAL SETUP**

**Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Multimeter, AN/PSM-45 (item 2, appendix B)

**Materials/Parts**

Washers, Lock

**Equipment Conditions**

Reference

Both generator sets shut down, para 2-5.3.1.  
Trailer support devices are  
lowered, paragraph 2-3.2.1.

---

**REPLACEMENT**

Refer to paragraph 4-12 to remove and install switch box assembly.

**TEST**

1. Disassemble switch box assembly for test as follows:

- a. Remove 21 screws (1, figure 5-11), flat washers (3), and lock washers (2) that secure the switch box cover (4) to the switch box assembly.

**CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage.

- b. Carefully position switch box cover (4) in front of switch box.
- c. Disconnect P3 (8) from J4 (11) and set switch box cover (4) out of the way.

2. Remove two lamps for Unit A and two lamps for Unit B from switch box control panel.

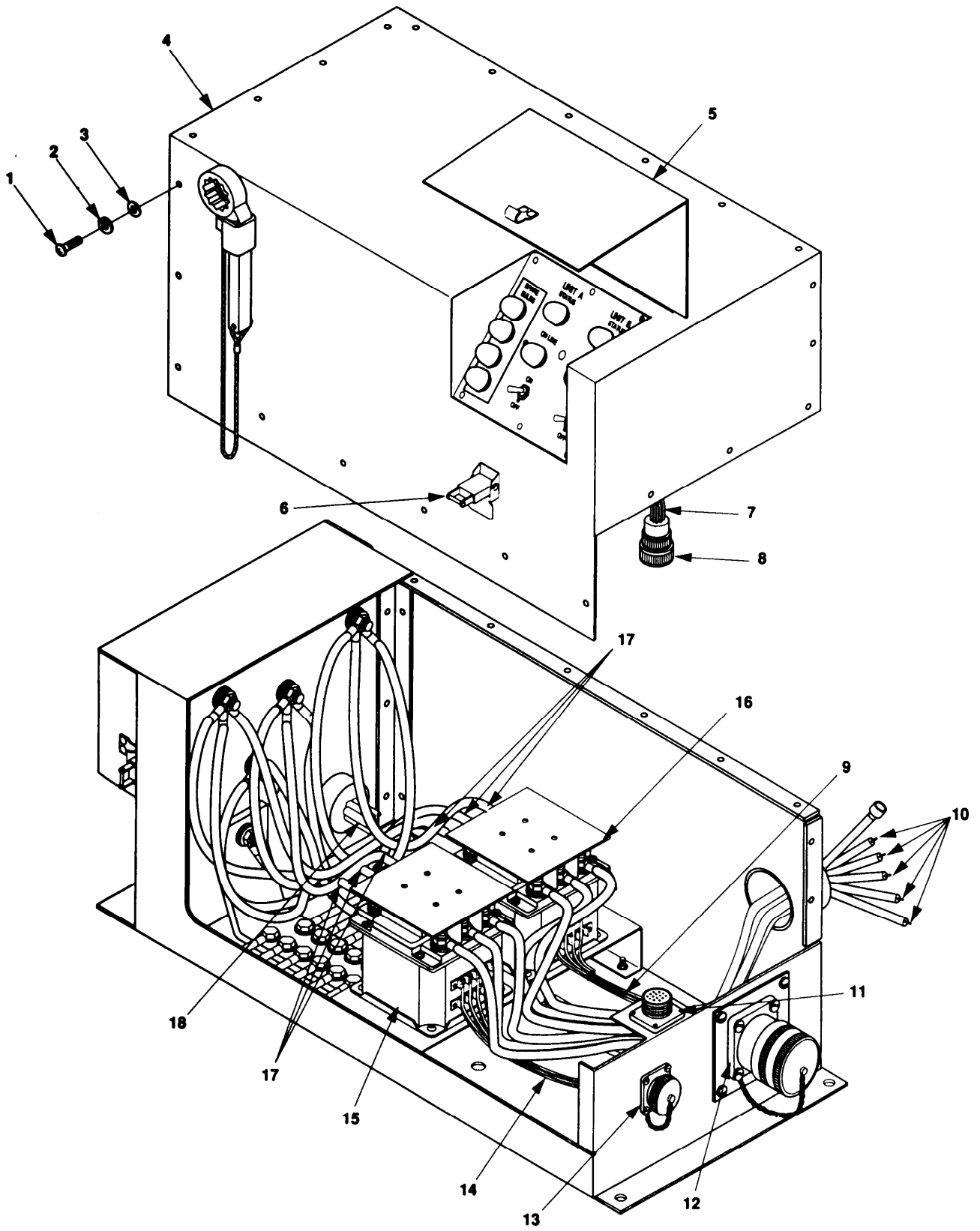


Figure 5-11. Switch Box Assembly Test.

3. Refer to power plant wiring diagram (figure FO-1) for identification of components inside switch box assembly and check:
  - a. Refer to table 5-1 and check continuity of wiring harness W20 (7).

**Table 5-1. Wiring Harness W20.**

Wire Number	From	To
1	XDS1-1	P3-A
2	XDS1-2	P3-B
3	XDS3-2	P3-C
4	S1-3	P3-D
5	S1-5	P3-F
6	S1-6	P3-G
7	S2-6	P3-H
8	S2-5	P3-I
9	S2-3	P3-K
10	XDS4-2	P3-L
11	XDS2-1	P3-M
12	XDS2-2	P3-N
13	S1-3	XDS3-1
14	S2-3	XDS4-1

- b. Remove electrical connector cover, refer to table 5-2 and check continuity of wiring harness W9 (18).

**NOTE**

The bus bar is physically connected to LO of the switch box assembly and is a common ground. Wires connected to bus bar maybe connected to any terminal on the bus bar.

**Table 5-2. Wiring Harness W9.**

Wire Number	From	To
1	J1-A	L1
2	J1-B	L2
3	J1-C	L3
4	J1-N	L0
5	J1-G1	BUS BAR
6	J1-G2	BUS BAR
7	J1-G3	BUS BAR
8	J1-G4	BUS BAR

c. Refer to table 5-3 and check continuity of wiring harness W10 (12).

**Table 5-3. Wiring Harness W10.**

Wire Number	From	To
1	J2-A	K2-A1
2	J2-B	K2-B1
3	J2-C	K2-C1
4	J2-N	L0
5	J2-G1	BUS BAR
6	J2-G2	BUS BAR
7	J2-G3	BUS BAR
8	J2-G4	BUS BAR

d. Refer to table 54 and check continuity of wiring harness W17 (13).

**Table 5-4. Wiring Harness W17.**

Wire Number	From	To
1	J3-A	K2-12
2	J3-B	K2-Y
3	J3-E	BUS BAR



e. Refer to table 5-5 and check continuity of wiring harness W18 (9).

*Table 5-5. Wiring Harness W18.*

Wire Number	From	To
1	P1-A	K1-12
2	P1-B	K1-Y
3	P1-E	BUS BAR

**NOTE**

The cannon electrical plug connector for the W7 wiring harness is small. Ensure that multimeter leads are making good contact with the pins of the electrical plug connector.

f. Refer to table 5-6 and check continuity of wiring harness W7 (14).

*Table 5-6. Wiring Harness W7.*

Wire Number	From	To
1	K1-A1	J4-A
2	Switch Box Assembly L0	J4-B
3	K1-Y	J4-C
4	K1-X	J4-D
5	K1-11	J4-F
6	K1-12	J4-G
7	K2-12	J4-H
8	K2-11	J4-I
9	K2-X	J4-K
10	K2-Y	J4-L
11	K2-A1	J4-M
12	Switch Box Assembly L0	J4-N

g. Refer to table 5-7 and check continuity for each power lead, W-1 through W-5 (10).

**Table 5-7. Input Power Leads.**

Wire Identification	From	To
W-1	K1-A1	Unit A Generator Set L1
W-2	K1-B1	Unit A Generator Set L2
W-3	K1-C1	Unit A Generator Set L3
W-4	Switch Box Assembly L0	Unit A Generator Set L4
W-5	BUS BAR	Unit A Generator Set GND

h. Refer to table 5-8 and check continuity for each electrical lead, W-11 through W-16 (17).

**Table 5-8. Output Power Leads.**

Wire Identification	From	To
W-11	K1-A2	Switch Box Assembly L1
W-12	K1-B2	Switch Box Assembly L2
W-13	K1-C2	Switch Box Assembly L3
W-14	K2-A2	Switch Box Assembly L1
W-15	K2-B2	Switch Box Assembly L2
W-16	K2-C2	Switch Box Assembly L3

4. Test contactor as follows:

a. Using a multimeter, test contactor K1 (16) as follows:

(1) Refer to figure 5-12 and perform following continuity checks. If any multimeter indication is not correct, replace contactor (paragraph 5-12).

Lead Placement

Contactor Terminals

Multimeter Indication

32 and 33	continuity
21 and 22	open circuit
11 and 12	open circuit
A1 and A2	open circuit
B1 and B2	open circuit
C1 and C2	open circuit
A1 and B1	open circuit
B1 and C1	open circuit
C1 and A1	open circuit

(2) Connect power supply VAC line to terminal X of contactor.

- (3) Connect power supply AC Return line to terminal Y of contactor.

**WARNING**

Dangerous voltage exists on live circuits. Always observe precautions and never work alone. Failure to observe this warning can result in severe personal injury or death.

- (4) Apply power to power supply.
- (5) Listen for sound of contactor operation.
- (6) Perform following continuity checks. If any multimeter indication is not correct, replace contactor (paragraph 5-12).

Lead Placement

<u>Contactor Terminals</u>	<u>Multimeter Indication</u>
32 and 33	open circuit
21 and 22	continuity
11 and 12	continuity
A1 and A2	continuity
B1 and B2	continuity
C1 and C2	continuity
A1 and B1	open circuit
B1 and C1	open circuit
C1 and A1	open circuit

- (7) Remove power from power supply and disconnect lines connected in steps a.(2) and a.(3).
  - b. Repeat steps a.(1) through (6) for contactor K2 (15, figure 5-11).
5. Reassemble switch box assembly as follows:
- a. Refer to paragraphs 5-8 through 5-12 and repair or replace any defective parts.
  - b. Position the switch box cover (4, figure 5-11) in front of the switch box assembly.
  - c. Connect P3 (8) to J4 (11).
  - d. Position the switch box cover (4) over the switch box assembly and align the mounting holes.
  - e. Install lock washers (2), flat washers (3), and screws (1), that secure the switch box cover (4).

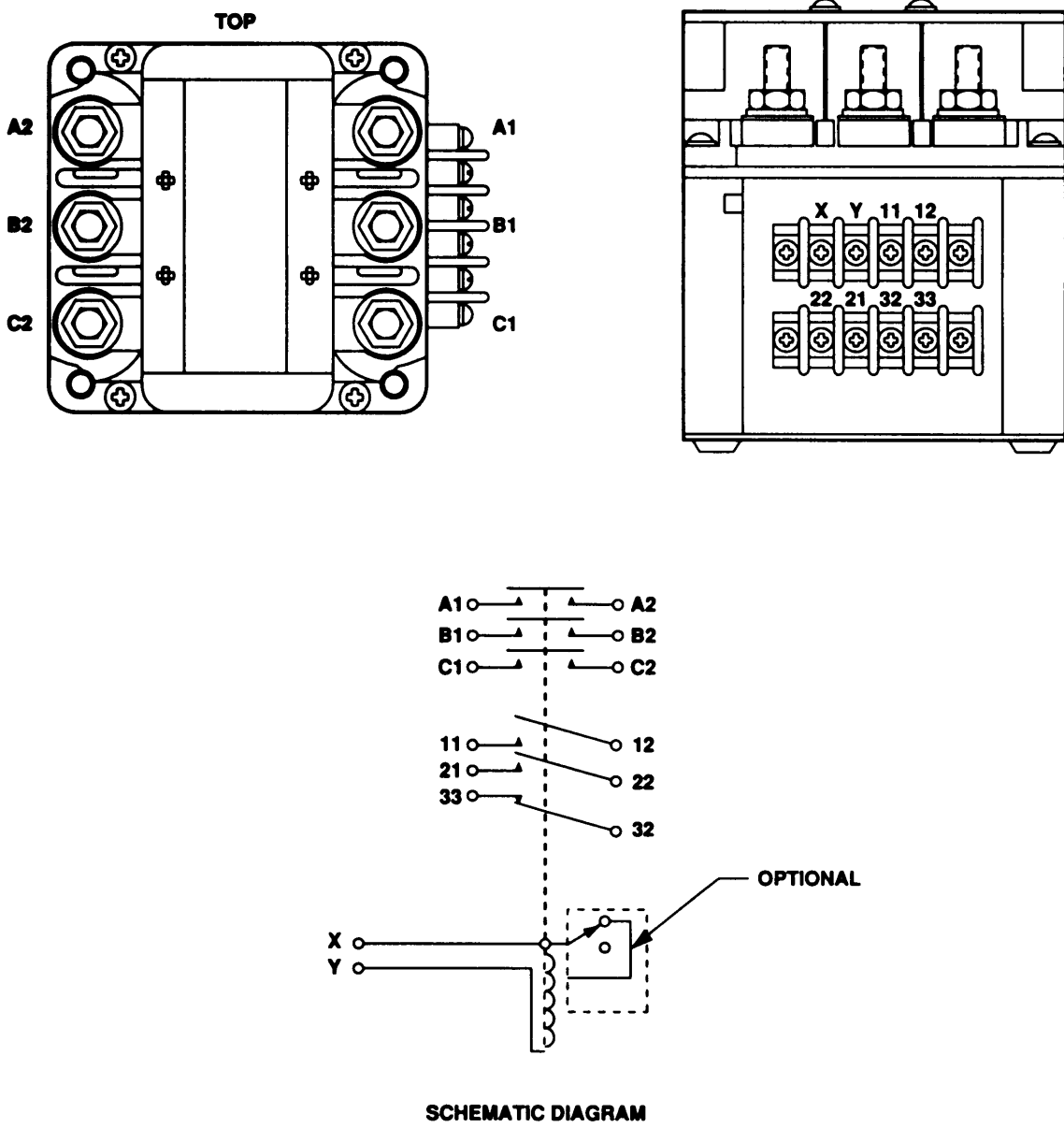


Figure 5-12. Connector Test Points.

---

## 5-8 CONTROL PANEL ASSEMBLY MAINTENANCE.

---

This task covers:	<ul style="list-style-type: none"> <li>a. Removal</li> <li>b. Repair</li> </ul>	<ul style="list-style-type: none"> <li>b. Installation</li> </ul>
-------------------	---------------------------------------------------------------------------------	-------------------------------------------------------------------

---

### INITIAL SETUP

#### Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)

#### Materials/Parts

Washers, Lock

#### Equipment Conditions

Reference

Both generator sets shut down, para 2-5.3.1.  
Trailer support devices are lowered, paragraph 2-3.2.1.

---

### REMOVAL

1. Release clamping catch (6, figure 5-13) and open the control panel access cover (5).
2. Remove 8 screws (9), flat washers (11), and lock washers (10) that secure control panel assembly (12). Discard lock washers.
3. Disconnect P3 (7) from J4 (8).
4. Remove the control panel assembly (12).

### REPAIR

#### **NOTE**

Spare lamps must be tied to ground for electromagnetic interference (EMI) protection.

Refer to appendix G and repair or manufacture wiring harness W-20.

### INSTALLATION

1. Connect P3 (7, figure 5-13) to J4 (8).
2. Position new control panel assembly on mounting plate and align mounting holes.
3. Install new lock washers (10), flat washers (11), and screws (9) that secure control panel assembly (12) to switch box assembly (4).
4. Close the control panel access cover (5) and secure with clamping catch (6).

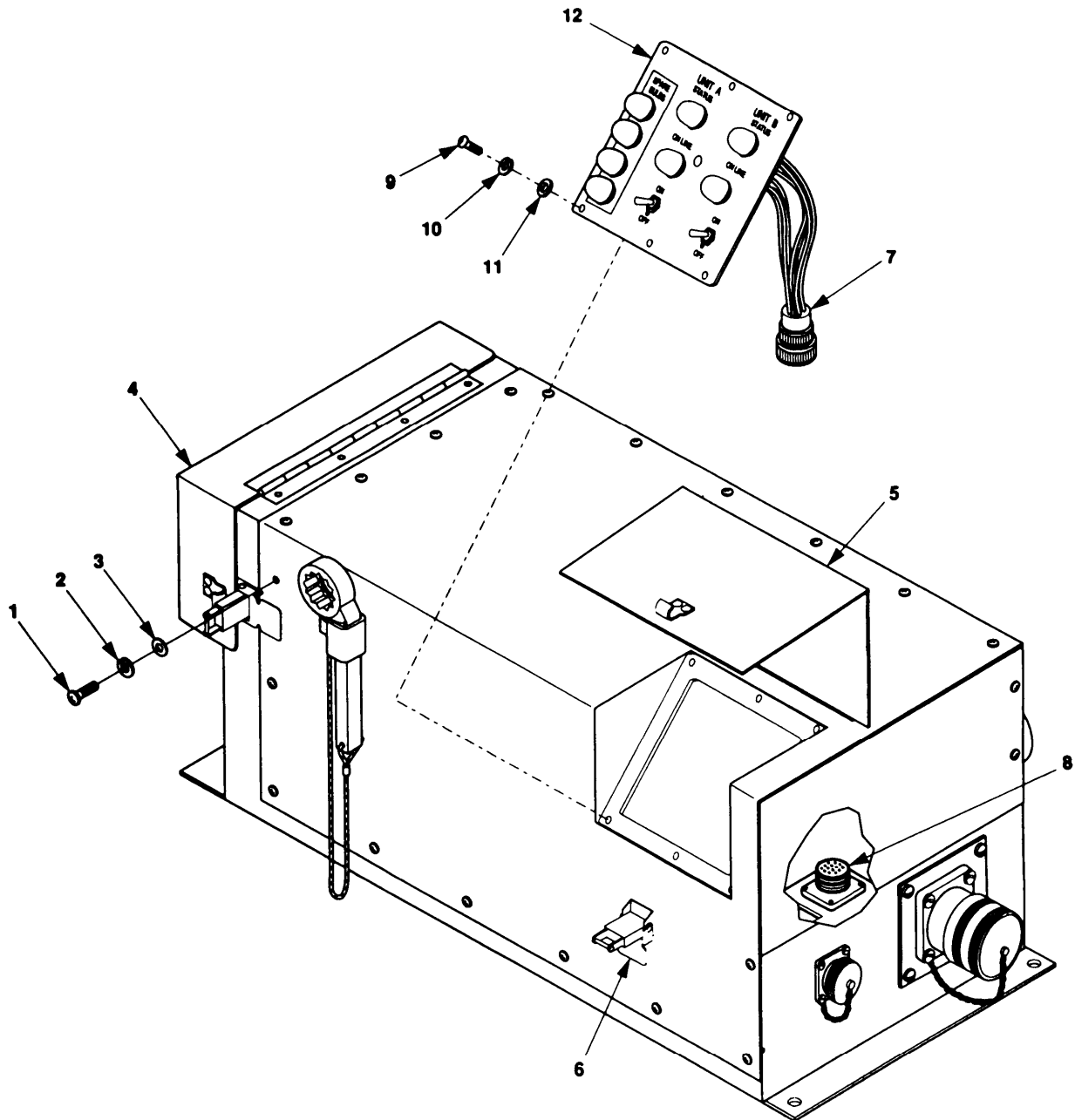


Figure 5-13. Control Panel, wiring Harnesses, and Wiring lead Maintenance.

---

**5-9 WIRING HARNESS MAINTENANCE.**

---

This task covers:       **a.**     Removal                               **c.** Installation  
                                 **b.**     Repair                                               **d.** Inspection

---

**INITIAL SETUP****Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Crimp Tool (item 4)

**Equipment Conditions**

Reference  
Both generator sets shut down, para 2-5.3.1.

**Materials/Parts**

Washers, Lock

---

**REMOVAL**

1. Remove 21 machine screws (1, figure 5-13), lock washers (2), and flat washers (3) that secure the switch box cover (4) to the switch box assembly. Discard lock washers.

**CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage.

2. Carefully position switch box cover (4) in front of switch box assembly.
3. Disconnect P3 (7) from J4 (8) and set switch box cover (4) out of the way.
4. Refer to figure FO-1, then label all leads and plugs at each end of the wiring harness to be replaced.
5. Disconnect all leads and plugs.
6. Remove wiring harness.

**INSPECTION**

Visually inspect wiring harness for damaged or frayed wires, and loose, broken, or corroded connections.

**REPAIR**

Refer to appendix G and repair or manufacture wiring harness.

---

**INSTALLATION**

1. Position the new wiring harness in place.
2. Connect the leads and plugs as indicated on the wiring diagram (FO-1).
3. Connect P3 (7) to J4 (8) and position the switch box cover (4) over the switch box assembly.
4. Install new lock washers (2), flat washer (3), on each machine screw (1), and secure switch box cover (4).

---

**5-10 ELECTRICAL LEADS MAINTENANCE.**

---

This task covers:	a. Removal	c. Repair
	b. Inspection	d. Installation

---

---

**INITIAL SETUP**

Tools

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Crimp Tool (item 4)

Equipment Conditions

Reference  
Both generator sets shut down, para 2-5.3.1.

Materials/Parts

Washers, Lock

---

---

**REMOVAL**

1. Remove 21 machine screws (1, figure 5-13), flat washers (3), and lock washers (2) that secure the switch box cover (4) to the switch box assembly. Discard lock washers.

**CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage.

2. Carefully slide switch box cover (4) off switch box and set in front of switch box assembly.
3. Disconnect P3 (8) from J4 (8) and set switch box cover (4) out of the way.
4. Refer to FO-1, then label each end of lead to be replaced.
5. Disconnect and remove lead.



**INSPECTION**

Visually inspect lead for loose, broken, or corroded connections.

**REPAIR**

Refer to appendix G and repair or manufacture lead.

**INSTALLATION**

1. Position new lead in place.
2. Connect lead as indicated on wiring diagram (FO-1).
3. Connect P3 (7) to J4 (8) and position the switch box cover (4) over the switch box assembly.
4. Install new lock washers (2), flat washers (3), and screws (1) that secure switch box cover (4).

---

**5-11 BUS BAR MAINTENANCE.**

---

This task covers:	<b>a.</b>	Inspection	<b>c.</b>	Repair
	<b>b.</b>	Removal	<b>d.</b>	Installation

---

**INITIAL SETUP**

**Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)  
Helicoil Insertion Tool  
(item 8, appendix B)

**Equipment Conditions**

Reference  
Both generator sets shut down, para 2-5.3.1.

**Materials/Parts**

Washers, Lock  
Insert, Screw Threaded

---

**INSPECTION**

Visually inspect for corrosion, damage, or for loose or missing hardware.

**REMOVAL**

1. Remove 21 machine screws (1, figure 6-13), flat washers (3), and lock washers (2) that secure the switch box cover (4) to the switch box assembly.

**CAUTION**

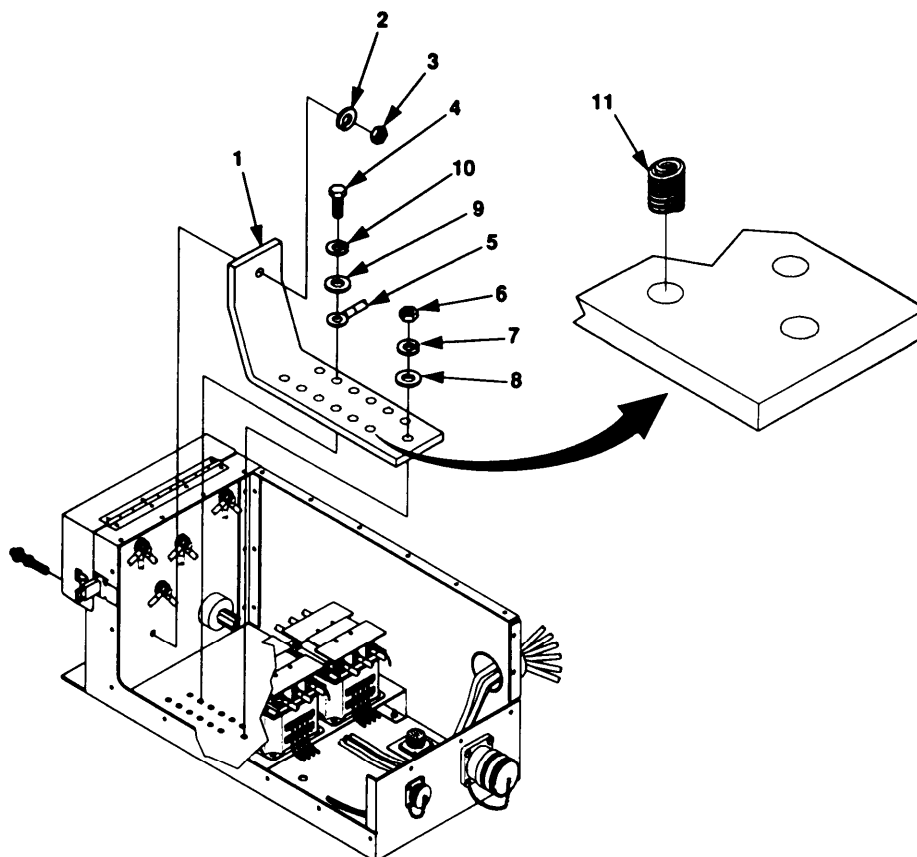
The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage. .

2. Carefully position switch box cover (4) in front of switch box.
3. Disconnect P3 (7) from J4 (8) and set switch box cover (4) out of the way.
4. Remove switch box cover (4).

**NOTE**

The bus bar is physically connected to L0 of the switch box assembly and is a common ground. Leads connected to bus bar may be connected to any terminal on the bus bar.

5. Remove cap screws (4, figure 5-14), lock washers (10), flat washers (9), and electrical leads (5) from bus bar (1).
6. Remove nut (3) and lock washer (2).
7. Remove nut (6), lock washer (7), flat washer (8), and bus bar (1).



**Figure 5-14. Bus Bar Maintenance**

**REPAIR**

1. Disconnect and label electrical leads (5) connected to bus bar.
2. Remove defective insert (11).
3. Using insertion tool, rotate handle CCW until you can install insert (11) into barrel with tang toward hole.
4. Turn handle CW until one thread of insert protrudes from hole.
5. Position over bus bar and turn handle CW until insert is installed.
6. Turn handle CCW to remove insertion tool.
7. Install small punch into hole until it contacts tang. Break off and remove tang.

**INSTALLATION**

1. Position bus bar (1, figure 5-14) in place.
2. Install flat washers (8), new lock washers (7), and nut (6).
3. Install lock washers (2) and nut (3).
4. Install leads (5), flat washers (9), lock washers (10), and cap screws (4).
5. Connect P3 (7) to J4 (8, figure 5-13) and position the switch box cover (4) over the switch box assembly.
6. Install flat washers (3), lock washers (2), and screws (1) that secure the switch box cover (4).

---

**5-12 CONTACTOR MAINTENANCE.**

---

This task covers: a. Removal

b. Installation

---

**INITIAL SETUP**

**Tools**

Tool Kit, General Mechanic's  
(item 1, appendix B)

**Materials/Parts**

Washers, Lock  
Contactor

---

**Equipment Conditions**

Reference

Both generator sets shut down, para 2-5.3.1.

## REMOVAL

1. Remove 21 screws (1, figure 5-15), lock washers (2), and flat washers (3) that secure the switch box cover (4) to the switch box assembly. Discard lock washers.

### **CAUTION**

The control panel connector P3 is connected to connector J4. Movement of the switch box cover is limited. To prevent damage to control panel wiring harness, use caution removing switch box cover. Failure to observe this caution can result in equipment damage.

2. Carefully position switch box cover (4) in front of the switch box assembly.
3. Disconnect P3 (5) from J4 (6) and set switch box cover (4) out of the way.
4. Remove and retain the switch box cover (4).
5. Remove four screws (7) and one terminal shield (8) from the contactor (9).
6. Remove six nuts (10) and washers (11). Tag and remove six leads from contactor (9).
7. Remove eight terminal screws (12) and washers (13). Tag and remove wiring harnesses from contactor (9).
8. Remove four nuts (14), screws (15), flat washers (16), and contactor (9).

## INSTALLATION

1. Position new contactor (9) over mounting holes in bracket (17).
2. Install a flat washer (16) on each screw (15).
3. Install four screws (15), flat washers (16), and nuts (14) to secure contactor (9).
4. Remove four screws (7) and terminal shield (8) from the new contactor (9).
5. Connect the wiring harness and six electrical leads and install washers (13 and 11), screws (12), and nuts (10).
6. Install terminal shield (8) on new contactor (9) and secure with screws (7).
7. Connect P3 (5) to J4 (6) and position switch box cover (4) over the switch box assembly.
8. Install flat washers (3), lock washers (2), and screws (1) that secure switch box cover (4).

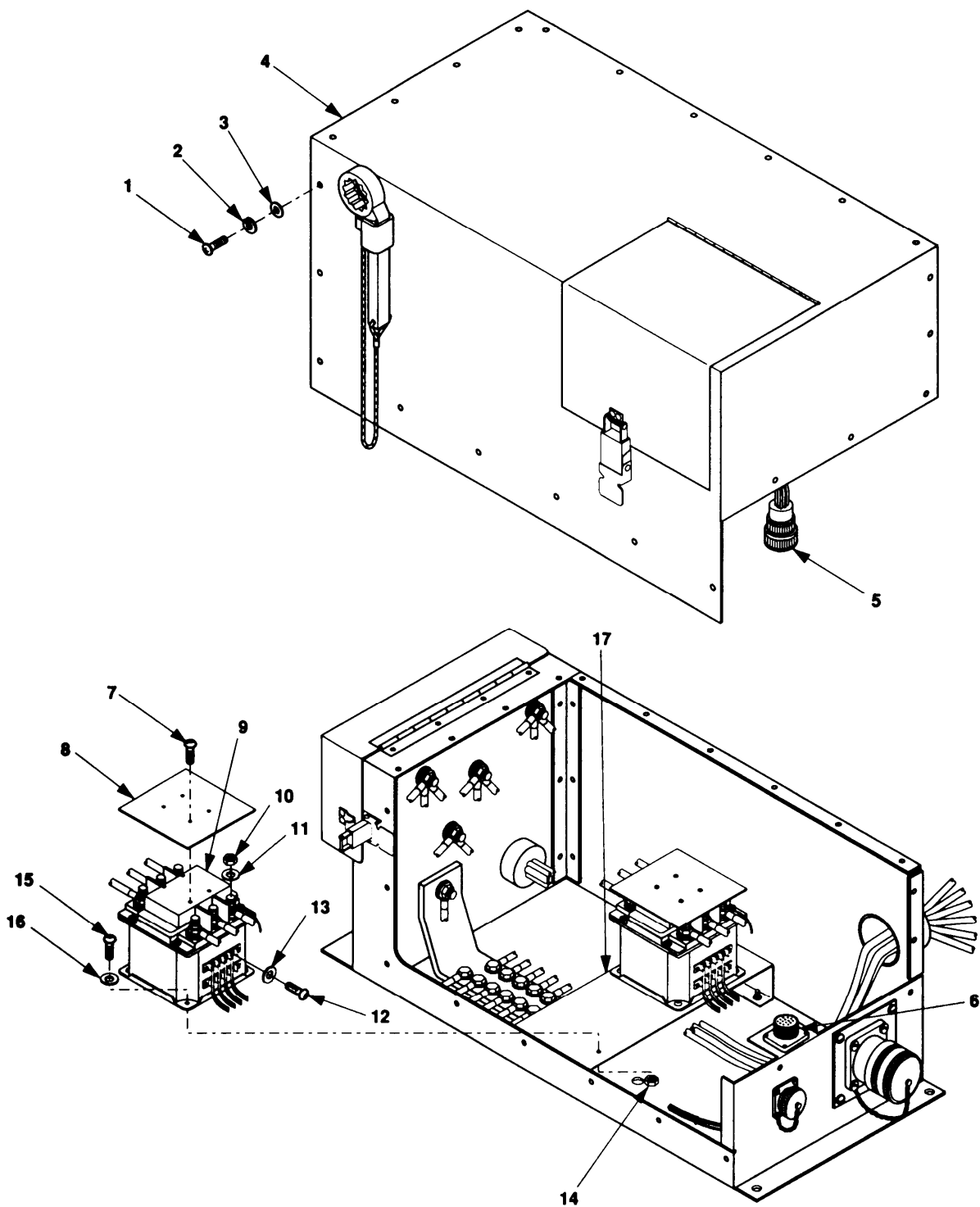


Figure 5-15. Contactor Maintenance.



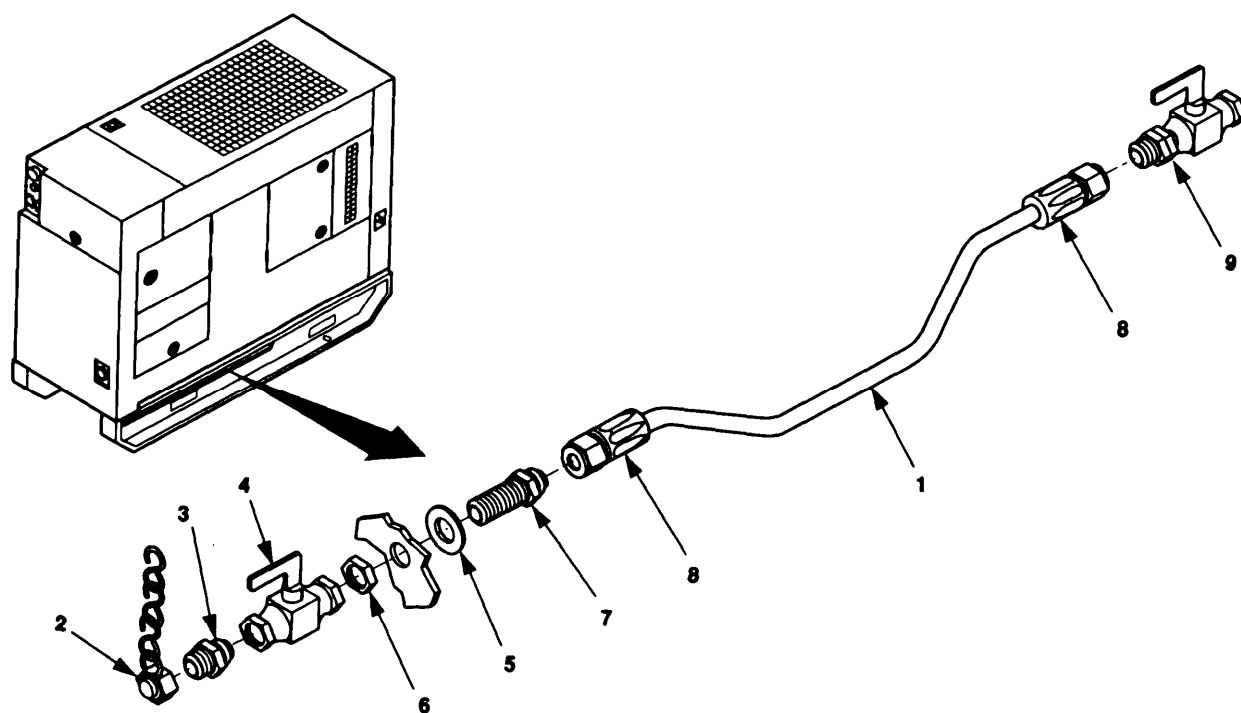


Figure 5-16. Fuel Drain Assembly Replacement.

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**5-14 TRAILER MODIFICATIONS REPAIR.**

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Repair of the rear steps, fender, front steps and front platform is limited to bending, straightening, and welding. Refer to TM 9-237 for repair procedures.

---





## APPENDIX A

### REFERENCES

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**A-1. SCOPE.**

This appendix lists all forms, regulations, pamphlets, specifications, standards, technical manuals, lubrication orders, and field manuals referenced in this manual.

**A-2. FORMS.**

- Recommended Changes to publications and Blank Forms . . . . . DA Form 2028
- Recommended Changes to Equipment Technical Publications . . . . . DA Form 2028-2
- Depreservation Guide for Vehicles and Equipment . . . . . DA Form 2258
- Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
- Packaging Improvement Report . . . . . DD Form 6
- Product Quality Deficiency Report . . . . . SF 368

**A-3. ARMY REGULATIONS.**

- Dictionary of United States Army . . . . . AR310-25

**A-4. DEPARTMENT OF THE ARMY PAMPHLETS.**

- The Army Maintenance Management System (TAMMS) . . . . . DA PAM 738-750

**A-5 MILITARY SPECIFICATIONS.**

- Preservation, Methods of . . . . . MIL-P-116
- Barrier Materials, Transparent, Flexible, Heat Sealable . . . . . MIL-B-22191
- Generator Sets, Mobile Electric Power; Packaging of . . . . . MIL-G-28554

**A-6. FEDERAL SPECIFICATIONS.**

- Plywood, Flat Panel . . . . . NN-P-530
- Paperboard, Wrapping and Cushioning . . . . . PPP-P-291
- Boxes, Wood, Cleated Plywood . . . . . PPP-B-601
- Tape, Packaging, Paper (for Carton Sealing) . . . . . PPP-T-76

Strapping, Steel, and Seals . . . . . QQ-S-781

**A-7. MILITARY STANDARDS.**

Abbreviations for Use on Drawings, and in Specifications, Standards and  
Technical Documents . . . . . MIL-STD-12

Marking for Shipment and Storage . . . . . MIL-STD-129

Standard Requirements for Soldered Electrical  
and Electronic Assemblies. . . . . MIL-STD-2000

**A-8. TECHNICAL MANUALS.**

Operator's, Organizational, Direct Support and General Support  
Maintenance Manual (Including Repair Parts and Special Tools  
List), Chassis, Trailer: Generator, 2 1/2 Ton, 2-Wheel,  
M200A1 (NSN 2330-00-331-2307) . . . . . TM9-2330-205-14&P

Organizational, Direct Support, and General Support Maintenance. Care,  
Maintenance and Repair of Pneumatic Tires and Inner Tubes . . . . . TM 9-2610-200-24

Unit, Direct Support and General Support Maintenance Instructions,  
Diesel Engine Model No.: 6359T 6 Cylinder 5.8 Liter . . . . . TM 9-2815-256-24

Operator's Manual, Generator Set, Skid Mounted, Tactical,  
Quiet 60 kW, 50/60 and 400 Hz  
MEP-806A (50/60 Hz) 6115-01-274-7389  
MEP-816A (400 Hz) 6115-01-274-7394 . . . . . TM 9-6115-645-10

Unit, Direct Support and General Support Maintenance Manual, Generator Set,  
Skid Mounted, Tactical, Quiet, 60 kW, 50/60 and 400 Hz  
MEP-806 (50/60 Hz) 6115-01-274-7389  
MEP-816 (400 Hz) 6115-01-274-7394 . . . . . TM 9-6115-645-24

Repair Parts and Special Tools List: Generator Set, Tactical Quiet,  
60 kW 50/60 and 400 Hz . . . . . TM 9-6115-645-24P

Procedures for Destruction of Equipment to Prevent Enemy Use  
(Mobility Equipment Command) . . . . . TM 750-244-3

Operator Welding Theory and Application . . . . . TM 9-237

Repair Parts and Special Tools List: Diesel Engine  
Model No.: 6359T 6 Cylinder 5.8 Liter . . . . . TM 9-2815-256-24P

**A-9. LUBRICATION ORDERS.**

Lubrication Order: Generator Set, Skid Mounted, Tactical,  
Quiet 60 kW, 50/60 and 400 Hz  
MEP-806 (50/60 Hz) 6115-01-274-7389  
MEP-816 (400 Hz) 6115-01-274-7394 . . . . . LO 9-6115-645-12

**A-10. FIELD MANUALS.**

Electrical Power Generation the Field . . . . . FM 20-31

**A-12. TECHNICAL BULLETINS.**

Tactical Wheeled Vehicles: Repair of Frames . . . . . TB 9-2330-247-40



## APPENDIX B

MAINTENANCE ALLOCATION CHART

---

## Section I. INTRODUCTION

**B-1 General.**

**B-1.1** This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

**B-1.2** The Maintenance Allocation Chart (MAC) in section II 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 will be consistent with the capacities and capabilities of the designated maintenance levels.

**B-1.8** Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

**B-1.4** Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

**B-2 MAINTENANCE FUNCTIONS.**

Maintenance functions will be limited to and defined as follows:

**B-2.1 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).

**B-2.2 Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

**B-2.3 Service.** Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

**B-2.4 Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

**B-2.5 Aline.** To adjust specified variable elements of an item to bring about optimum or desired performance.

**B-2.6 Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments 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.

**B-2.7 Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of placing, 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.

**B-2.8. Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the 3d position code of the SMR code.

**B-2.9. Repair.** The application of maintenance services<sup>1</sup>, including fault location/troubleshooting<sup>2</sup>, removal/installation, and disassembly/assembly<sup>3</sup> procedures, and maintenance actions<sup>4</sup> 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.

**B-2.10 Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publication (i.e., DMWR). Overhaul does not normally return an item to like new condition.

**B-2.11. Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurement (hour/miles, etc.) considered in classifying Army equipment/components.

### **B-3. EXPLANATION of COLUMNS In the MAC, SECTION II**

**B-3.1. Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

**B-3.2. Column 2, Component/Assembly.** Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

**B-3.3. Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph B-2.)

**B-3.4. Column 4, Maintenance Level.** Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This 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 vary at different maintenance categories, appropriate work time figures will be shown for each category. 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/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance categories are as follows:

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<sup>1</sup>Services - inspect, test, service, adjust, align, calibrate, and/or replace.

<sup>2</sup>Fault locate/troubleshoot - 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).

<sup>3</sup>Disassemble/assemble - encompasses the step-by-step taking apart (or breakdown) of a spare/function group coded item to the level of its least component identified as maintenance significant (i.e., assigned an SMR code) for the level of maintenance under consideration.

<sup>4</sup>Actions - welding, grinding, riveting, straightening, facing remachining, and/or resurfacing.

- C ..... Operator or crew
- O ..... Unit Maintenance
- F ..... Direct Support Maintenance
- H ..... General Support Maintenance
- L ..... Specialized Repair Activity (SRA)<sup>5</sup>
- D ..... Depot maintenance

**B-3.5 Column 5, Tools and Equipment.** Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

**B-3.6 Column 6, Remarks.** This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

**B-4 EXPLANATION of COLUMNS In TOOL and TEST EQUIPMENT REQUIREMENTS, SECTION III.**

**B-4.1 Column 1, Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

**B-4.2 Column 2, Maintenance Category.** The lowest category of maintenance authorized to use the tool or test equipment.

**B-4.3 Column 3, Nomenclature.** Name or identification of the tool or test equipment.

**B-4.4 Column 4, National Stock Number.** The National stock number of the tool or test equipment.

**B-4.5 Column 5, Tool Number.** The manufacturer's part number.

**B-5 EXPLANATION of COLUMNS In REMARKS, SECTION IV**

**B-5.1 Column 1, Reference Code.** The code recorded in Column 6, Section II.

**B-5.2 Column 2, Remarks.** This column lists information pertinent to the maintenance fiction being performed as indicated in the MAC, Section II.

---

<sup>5</sup> *This maintenance level is not included in Section II, column (4) of the Maintenance Allocation Chart. To identify functions to this category of maintenance, enter a work time figure in the "H" column of Section II, column (4), and use an associated reference code in the Remarks column (6). Key the code to Section IV., Remarks, and explain the SRA complete repair application there. The explanatory remark(s) shall reference the specific Repair Parts and Special Teds List (RPSTL) TM which contains additional SRA criteria and the authorized spare/repair parts.*

**Section II. MAINTENANCE ALLOCATION CHART  
FOR  
POWER UNITS PU-805, PU-806, AND POWER PLANT AN/MJQ-41**

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level					(5) Tools and Equipment	(6) Remarks
			Unit		Direct Support	General Support	Depot		
			C	O	F	H	D		
00	POWER PLANT/POWER UNIT	INSPECT INSPECT	0.4 0.2						A,J B,C,D,J
0100	GENERATOR SET	INSPECT TEST SERVICE ADJUST REPAIR REMOVE/INSTALL REPLACE	0.2 0.3 0.3 1.5 1.5 1.5	0.5 1.0 0.3 1.5	1.0 1.5 1.5			1.3 1.3	J F,G E,F,G F,G E,F,G E,F,H
0200	ELECTRICAL SYSTEM								A
0201	CABLE ASSEMBLY	INSPECT TEST REMOVE/INSTALL REPAIR REPLACE	0.1 0.3 0.3 0.3	0.1 0.3 0.6				1.2 1.3,4	J K I
0202	SWITCH BOX ASSEMBLY	INSPECT REMOVE/INSTALL REPAIR REPLACE	0.1 0.5 0.3	0.1 0.3	1.0 0.5			1 1.5 1	J I I
020201	CONTROL PANEL ASSEMBLY	INSPECT REMOVE/INSTALL REPLACE	0.1 0.1	0.1	1.0 1.0			1 1 1	J I I
02020101	HARNES ASSEMBLY	INSPECT TEST REMOVE/INSTALL REPAIR REPLACE			0.1 0.2 0.4 0.9 0.4			1.3 1 1.3 1	K I
02020102	SWITCH	REMOVE/INSTALL TEST REPLACE		0.2 0.2 0.2				1 1.2 1	I
02020103	LIGHT, INDICATOR	REMOVE/INSTALL TEST REPLACE		0.2 0.2 0.2				1.2 1.2 1.2	I
020202	TERMINALS LOAD	INSPECT REMOVE/INSTALL REPAIR REPLACE	0.1 0.5 0.2 0.5					1 1 1	J I I
020203	LEADS/HARNESSES	INSPECT TEST REMOVE/INSTALL REPAIR REPLACE			0.1 0.2 0.4 0.8 0.4			1.3 1 1.3,4 1	K I



**MAINTENANCE ALLOCATION CHART  
FOR  
POWER UNITS PU-805, PU-806, AND POWER PLANT AN/MJQ-41  
(continued)**

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level				(5) Tools and Equipment	(6) Remarks	
			Unit		Direct Support	General Support			Depot
			C	O	F	H			D
020204	BUS BAR GROUNDING	INSPECT			0.1				
		REMOVE/INSTALL			0.5			1	
		REPAIR			0.8			1.7	
		REPLACE			0.5			1	I
020205	CONTACTOR	REMOVE/INSTALL			0.5			1	
		TEST			0.2			1.3	
		REPLACE			0.5			1	I
0300	ACCESSORIES	INSPECT	0.1						J
0301	FIRE EXTINGUISHER	INSPECT	0.1	0.1					J
0302	FUEL DRAIN ASSEMBLY	INSPECT	0.1						J
		REMOVE/INSTALL		0.3				1	I
					0.3			1	
		REPAIR		0.3				1	K
					0.3			1	
		REPLACE		0.3				1	I
					0.3			1	
0400	TRAILER ASSEMBLY	INSPECT	0.2	0.2					H,J,K
0401	STEPS	INSPECT	0.1	0.1					A,B,C,J
		REMOVE/INSTALL		0.5				1	
		REPAIR			1.0			1.6	
		REPLACE		0.5				1	I
0402	ACCESSORY BOX	INSPECT	0.1						J
		REMOVE/INSTALL		0.2				1	
		REPAIR		0.5				1.5,6	
		REPLACE		0.2				1	I
0403	FENDERS	INSPECT	0.1						J
		REMOVE/INSTALL		1.0				1	
		REPAIR			1.0			1.6	
		REPLACE		1.0				1	I

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS  
 FOR  
 POWER UNITS PU-805, PU-806, AND POWER PLANT AN/MJQ-41

(1) TOOL OR TEST EQUIPMENT REF CODE	(2) MAINTENANCE LEVEL	(3) NOMENCLATURE	(4) NATIONAL/NATO STOCK NUMBER	(5) TOOL NUMBER
1	O,F	TOOL KIT, GENERAL MECHANIC'S	5180-00-177-7033	SC 5180-90-CL-N26
2	O	SHOP EQUIPMENT, AUTOMOTIVE MAINTENANCE AND REPAIR: ORGANIZATIONAL MAINTENANCE COMMON #1, LESS POWER	4910-00-754-0654	SC 4910-95-CL-A74
3	F	SHOP EQUIPMENT, ELECTRICAL REPAIR, SEMITRAILER MOUNTED:	4940-00-294-9517	SC 4940-95-CL-B05
4	F	CRIMPING TOOP, HYDRAULIC, WIRE SIZE 8 THRU 4/0	5130-00-762-9100	
5	O	RIVETER, BLIND HEAD	5120-00-148-5847	
6	F	TOOL KIT, BODY AND FENDER REPAIR	5180-00-357-7731	SC 5180-90-CL-N62
7	F	SHOP EQUIPMENT, WELDING, FIELD	3470-00-357-7268	SC 3470-95-CL-A08
8	F	HELICOIL INSERTION TOOL	5180-00-935-0736	

**Section IV. REMARKS**

(1) REFERENCE CODE	(2) REMARKS
A	AN/MJQ-41 UNIT A ONLY.
B	AN/MJQ-41 UNIT B ONLY.
C	PU-805 AND PU-806 ONLY.
D	REFER TO TM 9 6115-645-10 FOR GENERATOR SET OPERATOR MAINTENANCE.
E	REFER TO TM 9 6115-645-24 FOR GENERATOR SET UNIT AND HIGHER LEVEL MAINTENANCE.
F	REFER TO TM 9-2815-256-24 FOR ENGINE MAINTENANCE.
G	REFER TO TM 9-2330-205-14&P FOR TRAILER MAINTENANCE.
H	REMOVAL AND INSTALLATION ARE THE SAME AS REPLACEMENT.
I	REPLACE IS THE SAME AS REMOVAL AND INSTALLATION.
J	PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS).
K	REFER TO APPENDIX G FOR REPAIR.



## APPENDIX C

### COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS

---

#### Section I. INTRODUCTION

##### C-1 SCOPE.

This appendix lists components of the end items and basic issue items for the power unit and power plant to help you inventory the items for safe and efficient operation of the equipment.

##### C-2 GENERAL.

The Components of End Item and Basic Issue Items (BII) Lists are divided into the following sections:

**C-2.1 Section II, Components of End Item.** This listing is for information purposes only, and is not authority to requisition replacements. There are no components of end item for the power units and power plant.

**C-2.2 Section III, Basic Issue Items.** These essential items are required to place the (enter name of end item) in operation, operate it, and to do emergency repairs. Although shipped separately packaged, BII must be with the power units and power plant 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 TOE/MTOE. Illustrations are furnished to help you find and identify the items.

##### C-3 EXPLANATION OF COLUMNS.

**C-3.1 Column (1), Illus Number.** Column (1), Illus Number, gives you the number of the item illustrated.

**C-3.2 Column (2), National Stock Number.** Column (2), National Stock Number, identifies the stock number of the item to be used for requisitioning purposes.

**C-3.3 Column (3), Description and Usable On Code.** 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 CAGEC (Commercial and Government Entity Code) (in parenthesis) and the part number. If the item you need is not the same for different models of the equipment, a Usable On Code will appear on the right side of the description column on the same line as the part number. These codes are identified below:

CODE	USED ON
ETB	AN/MJQ-41
EWA	PU-805
<b>EWB</b>	PU-806

**C-3.4 Column (4), U/I (unit of issue).** Column (4), U/I (unit of issue), indicates how the item is issued for the National Stock Number shown in column two.

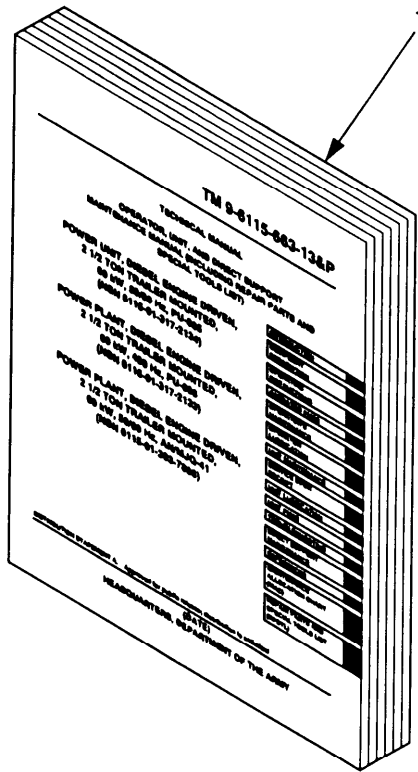
**C-3.5 Column (5), Qty Read** Column (5), Qty Reqd, indicates the quantity required.

SECTION II. COMPONENTS OF END ITEM

(1)	(2)	(3)	(4)	(5)
ILLUS NUMBER	NATIONAL STOCK NUMBER	DESCRIPTION CAGEC AND PART NUMBER	USABLE ON CODE	U/I QTY REQD

THIS SECTION IS NOT APPLICABLE TO THE POWER PLANT AND  
POWER UNITS

SECTION III. BASIC ISSUE ITEMS



(1) Illus Number	(2) National stock Number	(3) Description CAGEC and Part Number	(4) Usable On Code U/I	(5) Qty Reqd
1		Manual, Technical TM 9-6115-663-13&P	EA	1





## APPENDIX D ADDITIONAL AUTHORIZATION LIST

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### Section I. INTRODUCTION

#### D-1. SCOPE

This appendix lists additional items you are authorized for the support of the power units and power plant.

#### D-2. GENERAL

This list identifies items that do not have to accompany the equipment and that do not have to be turned in with it. These items are all authorized to you by CTA, MTOE, TDA or JTA.

#### D-3. EXPLANATION OF LISTING

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name. If the item you require differs between serial numbers of the same model, effective serial numbers are shown in the last line of the description. If item required differs for different models of this equipment, the model is shown under the "Usable on" heading in the description column. These codes are identified as:

Code	Used On
ETB	AN/MJQ-41
EWA	PU-805
<b>EWB</b>	PU-806

(1)	(2)	(3)	(4)
NATIONAL STOCK NUMBER	DESCRIPTION CAGEC AND PART NUMBER	USABLE ON CODE U/I	QTY RECM
5120-00-494-1911	WRENCH, PLIER, CURVED JAW (81348) GGG-W-00649, TYPE 1, CLASS 2, STYLE B	EA	2
7240-00-222-3088	CAN, GASOLINE, MILITARY (80372) 42-D-1280	EA	1
7240-00-177-6154	SPOUT, CAN, FLEXIBLE (81349) MIL-S-1285	EA	1

## APPENDIX E EXPENDABLE AND DURABLE ITEMS LIST

---

### Section I. INTRODUCTION

#### E-1 SCOPE.

This appendix lists expendable and durable items that you will need to operate and maintain the Power Units (PU-805 and PU-806) and AN/MJQ-41 Power Plant. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-790, Expendable/Durable Items (except medical, class V repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

#### E-2 EXPLANATION OF COLUMNS

**E-2.1 Column 1, Item number.** This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the item (e.g. "Use drycleaning solvent P-D-680, Item 1, Appendix E").

**E-2.2 Column 2, Level.** This column identifies the lowest level of maintenance that requires the item.

**E-2.3 Column 3, National stock number.** This is the national stock number assigned to the item which you can use to requisition it.

**E-2.4 Column 4, Item name, description, Commercial and Government Entity Code (CAGEC),** and part number. This provides the other information you need to identify the item.

**E-2.5 Column 5, Unit of Measure.** This code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

SECTION II. EXPENDABLE SUPPLIES AND MATERIALS LIST				
(1)		(3)	(4)	(5)
ITEM NUMBER	LEVEL	NATIONAL STOCK NUMBER	ITEM NAME, DESCRIPTION CAGEC, PART NUMBER	U/M
1	O	6850-01-331-3349	SOLVENT, DRYCLEANING AND DEGREASING, P-D-680, TYPE III (81349) (5 GALLON)	GL
2	O	6850-01-331-3350	SOLVENT, DRYCLEANING AND DEGREASING, P-D-680, TYPE III (81349) (55 GALLON)	GL
3	O	9150-00-190-0904	GREASE, AUTOMOTIVE/ARTILLERY GAA MIL-G-10924 (81349)	LB
4	O	9150-00-189-6727	OIL, LUBRICATION OE/HDO-10 MIL-D-2104 (81349)	QT
5	O,F	8040-00-664-4318	ADHENSIVE 9995460 (18876)	PT
6	O		SOLDER SN60PB40 (81348)	SL

## APPENDIX F

### UNIT AND DIRECT SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

---

#### Section I. INTRODUCTION

##### F-1 SCOPE.

This RPSTL lists and authorizes spares and repair parts; special tools, special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of operator, unit, and direct support maintenance of the Power Unit PU-805, PU-806, and Power Plant AN/MJQ-41. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

##### F-2 GENERAL.

In addition to Section I, Introduction, the Repair Parts and Special Tools List is divided into the following sections:

**F-2.1 Section II - Repair Parts List.** A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes 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.

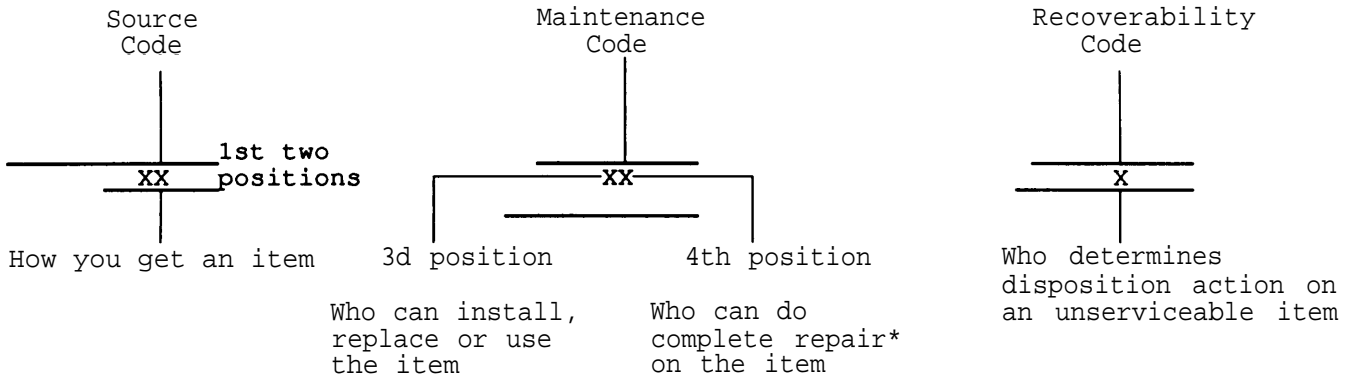
**F-2.2 Section III - Special Tools List.** A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE (UOC) column) for the performance of maintenance. There is no Section III with this appendix.

**F-2.3 Section IV.** - Cross-reference Indexes. A list, in National item identification number (NIIN) sequence, of all National stock numbered items appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listing. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance. The figure and item number index lists figure and item number in alphanumeric sequence and cross-references NSN, CAGEC and part number.

##### F-3 EXPLANATION OF COLUMNS (SECTIONS II and III).

**F-3.1 ITEM NO. (Column (1)).** Indicates the number used to identify items called out in the illustration.

**F-3.2 SMR CODE (Column (2)).** The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:



\*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.

**F-3.2.1 Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

Code	Explanation
PA	Stocked items; use the applicable NSN to request/requisition items with these codes. They are authorized to the maintenance level indicated by the code entered in the 3d position of the SMR code.
PB	
PC**	
PD	
PE	
PF	
PG	
	**NOTE: Items coded PC are subject to deterioration.
KD	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
KF	
KB	
MO-	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE Bulk Material group of the repair parts list in the (UOC) column and listed in the Bulk Material group of the repair parts list in this manual. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
(Made at Unit/ AVUM Level)	
MF-	
(Made at DS/ AVUM Level)	
MH-	
(Made at GS Level)	
ML-	
(Made at Specialized Repair Act (SRA))	
MD-	
(Made at Depot)	

Code	Explanation
A0-	(Assembled by Unit AVUM Level)
AF-	(Assembled by DS AVUM Level)
AH-	(Assembled by GS Level)
<b>AL-</b>	(Assembled by SRA)
AD-	(Assembled by Depot)

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 3d position code 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 - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also, refer to the NOTE below.)
- XB - If an "XB" item is not available from salvage, order it using the CAGEC and part number given.
- XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
- XD - Item is not stocked Order an "XD"-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

**NOTE:**

Cannibalization or controlled exchange, when authorized, maybe used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

**F-3.2.2 Maintenance Code.** Maintenance codes tells 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:

**F-3.2.2.1 Maintenance Code 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 one of the following levels of maintenance.

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

**F-3.2.2.2 Maintenance Code Fourth Position.** The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., 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.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	-Unit is the lowest level that can do complete repair of the item.
F	-Direct support or aviation intermediate is the lowest level that can do complete repair of the item.
H	-General support is the lowest level that can do complete repair of the item.
L	-Specialized repair activity (designate the 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.
Z	-Nonreparable. No repair is authorized.
B	-No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

**F-3.2.3 Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability Codes	Application/Explanation
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code.
O	-Reparable item. When uneconomically repairable, condemn and dispose of the item at unit or aviation unit level.
F	-Reparable item. When uneconomically repairable condemn and dispose of the item at the direct support or aviation intermediate level.
H	-Reparable item. When uneconomically repairable, condemn and dispose of the item at the general support level.
D	-Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item 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 (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manual/directives for specific instructions.

**F-3.2.4 CAGEC (Column (3)).** The Commercial and Government Entity Code (CAGEC) is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

**F-3.2.5 PART NUMBER (column (4)).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

**NOTE:**

When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

**F-3.2.6 DESCRIPTION AND USABLE ON CODE (UOC) (Column (S)).** This column includes the following information:

- a. The Federal item name and, when required, a minimum description to identify the item.
- b. The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

**F-3.2.7 QTY (Column (6)).** The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

**F-4 EXPLANATION OF COLUMNS (SECTION IV).**

**F-4.1 NATIONAL STOCK NUMBER (NSN) INDEX**

**F4.1.1 STOCK NUMBER column.** This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consist of the last nine digits of the NSN

NSN  
 (i.e., 5305-01-674-1467). When using this column to locate an item, ignore the first 4 digits of the NSN.  
NIIN

However, the complete NSN should be used when ordering items by stock number.

**F-4.1.2 FIG. column** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

**F-4.1.3 ITEM column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

**F-42 PART NUMBER INDEX** Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

**F-4.2.1 CAGEC column.** The Commercial and Government entity Code (CAGEC) is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

**F-4.2.2 PART NUMBER column.** Indicates the primary number used by the manufacturer (individual, 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.

**F-4.2.3 STOCK NUMBER column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGEC columns to the left.

**F-4.2.4 FIG. column.** This column lists the number of the figure where the item is identified/located in Section II and HI.

**F-4.2.5 ITEM column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

**F-43 FIGURE AND ITEM NUMBER INDEX.**

**F-4.3.1 FIG. Column.** The column lists the number of the figure where the item is identified located in Section II and III.

**F-4.3.2 ITEM Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

**F-4.3.3 STOCK NUMBER Column.** This column lists the NSN for the item.

**F-4.3.4 CAGEC Column.** The Commercial and Government Entity Code (CAGEC) is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

**F-4.3.5 PART NUMBER Column.** Indicates the primary number used by the manufacturer (individual, 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.

**F-5 SPECIAL INFORMATION.**

**F-5.1 Usable on Code.** The usable on code appears in the lower left corner of the DESCRIPTION AND USABLE ON CODE (UOC) column heading. Usable on codes are shown as "UOC . . ." on the next line below the last line of the applicable item description/nomenclature. The UOC entry begins at the left edge of the column. Uncoded items are applicable to all models. Identification of the usable on codes used in this publication are:

<u>Code</u>	<u>Used On</u>
ETB	ANIMJQ-41
EWA	PU-805
EWB	PU-806

**F-5.2 Fabrication Instructions.** Bulk materials required to manufacture items are listed in the BULK MATERIALS functional group of this RPSTL. Part numbers for bulk materials are also referenced in the DESCRIPTION AND UOC column of the line item entry for the item to be rmanufactured/fabricated. Detailed fabrication instructions for the items source coded to be manufactured or fabricated are contained in Appendix G.

**F-5.3 Index Numbers.** Items listed under FIG.BULK in the DESCRIPTION AND UOC column will have an index number shown in the ITEM NO. column. This index number is used as a cross-reference between the National Stock Number/Part Number Index and the bulk materials list in Section II.

## **F-6 HOW TO LOCATE REPAIR PARTS.**

### **F-6.1 When National Stock Number or Part Number is Not Known.**

**F-6.1.1 First.** Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

**F-6.1.2 Second.** Find the figure covering the assembly group or subassembly group to which the item belongs.

**F-6.1.3 Third.** Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

### **F-6.2 When National Stock Number or Part Number is Known.**

**F-6.2.1 First.** Using the National Stock Number or the Part Number Index, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see F-4. 1.1). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see F-4.2). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

**F-6.2.2 Second.** Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

## **F-7 ABBREVIATIONS.**

Not applicable.





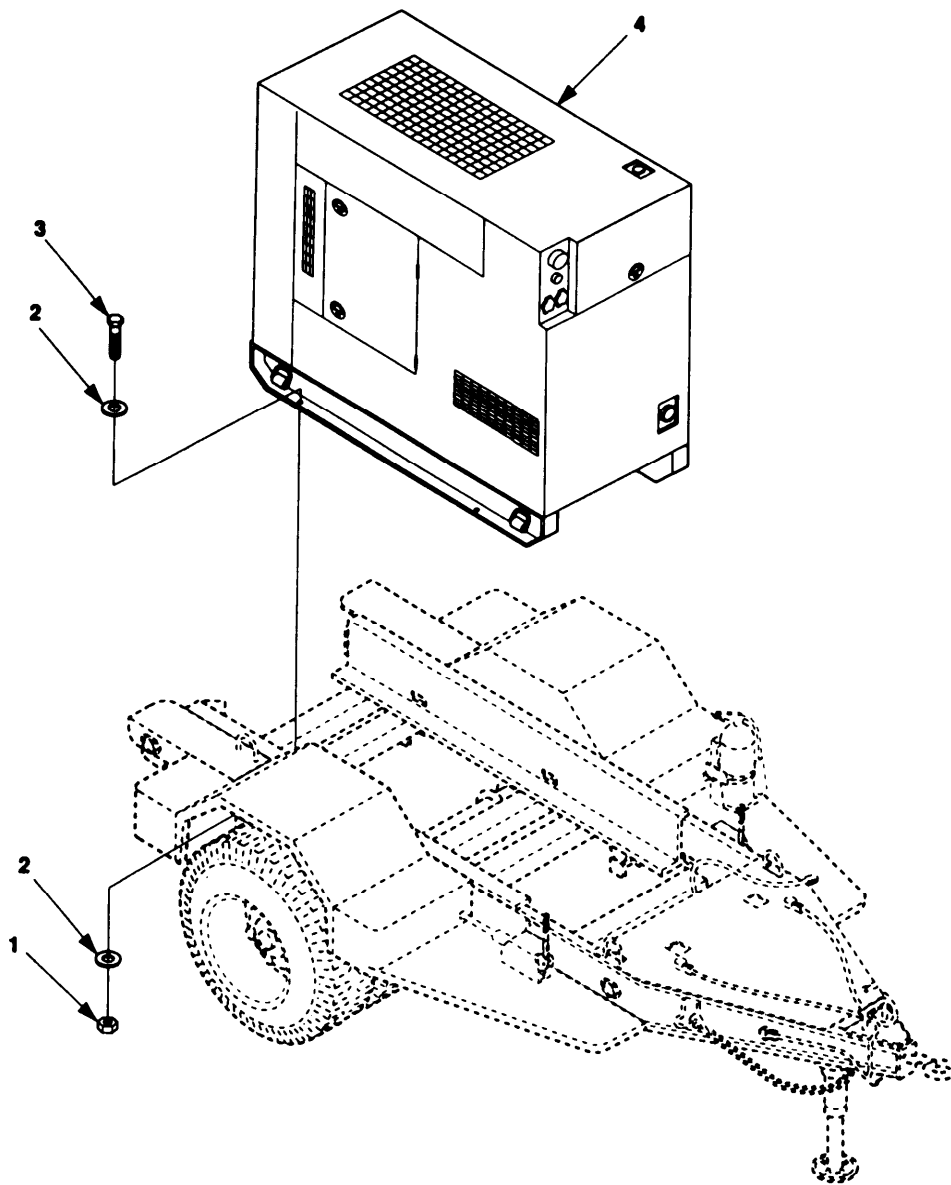


Figure F- 1. Generator Set Installation

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 01 GENERATOR SET					
FIG. 1 GENERATOR SET INSTALLATION					
1	PAFZZ	96906	MS51922-33	NUT, SELF-LOCKING, HE UOC: ETB, EWA	4
2	PAFZZ	96906	MS51412-9	WASHER, FLAT UOC: ETB, EWA	8
3	PAFZZ	80204	B1821BH050C175N	SCREW, CAP, HEXAGON H UOC: ETB, EWA	4
4	PDFFH	30554	88-816	GEN SET, 60KW, 400HZ UOC: EWA	1
4	PDFFH	30554	88-806	GEN SET, 60KW, 60HZ UOC: ETB	1
END OF FIGURE					

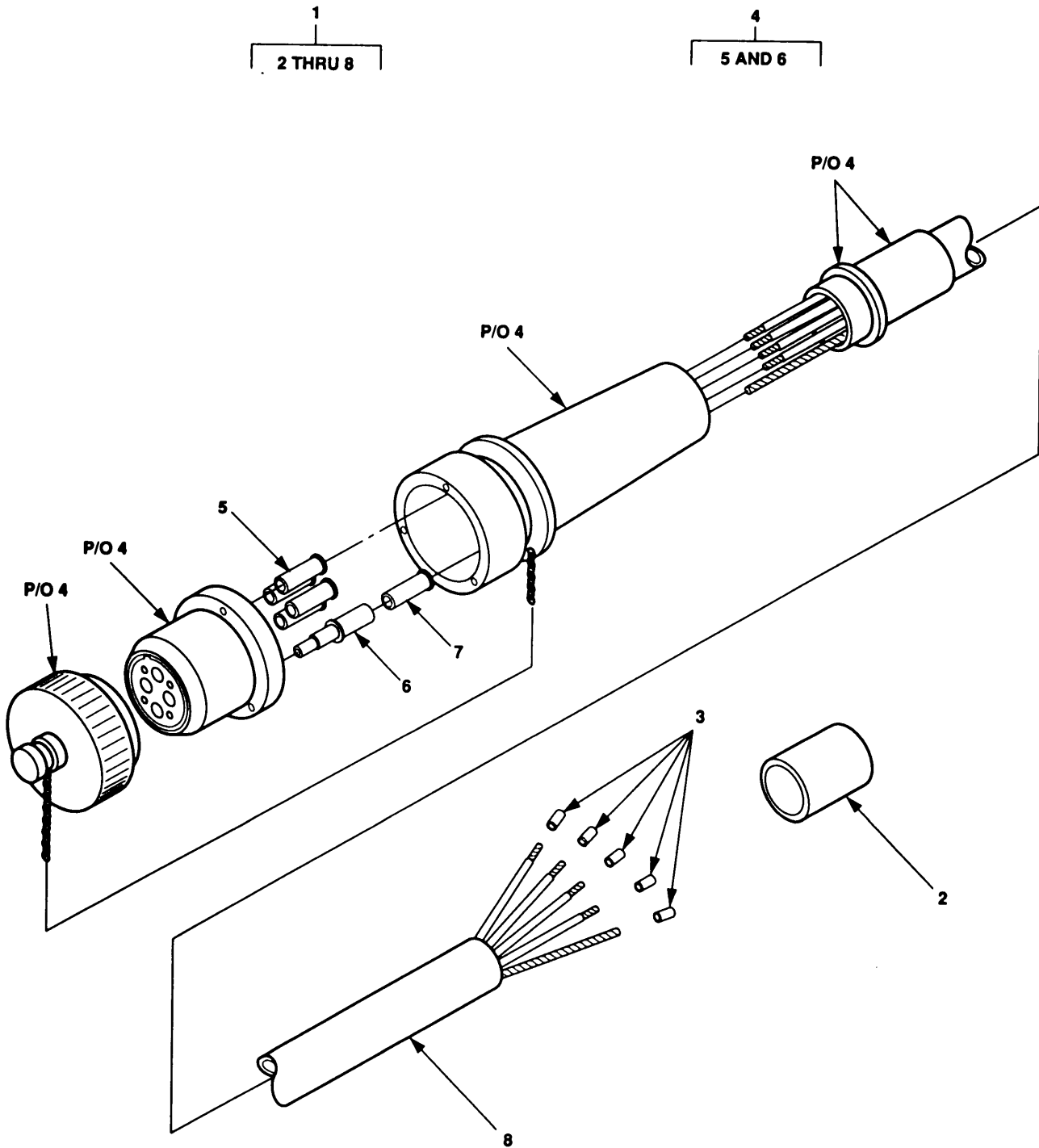


Figure F-2. Cable Assembly



SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 2 CABLE ASSEMBLY					
1	PBOFF	97403	13229E5741	.CABLE ASSY,60KW UOC:EWB	1
2	MFFZZ	19099	13229E5741-3	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-113-0 (81349) 3.75 IN. REQUIRED UOC:EWB	1
3	MFFZZ	19099	13229E5741-4	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-110-9 (81349) 1 INCH REQUIRED UOC:EWB	5
4	PAFFF	96906	MS90557C52413S	..CONNECTOR,PLUG,ELEC UOC:EWB	1
5	PAFZZ	81349	M39029/49-335	...CONTACT,ELECTRICAL UOC:EWB	4
6	PAFZZ	81349	M39029/49-332	...CONTACT,ELECTRICAL UOC:EWB	1
7	PAFZZ	96906	MS3348-6-8L	...CONTACT,ELECTRICAL UOC:EWB	1
8	MFFZZ	19099	13229E5741-2	...CABLE MAKE FROM P/N CO-4HDE(4/0- 4/4R)2380 (81349) 180 +- 2 INCHES REQUIRED UOC:EWB	1
END OF FIGURE					

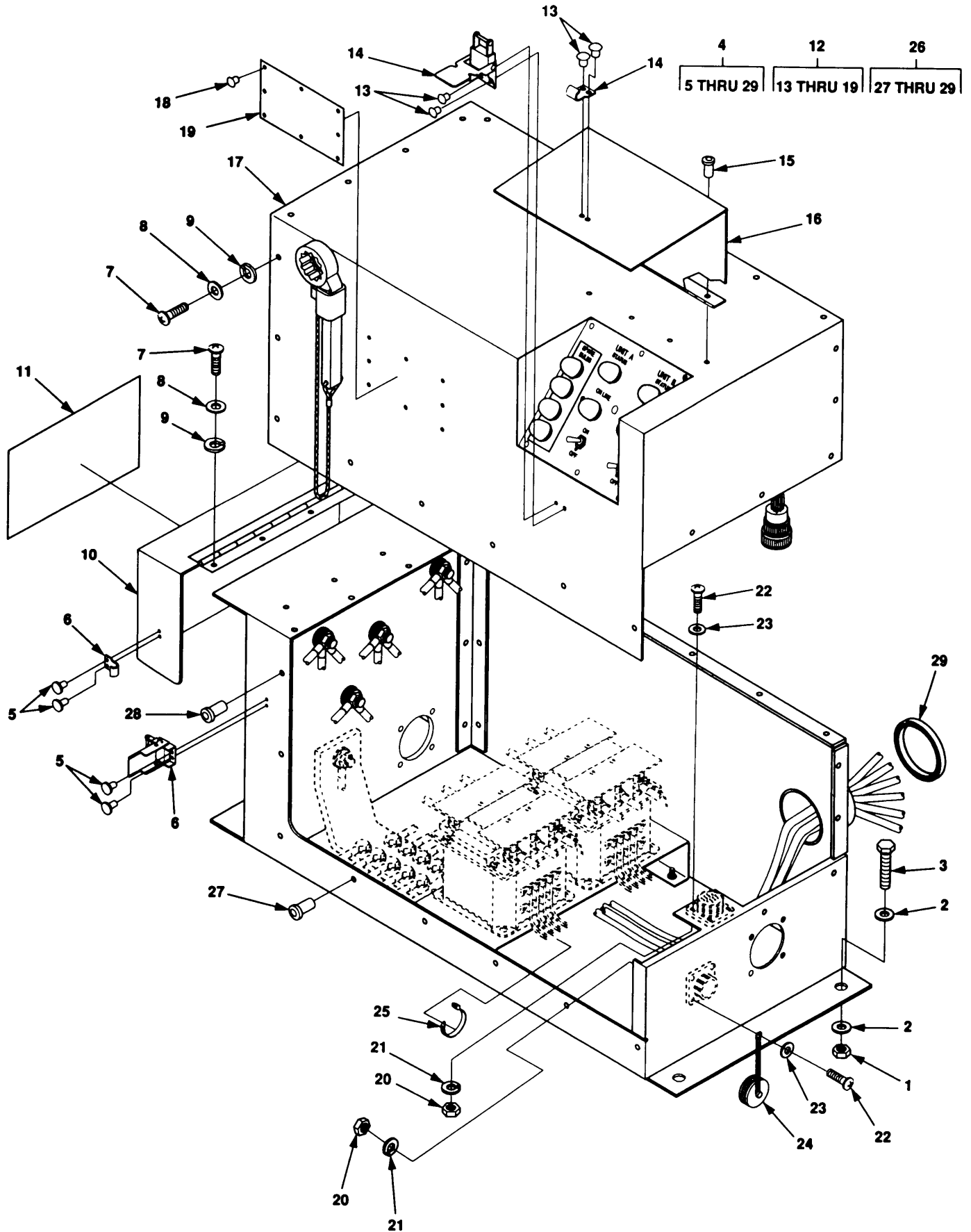


Figure F-3. Switch Box Assembly

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 3 SWITCH BOX ASSEMBLY					
1	PAFZZ	96906	MS35649-2382	.NUT,PLAIN,HEXAGON UOC:EWB	4
2	PAFZZ	96906	MS51412-27	.WASHER,FLAT UOC:EWB	8
3	PAFZZ	80204	B1821BH038C138N	.SCREW,CAP,HEXAGON H UOC:EWB	4
4	FFFFF	97403	13229E5795-3	.SWITCH BOX ASSY UOC:EWB	1
5	PAOZZ	96906	MS20601AD4W4	.RIVET,BLIND UOC:EWB	4
6	PAOZZ	96906	MS18015-1	.CATCH,CLAMPING UOC:EWB	4
7	PAOZZ	96906	MS51957-46	.SCREW,MACHINE UOC:EWB	25
8	PAOZZ	96906	MS15795-807	.WASHER,FLAT UOC:EWB	25
9	PAOZZ	96906	MS35338-137	.WASHER,LOCK UOC:EWB	25
10	XDOFF	97403	13229E5804	.DOOR,LOAD TERMINAL UOC:EWB	1
11	MDOZZ	97403	13229E5728-2	.MARKER,WARNING UOC:EWB	1
12	XDOOO	97403	13229E5801-3	.COVER ASSY,SWITCH B UOC:EWB	1
13	PAOZZ	96906	MS20600AD4W3	.RIVET,BLIND UOC:EWB	4
14	PAOZZ	96906	MS18015-1	.CATCH,CLAMPING UOC:EWB	1
15	PAOZZ	96906	MS20470AD4-4-5	.RIVET,SOLID UOC:EWB	4
16	XDOZZ	97403	13229E5835	.ENCLOSURE, TOP, SWITC UOC:EWB	1
17	XAOZZ	97403	13229E5834	.COVER,SWITCH BOX UOC:EWB	1
18	PAOZZ	96906	MS20600AD4W2	.RIVET,BLIND UOC:EWB	8
19	MDOZZ	97403	13229E5792-3	.PLATE, IDENTIFICATIO SCHEMATIC UOC:EWB	1
20	PAOZZ	96906	MS35649-244	.NUT,PLAIN,HEXAGON UOC:EWB	8
21	PAOZZ	96906	MS35338-135	.WASHER,LOCK UOC:EWB	8
22	PAOZZ	96906	MS51957-18	.SCREW,MACHINE UOC:EWB	8
23	PAOZZ	88044	AN960-C4	.WASHER,FLAT UOC:EWB	8
24	PAOZZ	96906	MS25043-18DA	.COVER,ELECTRICAL CO UOC:EWB	1

SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
ITEM NO	CODE		NUMBER		
25	PAFZZ	96906	MS3367-1-9	..STRAP,TIEDOWN,ELECT UOC:EWB	V
26	XDFFF	97403	13229E5796-3	..HOUSING,SWITCH BOX UOC:EWB	1
27	PAOZZ	96906	MS27130-96	...NUT,PLAIN,BLIND RIV UOC:EWB	6
28	PAOZZ	96906	MS27130-93	...NUT,PLAIN,BLIND RIV UOC:EWB	19
29	MOOZZ	19099	13229E5796-1-15	...GROMMET,PLASTIC EDG MAKE FROM P/ N MS21266-2N (96906) AS REQUIRED UOC:EWB	1

END OF FIGURE



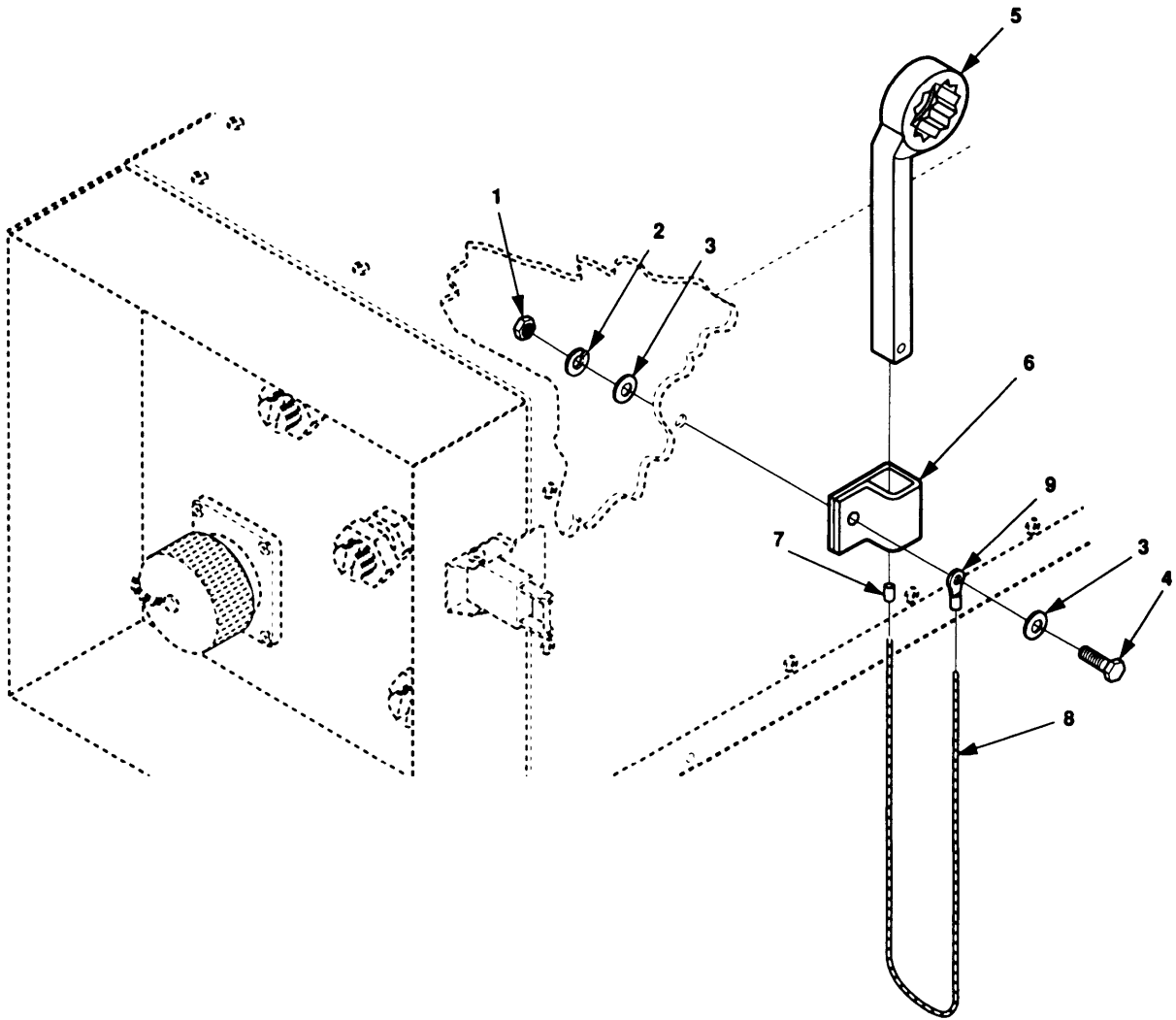


Figure F-4. Load Terminal Wrench Assembly

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)  GROUP 02 ELECTRICAL SYSTEM  FIG. 4 LOAD TERMINAL WRENCH ASSY	(6) QTY
1	PAOZZ	96906	MS35650-3254	..NUT,PLAIN,HEXAGON UOC:EWB	1
2	PAOZZ	96906	MS35338-139	..WASHER,LOCK UOC:EWB	1
3	PAOZZ	96906	MS15795-852	..WASHER,FLAT UOC:EWB	2
4	PAOZZ	96906	MS35308-306	..SCREW,CAP,HEXAGON H UOC:EWB	1
5	PAOZZ	30554	88-21148	..WRENCH,BOX UOC:EWB	1
6	PAOZZ	30554	72-2135	..CLAMP,LOOP UOC:EWB	1
7	PAOZZ	59730	2G4-2	..SPLICE,CONDUCTOR UOC:EWB	1
8	MOOZZ	19099	13229E5795-3-65	..ROPE,FIBROUS MAKE FROM P/N MIL-R-17343 (81349) 40 INCHES REQUIRED UOC:EWB	1
9	PAOZZ	96906	MS20659-111	..TERMINAL,LUG UOC:EWB	1
END OF FIGURE					

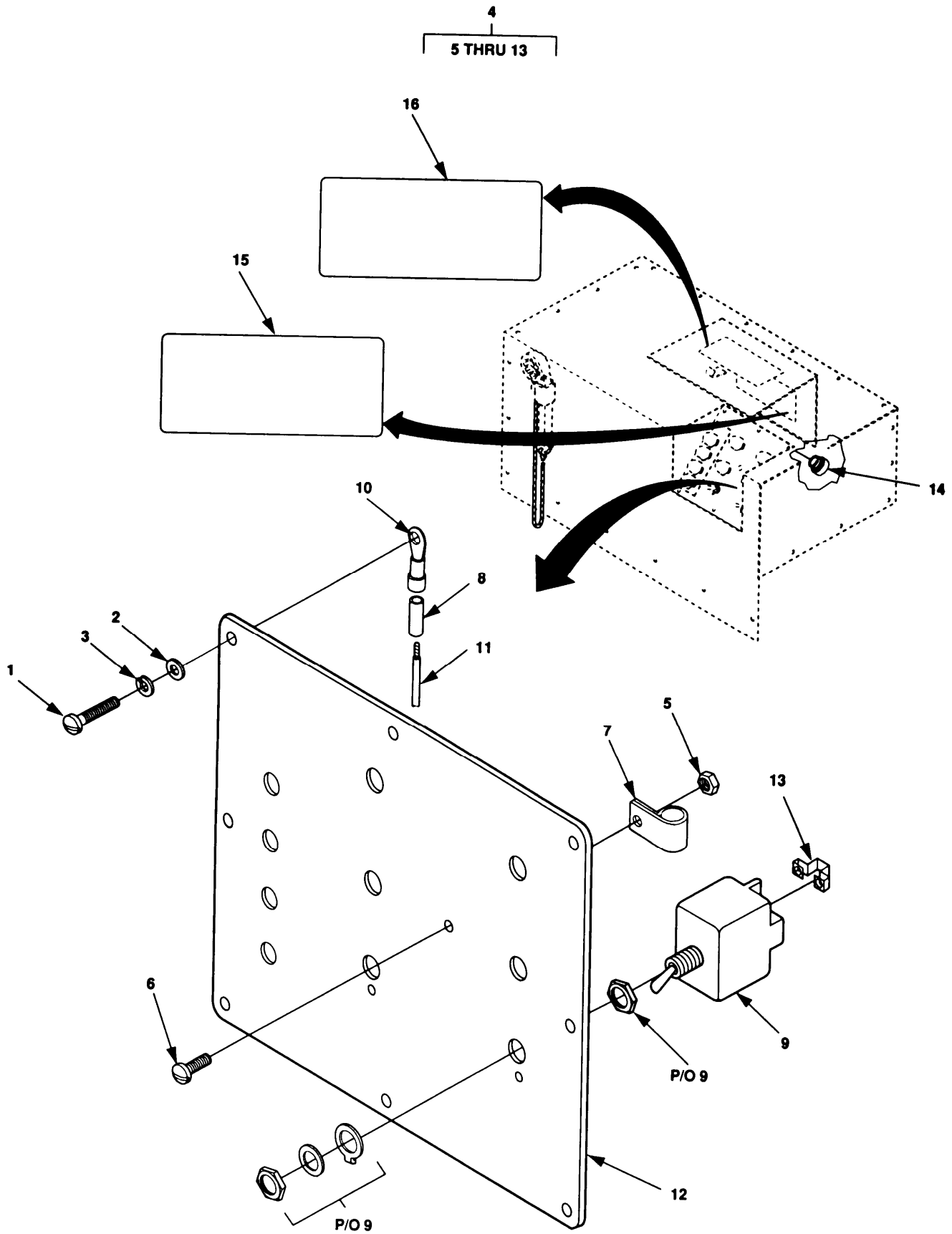
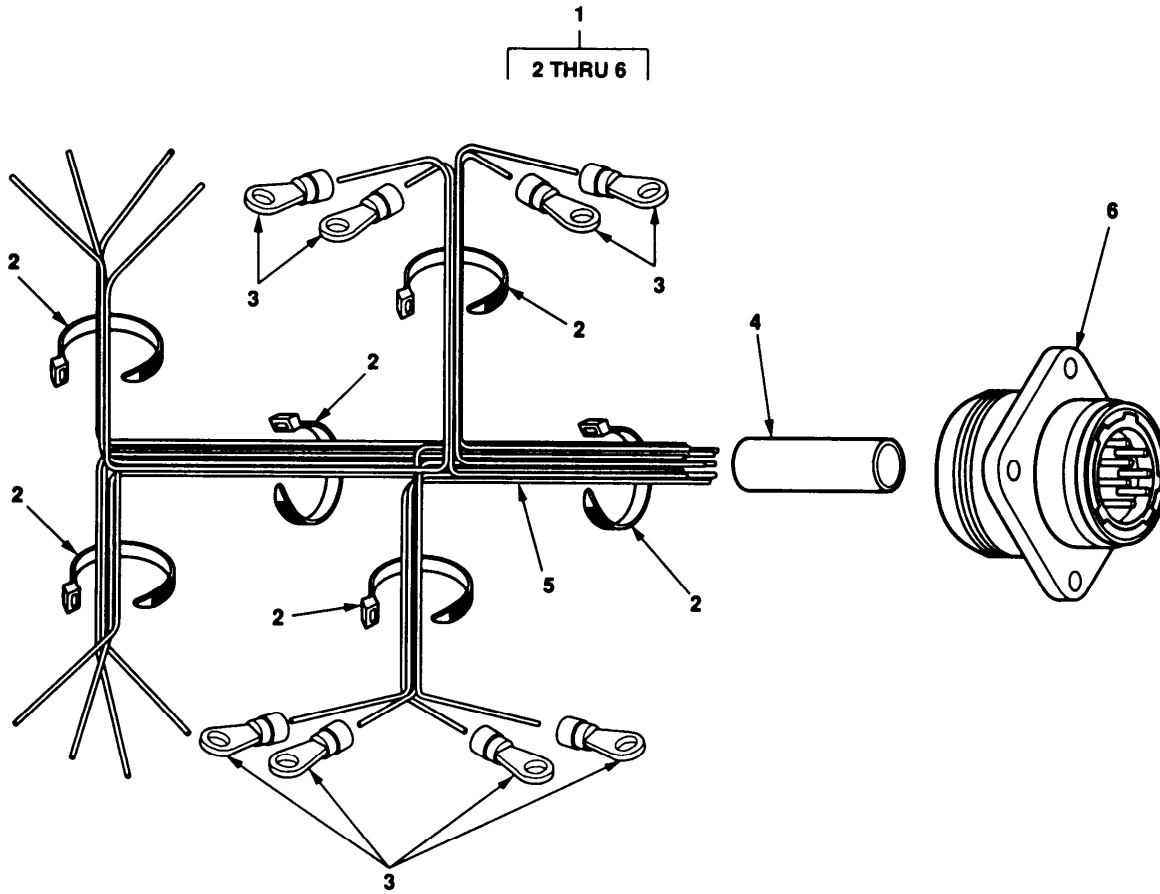


Figure F-5. Control Panel Assembly



SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 5 CONTROL PANEL ASSEMBLY					
1	PAOZZ	96906	MS51957-45	..SCREW,MACHINE UOC:EWB	8
2	PAOZZ	96906	MS15795-807	..WASHER,FLAT UOC:EWB	8
3	PAOZZ	96906	MS35338-137	..WASHER,LOCK UOC:EWB	8
4	XDFFF	97403	13229E5802	..CONTROL PANEL ASSY UOC:EWB	1
5	PAOZZ	96906	MS21044C08	...NUT,SELF-LOCKING,HE UOC:EWB	1
6	PAOZZ	96906	MS24693-C52	...SCREW,MACHINE UOC:EWB	1
7	PAOZZ	96906	MS21322-33	...CLAMP,LOOP UOC:EWB	1
8	MOOZZ	19099	13229E5802-4	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-107-9 (81349) .75 IN. REQUIRED UOC:EWB	16
9	PAOZZ	96906	MS27407-3	...SWITCH,TOGGLE UOC:EWB	2
10	PAOZZ	96906	MS25036-153	...TERMINAL,LUG UOC:EWB	1
11	MOOZZ	19099	13229E5802-10	...WIRE,ELECTRICAL MAKE FROM P/N M22759/16-16-9 (81349) AS REQUIRED UOC:EWB	1
12	XDOZZ	97403	13229E5805	...PANEL,CONTROL UOC:EWB	1
13	PAOZZ	81349	TBJA	...BUS,CONDUCTOR UOC:EWB	2
14	PAOZZ	81349	M45938/1-13C	..NUT,PLAIN,CLINCH UOC:EWB	8
15	MDOZZ	97403	13229E5793-1	..LABEL,INSTRUCTION UOC:EWB	1
16	MDOZZ	97403	13229E5793-2	..LABEL,INSTRUCTION UOC:EWB	1

END OF FIGURE



WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE ITEM NO.
	FROM	ITEM NO.	TO.	ITEM NO.	
1	XDS1-1	—	P3-A	6	5
2	XDS1-2	—	P3-B	6	5
3	XDS3-2	—	P3-C	6	5
4	S1-3	3	P3-D	6	5
5	S1-5	3	P3-F	6	5
6	S1-6	3	P3-G	6	5
7	S2-6	3	P3-H	6	5
8	S2-5	3	P3-I	6	5
9	S2-3	3	P3-K	6	5
10	XDS4-2	—	P3-L	6	5
11	XDS2-1	—	P3-M	6	5
12	XDS2-2	—	P3-N	6	5
13	XDS3-1	—	S1-3	3	5
14	XDS4-1	—	S2-3	3	5

Figure F-6. Control Panel Wiring Harness, W20

SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 6 CONTROL PANEL WIRING HARNESS, W20					
1	XDFFF	97403	13229E5837	...HARN ASSY,CONTROL P UOC:EWB	1
2	PAOZZ	96906	MS3367-1-9	...STRAP,TIEDOWN,ELECT UOC:EWB	V
3	PAOZZ	96906	MS25036-101	... TERMINAL,LUG UOC:EWB	8
4	MOOZZ	19099	13229E5837-3	...INSULATION SLEEVING MAKE FROM P/N M23053/5-107-9 (81349) AS REQUIRED UOC:EWB	1
5	MFFZZ	19099	13229E5837-2	...WIRE,ELECTRICAL MAKE FROM P/N M22759/16-20-9 (81349) AS REQUIRED UOC:EWB	1
6	PAFZZ	96906	MS3106R20-27P	...CONNECTOR,PLUG,ELEC UOC:EWB	1
END OF FIGURE					

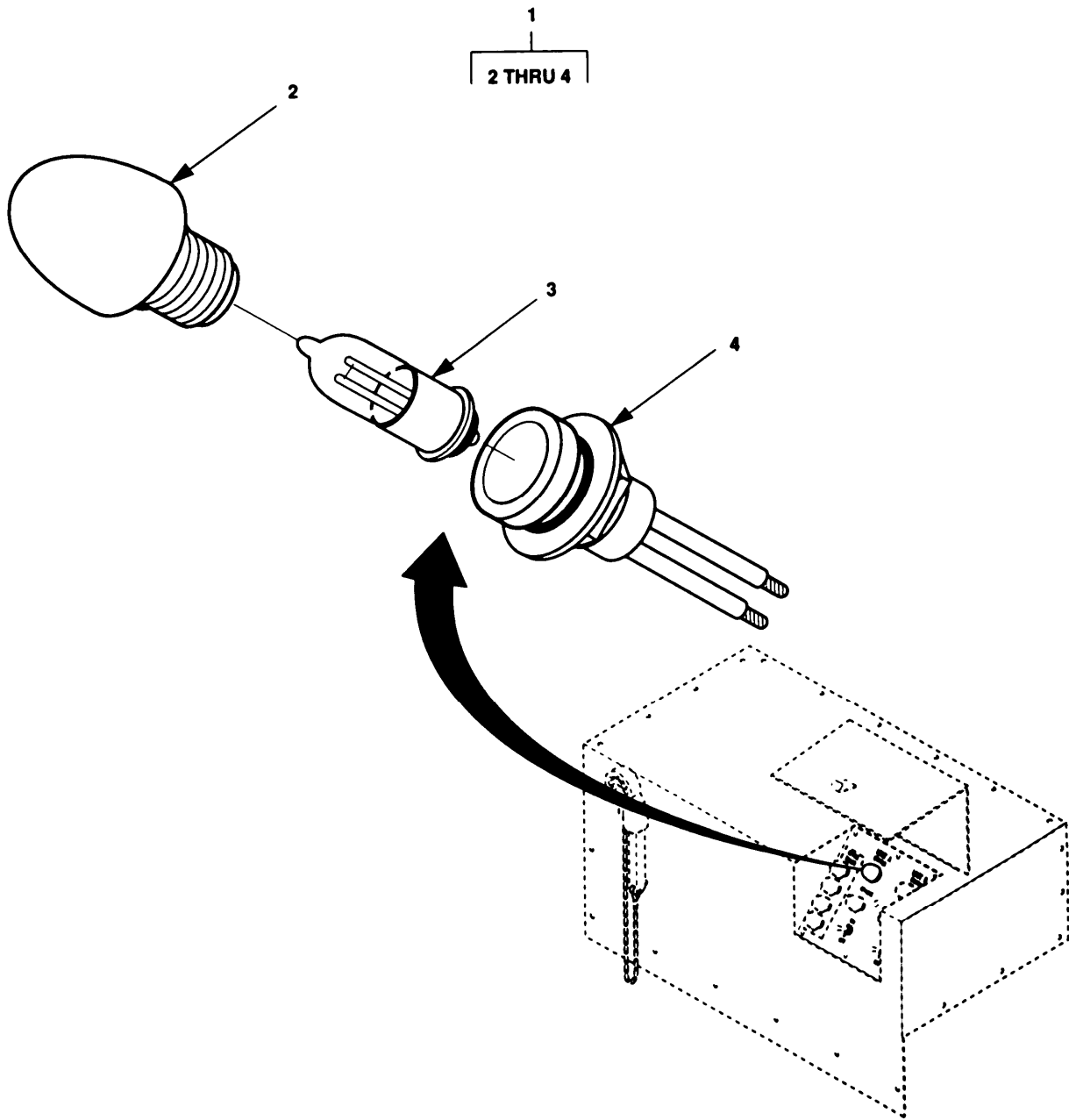


Figure F-7. Lamp Holder

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 7 LAMP HOLDER					
1	PAOZZ	97403	13214E1391	...LIGHT, INDICATOR UOC:EWB	8
2	XDOZZ	72619	181-0931-001	...LENS, CLEAR UOC:EWB	1
3	PAOZZ	58224	G9B (GR)	...LAMP UOC:EWB	1
4	PAOZZ	72619	181-8836-09-553	...LIGHT, INDICATOR UOC:EWB	1
END OF FIGURE					

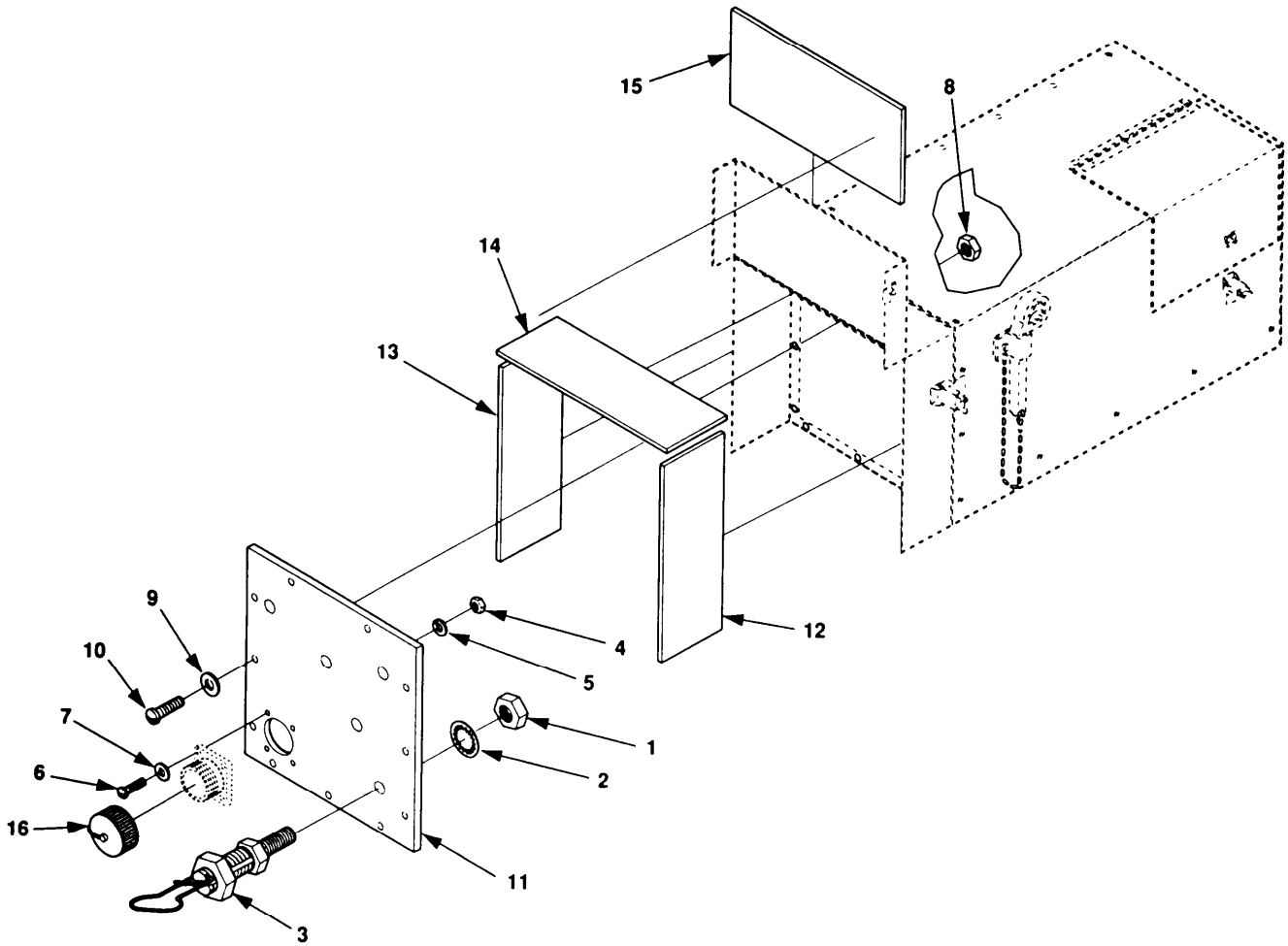


Figure F-8. Load Terminals

SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 8 LOAD TERMINALS					
1	PAOZZ	96906	MS35691-59	..NUT,PLAIN,HEXAGON UOC:EWB	9
2	PAOZZ	96906	MS35333-116	..WASHER,LOCK UOC:EWB	5
3	PAOZZ	96906	MS39347-6	..TERMINAL,STUD UOC:EWB	5
4	PAFZZ	96906	MS35650-3252	..NUT,PLAIN,HEXAGON UOC:EWB	4
5	PAFZZ	96906	MS35338-139	..WASHER,LOCK UOC:EWB	4
6	PAFZZ	96906	MS35207-284	..SCREW,MACHINE UOC:EWB	4
7	PAFZZ	96906	MS15795-852	..WASHER,FLAT UOC:EWB	4
8	PAOZZ	96906	MS51858-4	..NUT,PLAIN,HEXAGON UOC:EWB	11
9	PAOZZ	96906	MS51859-4	..WASHER,FLAT UOC:EWB	11
10	PAOZZ	96906	MS51957-46	..SCREW,MACHINE UOC:EWB	11
11	XDOZZ	97403	13229E5807-3	..PLATE,LOAD TERMINAL UOC:EWB	1
12	MFFZZ	19099	13229E5795-3-67	..PLASTIC SHEET MAKE FROM P/N M24768/2-S-7 (81349) 12.5X2.125 IN. REQ UOC:EWB	1
13	MFFZZ	19099	13229E5795-3-68	..PLASTIC SHEET MAKE FROM P/N M24768/2-S-7 (81349) 11.38X3.75 IN. REQ UOC:EWB	1
14	MFFZZ	19099	13229E5795-3-69	..PLASTIC SHEET MAKE FROM P/N M24768/2-S-7 (81349) 3.75X12.5 IN. REQ UOC:EWB	1
15	MFFZZ	19099	13229E5795-3-70	..PLASTIC SHEET MAKE FROM P/N M24768/2-S-7 (81349) 11.38X7.38 IN. REQ UOC:EWB	1
16	PAFZZ	96906	MS90564-11C	..COVER,ELECTRICAL CO UOC:EWB	1

END OF FIGURE

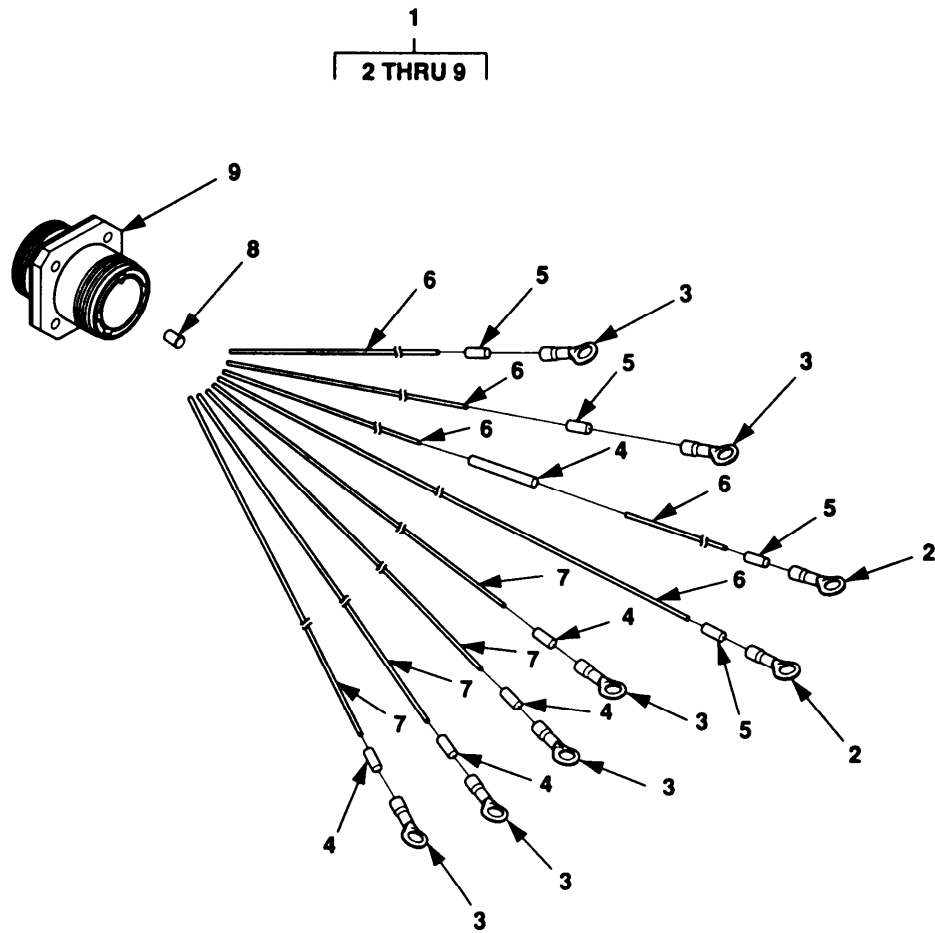
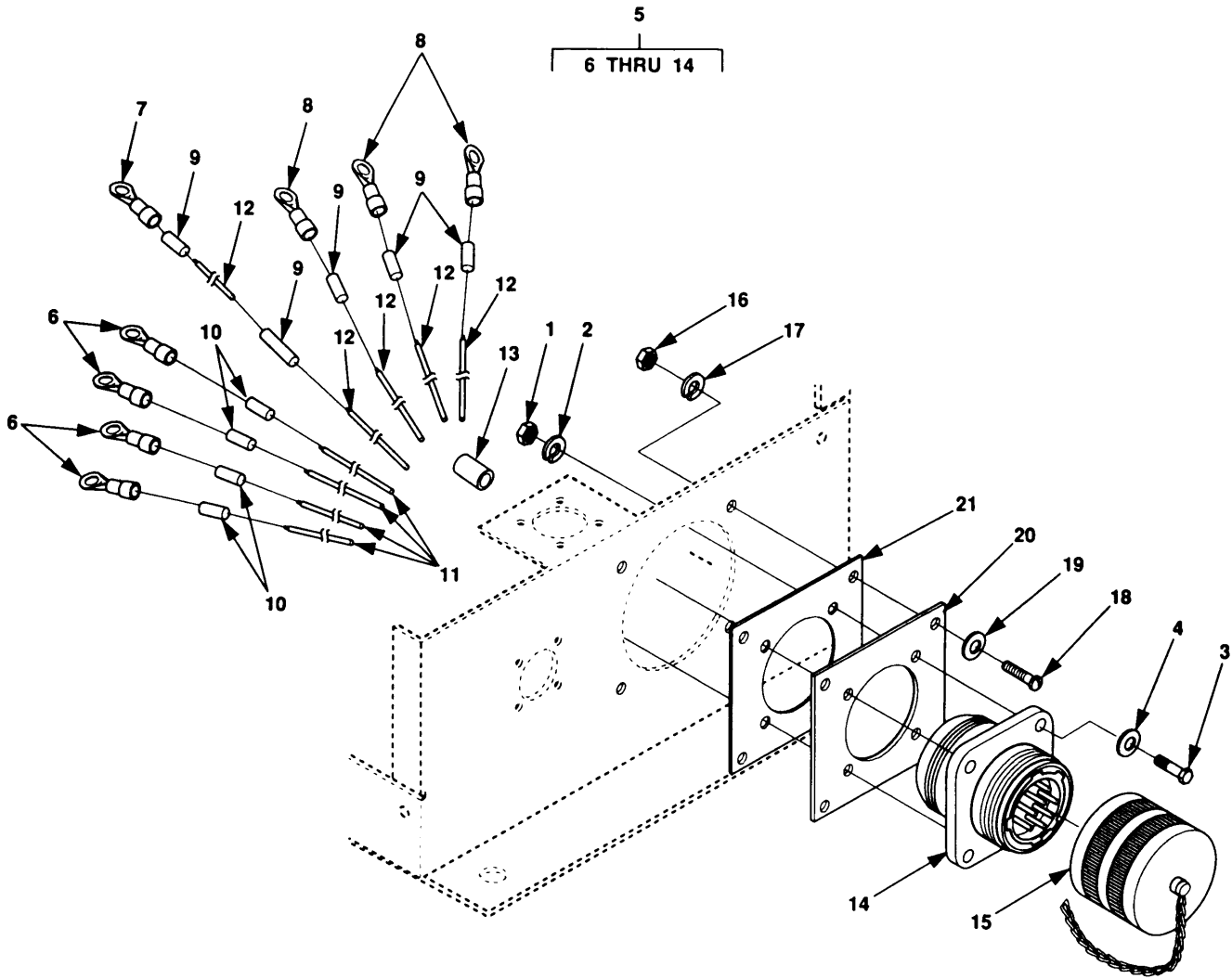


Figure F-9. Wiring Harness, W9



SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 9 WIRING HARNESS, W9					
1	XDFFF	97403	13229E5809-3	..WIRING HARNESS UOC:EWB	1
2	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	4
3	PAFZZ	96906	MS25036-123	...TERMINAL,LUG UOC:EWB	4
4	MFFZZ	19099	13229E5809-3-18	...INSULATION,SLEEVING MAKE FROM P/ N M23053/5-108-4 (81349) AS REQUIRED UOC:EWB	4
5	MFFZZ	19099	13229E5809-3-17	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-110-4 (81349) 2.5 IN. REQUIRED UOC:EWB	5
6	MFFZZ	19099	13229E5809-3-8	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	4
7	MFFZZ	19099	13229E5809-3-5	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-4-9 (81349) AS REQUIRED UOC:EWB	4
8	PAFZZ	96906	MS3348-4/0-2/0L	...CONTACT,ELECTRICAL UOC:EWB	4
9	PAFZZ	96906	MS90555C52413S	...CONNECTOR,RECEPTACLE UOC:EWB	1
END OF FIGURE					

TM 9-6115-663-13&P CO1

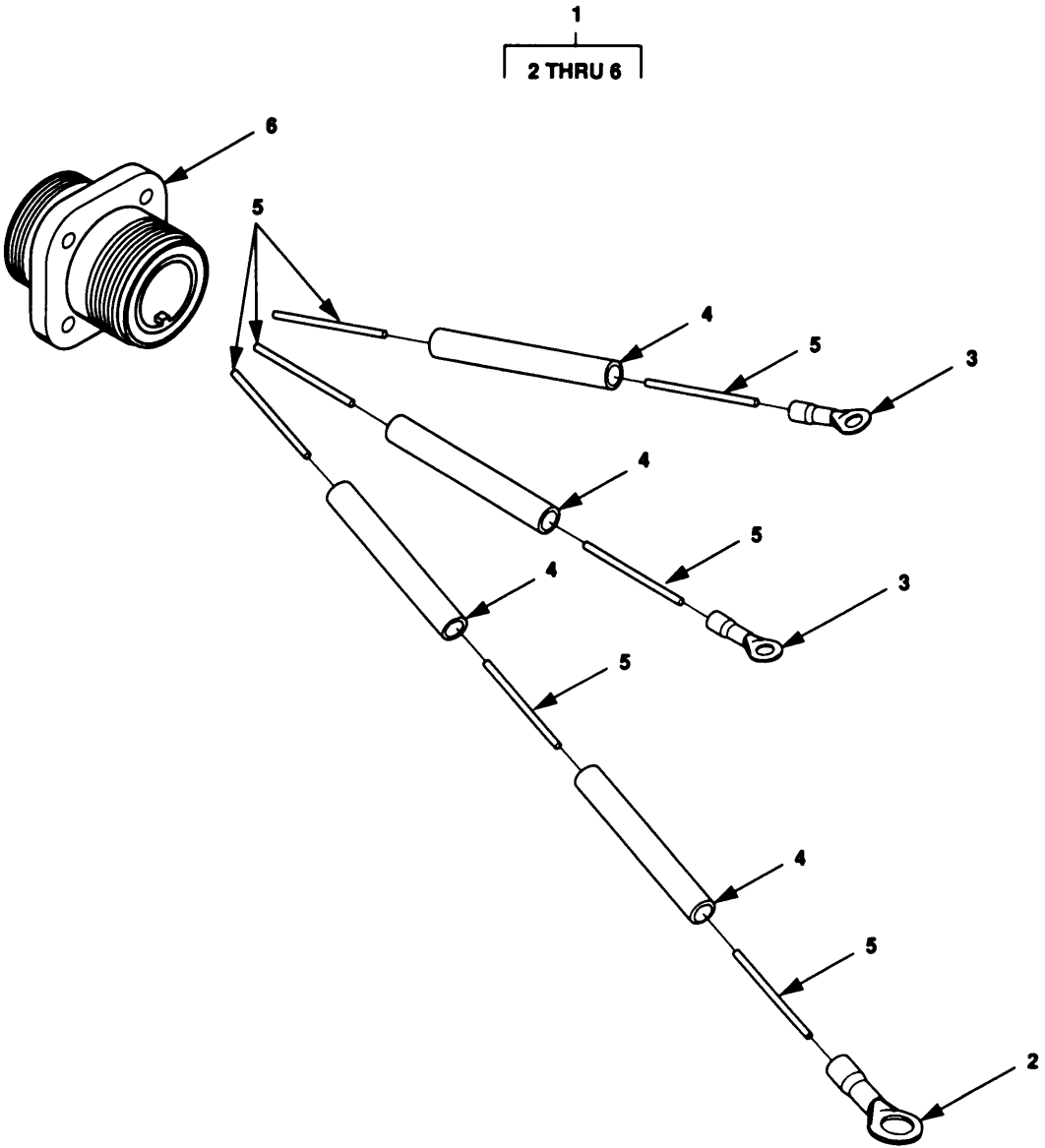


WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE ITEM NO.
	FROM	ITEM NO.	TO.	ITEM NO.	
1	J2-A	14	K2-A1	8	12
2	J2-B	14	K2-B1	8	12
3	J2-C	14	K2-C1	8	12
4	J2-N	14	L0	7	12
5	J2-G1	14	GND	6	11
6	J2-G2	14	GND	6	11
7	J2-G3	14	GND	6	11
8	J2-G4	14	GND	6	11

Figure F-10. Wiring Harness, W 10

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 10 WIRING HARNESS, W10					
1	PAOZZ	96906	MS35650-3252	..NUT,PLAIN,HEXAGON UOC:EWB	4
2	PAOZZ	96906	MS51415-5	..WASHER,LOCK UOC:EWB	4
3	PAOZZ	96906	MS35207-284	..SCREW,MACHINE UOC:EWB	4
4	PAOZZ	96906	MS51412-4	..WASHER,FLAT UOC:EWB	4
5	XDFFF	97403	13229E5809-4	..WIRING HARNESS UOC:EWB	1
6	PAFZZ	96906	MS25036-123	..TERMINAL,LUG UOC:EWB	4
7	PAFZZ	96906	MS25036-136	..TERMINAL,LUG UOC:EWB	3
8	PAFZZ	98410	J787-34	..TERMINAL,LUG UOC:EWB	1
9	MFFZZ	19099	13229E5809-4-17	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-110-4 (81349) AS REQUIRED UOC:EWB	5
10	MFFZZ	19099	13229E5809-4-18	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-108-4 (81349) AS REQUIRED UOC:EWB	4
11	MFFZZ	19099	13229E5809-4-5	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-4-9 (81349) AS REQUIRED UOC:EWB	4
12	MFFZZ	19099	13229E5809-4-8	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	4
13	PAFZZ	96906	MS3348-4/0-2/0L	...CONTACT,ELECTRICAL UOC:EWB	4
14	PAFZZ	96906	MS90558C52413P	...CONNECTOR,RECEPTACL UOC:EWB	1
16	PAFZZ	96906	MS35650-3254	..NUT,PLAIN,HEXAGON UOC:EWB	4
17	PAFZZ	96906	MS35338-139	..WASHER,LOCK UOC:EWB	4
18	PAFZZ	96906	MS35308-306	..SCREW,CAP,HEXAGON H UOC:EWB	4
19	PAFZZ	96906	MS15795-852	..WASHER,FLAT UOC:EWB	4
20	XDFZZ	97403	13229E5788-3	..PLATE,CONNECTOR,MOU UOC:EWB	1
21	XDFZZ	97403	13229E5815	..GASKET,CONNECTOR,PL UOC:EWB	1

END OF FIGURE

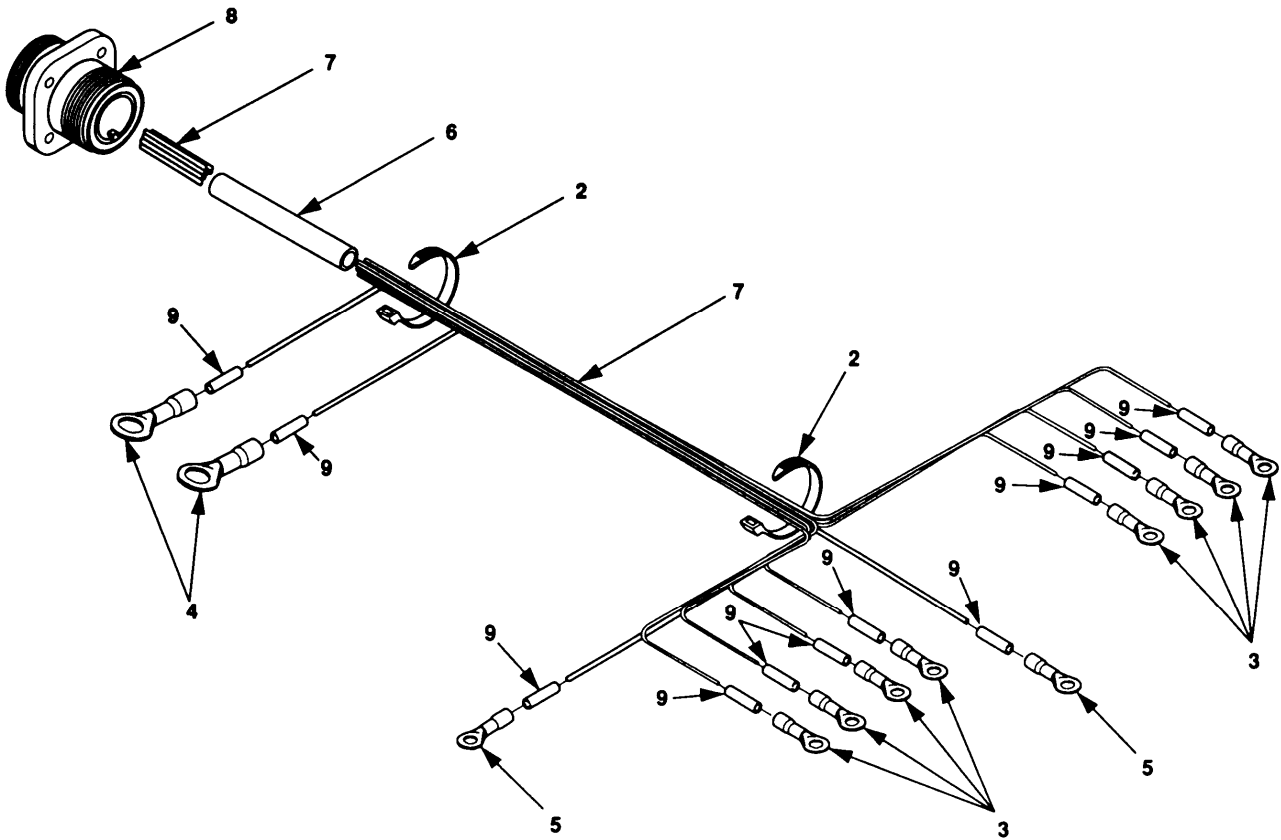


WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE ITEM NO.
	FROM	ITEM NO.	TO.	ITEM NO.	
1	J3-A	6	K2-12	3	5
2	J3-B	6	K2-Y	3	5
3	J3-E	6	GND	2	5

Figure F-11. Wiring Harness, W17

SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 11 WIRING HARNESS, W17					
1	XDFFF	97403	13229E5806-1	..WIRING HARNESS POWER, SWITCH BOX UOC: EWB	1
2	PAFZZ	96906	MS25036-154	...TERMINAL, LUG UOC:EWB	1
3	PAFZZ	96906	MS25036-107	...TERMINAL, LUG UOC:EWB	2
4	MFFZZ	19099	13229E5806-1-5	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-104-0 (81349) 2 INCHES REQUIRED UOC:EWB	4
5	MFFZZ	19099	13229E5806-1-2	...WIRE,ELECTRICAL MAKE FROM P/N M22759/16-16-9 (81349) AS REQUIRED UOC:EWB	3
6	PAFZZ	96906	MS3102R18-11P	...CONNECTOR,RECEPTACL UOC:EWB	1
END OF FIGURE					

2 THRU 8



WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE ITEM NO.
	FROM	ITEM NO.	TO.	ITEM NO.	
1	J4-A	8	K1-A1	5	7
2	J4-B	8	L0	4	7
3	J4-C	8	K1-Y	3	7
4	J4-D	8	K1-X	3	7
5	J4-F	8	K1-11	3	7
6	J4-G	8	K1-12	3	7
7	J4-H	8	K2-12	3	7
8	J4-I	8	K2-11	3	7
9	J4-K	8	K2-X	3	7
10	J4-L	8	K2-Y	3	7
11	J4-M	8	K2-A1	5	7
12	J4-N	8	L0	4	—

Figure F-12. Wiring Harness, W7

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)  GROUP 02 ELECTRICAL SYSTEM  FIG.12 WIRING HARNESS, W7	(6) QTY
1	XDFFF	97403	13229E5800-2	..WIRING HARNESS CONTROL UOC:EWB	1
2	PAFZZ	96906	MS3367-1-9	...STRAP,TIEDOWN,ELECT UOC:EWB	V
3	PAFZZ	96906	MS25036-106	...TERMINAL,LUG UOC:EWB	8
4	PAFZZ	97403	13229E5706-4	...TERMINAL,LUG UOC:EWB	1
5	PAFZZ	96906	MS25036-110	...TERMINAL,LUG UOC:EWB	2
6	MFFZZ	19099	13229E5800-2-6	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-108-4 (81349) AS REQUIRED UOC:EWB	1
7	MFFZZ	19099	13229E5800-2-2	...WIRE,ELECTRICAL MAKE FROM P/N M22759/16-16-9 (81349) AS REQUIRED UOC:EWB	1
8	PAFZZ	96906	MS3100R20-27S	...CONNECTOR,RECEPTACL UOC:EWB	1

END OF FIGURE

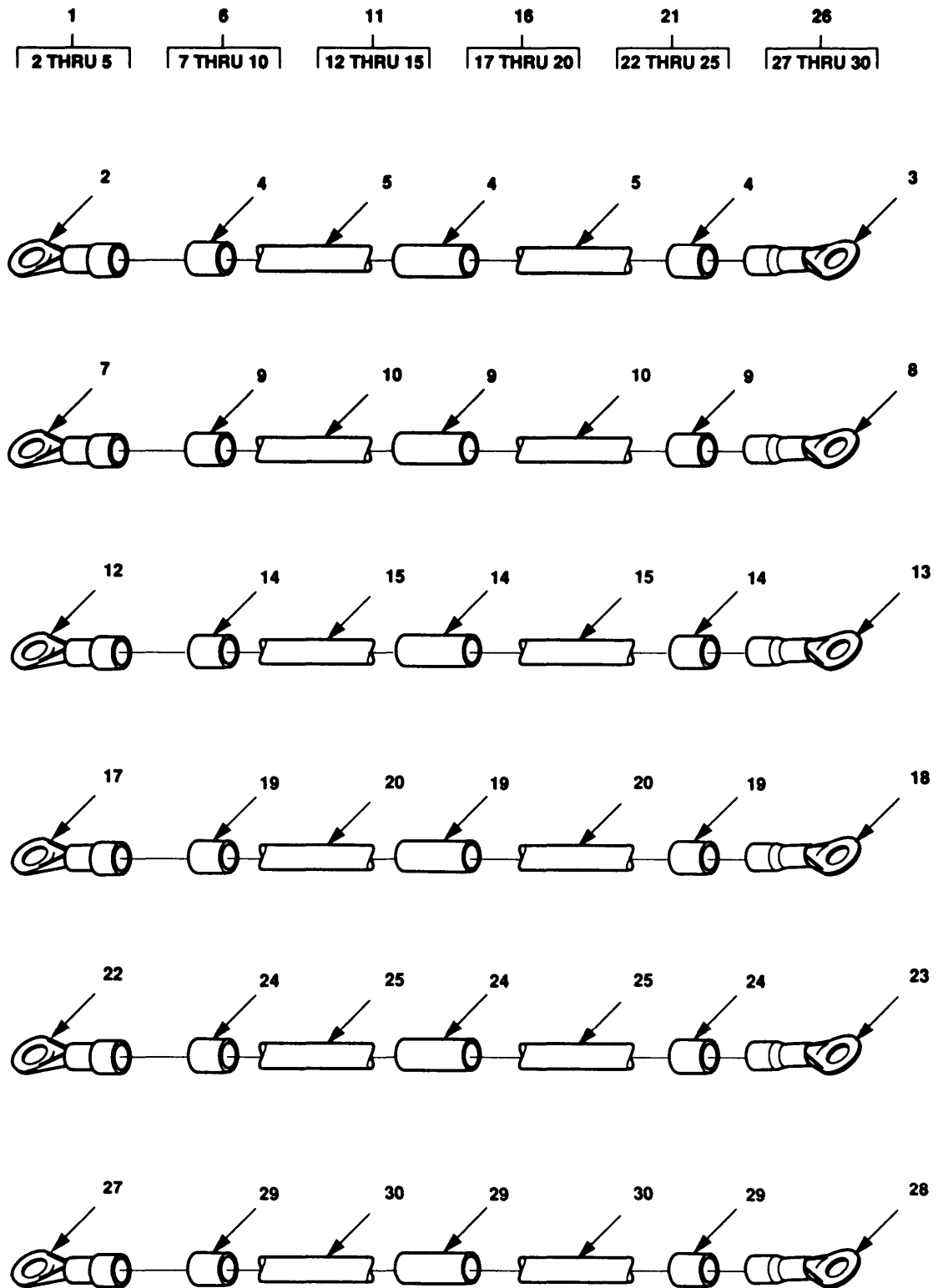


Figure F-13. Electrical Lead



SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 13 ELECTRICAL LEAD					
1	AFFFF	97403	13229E5810-9	..LEAD,ELECTRICAL UOC:EWB	1
2	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
3	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
4	MFFZZ	19099	13229E5810-9-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	1
5	MFFZZ	19099	13229E5810-9-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
6	AFFFF	97403	13229E5810-8	..LEAD,ELECTRICAL UOC:EWB	1
7	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
8	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
9	MFFZZ	19099	13229E5810-8-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
10	MFFZZ	19099	13229E5810-8-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
11	AFFFF	97403	13229E5810-7	..LEAD,ELECTRICAL UOC:EWB	1
12	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
13	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
14	MFFZZ	19099	13229E5810-7-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
15	MFFZZ	19099	13229E5810-7-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
16	AFFFF	97403	13229E5810-17	..LEAD,ELECTRICAL UOC:EWB	1
17	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
18	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
19	MFFZZ	19099	13229E5810-17-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
20	MFFZZ	19099	13229E5810-17-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1

SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
21	AFFFF	97403	13229E5810-18	..LEAD,ELECTRICAL UOC:EWB	1
22	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
23	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
24	MFFZZ	19099	13229E5810-18-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
25	MFFZZ	19099	13229E5810-18-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
26	AFFFF	97403	13229E5810-19	..LEAD,ELECTRICAL UOC:EWB	1
27	PAFZZ	96906	MS25036-136	...TERMINAL,LUG UOC:EWB	1
28	PAFZZ	98410	J787-34	...TERMINAL,LUG UOC:EWB	1
29	MFFZZ	19099	13229E5810-19-11	...INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
30	MFFZZ	19099	13229E5810-19-7	...WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1

END OF FIGURE



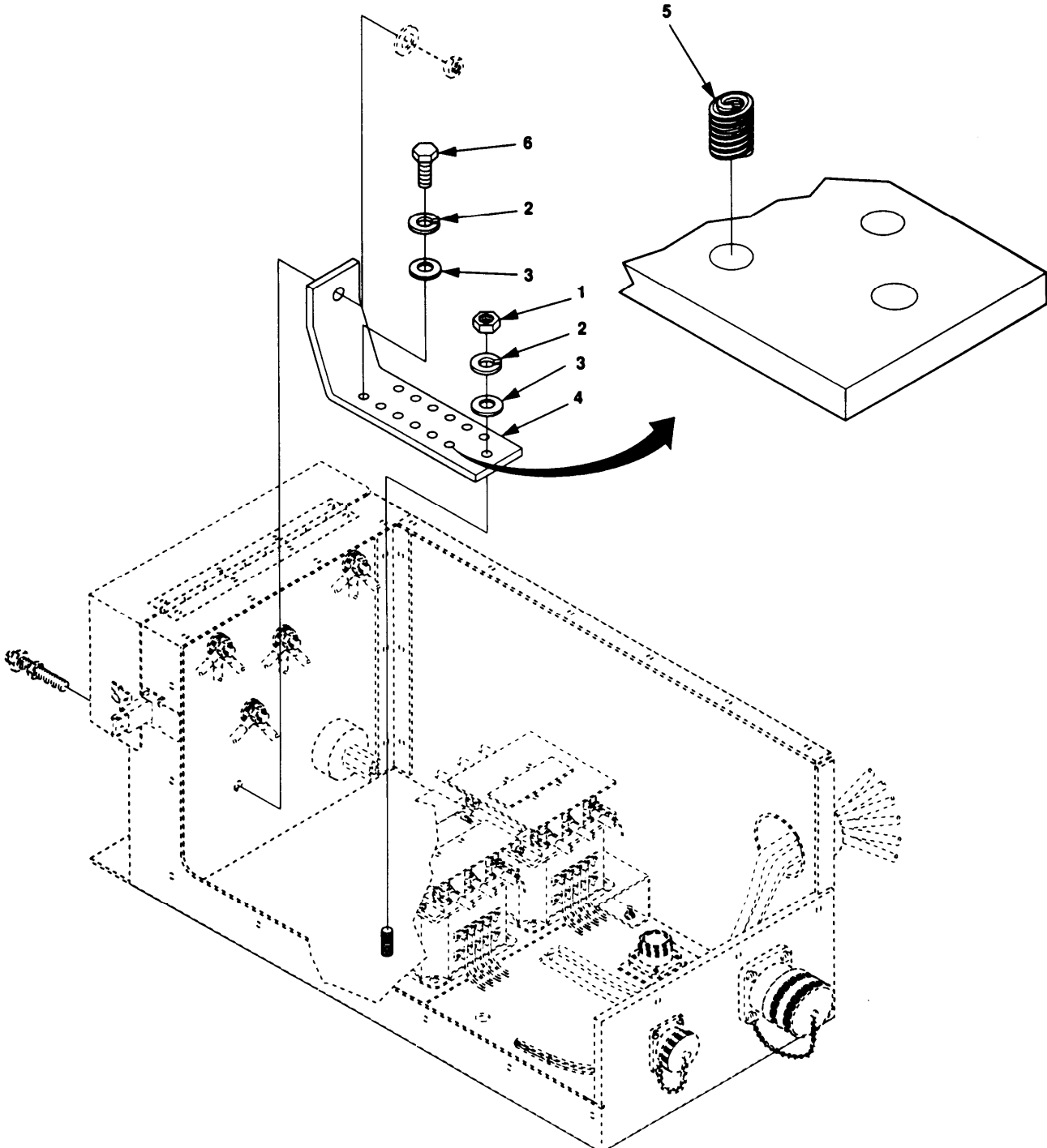


Figure F-14. Bus Bar

SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
NO	CODE		NUMBER		
GROUP 02 ELECTRICAL SYSTEM					
FIG. 14 BUS BAR					
1	PAFZZ	96906	MS35649-2254	. .NUT,PLAIN,HEXAGON UOC:EWB	1
2	PAFZZ	96906	MS35338-139	. .WASHER,LOCK UOC:EWB	13
3	PAFZZ	96906	MS15795-852	. .WASHER,FLAT UOC:EWB	13
4	XDFFF	97403	13229E5816-2	. .BUS BAR,GROUNDING UOC:EWB	1
5	PAFZZ	96906	MS124696	. . .INSERT,SCREW THREAD UOC:EWB	12
6	PAFZZ	96906	MS35308-3	. .SCREW,CAP,HEXAGON H UOC:EWB	12
7	PAOZZ	96906	MS90563-11C	. . .COVER,ELECTRICAL CO UOC:EWB	1
END OF FIGURE					

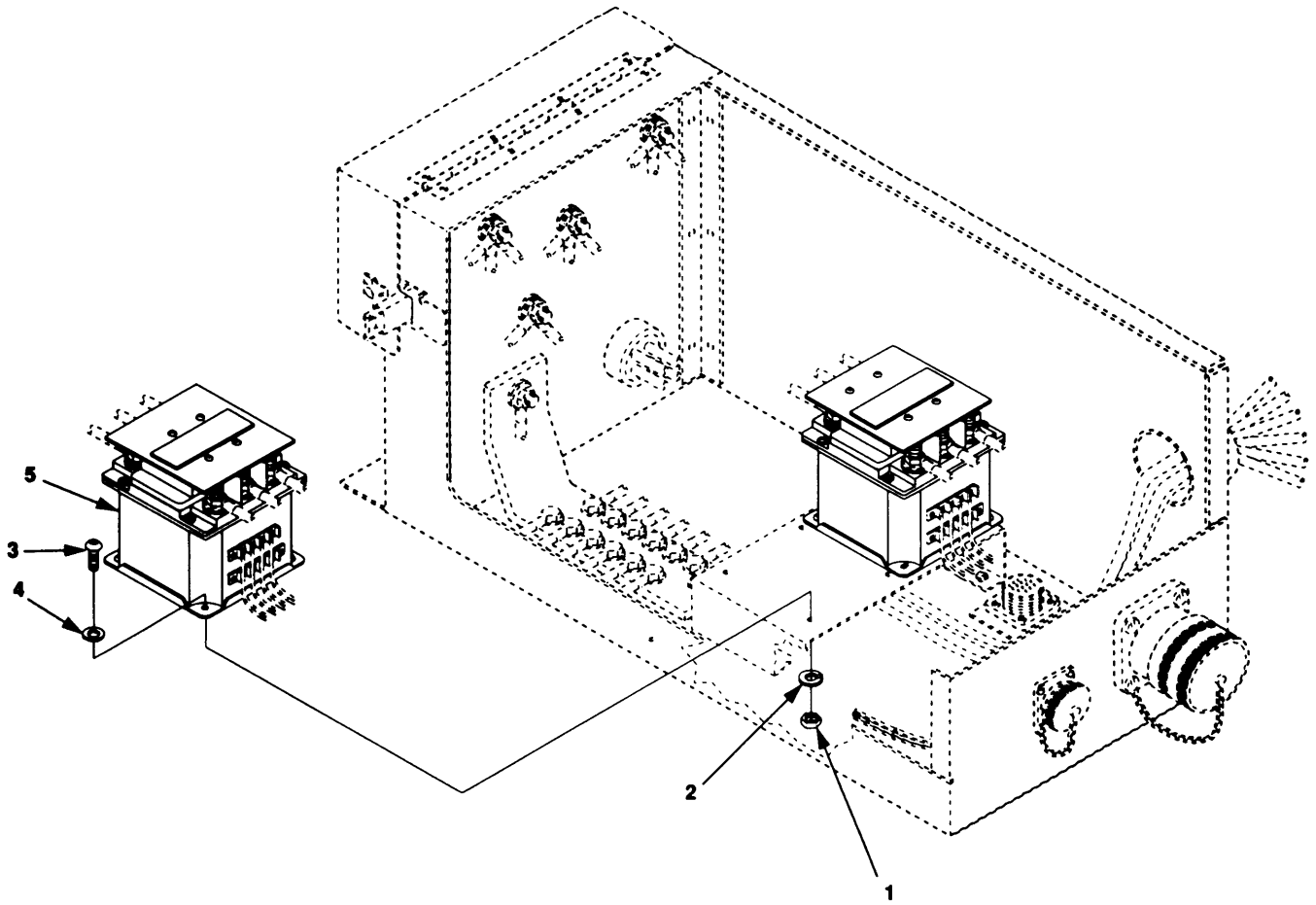


Figure F-15. Contactor

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 15 CONTACTOR					
1	PAFZZ	96906	MS35649-204	. .NUT,PLAIN,HEXAGON UOC:EWB	8
2	PAFZZ	96906	MS35338-138	. .WASHER,LOCK UOC:EWB	8
3	PAFZZ	96906	MS51958-64	. .SCREW,MACHINE UOC:EWB	8
4	PAFZZ	96906	MS15795-857	. .WASHER,FLAT UOC:EWB	8
5	PAFZZ	7E656	JCG-6026	. .CONTACTOR UOC:EWB	2
END OF FIGURE					

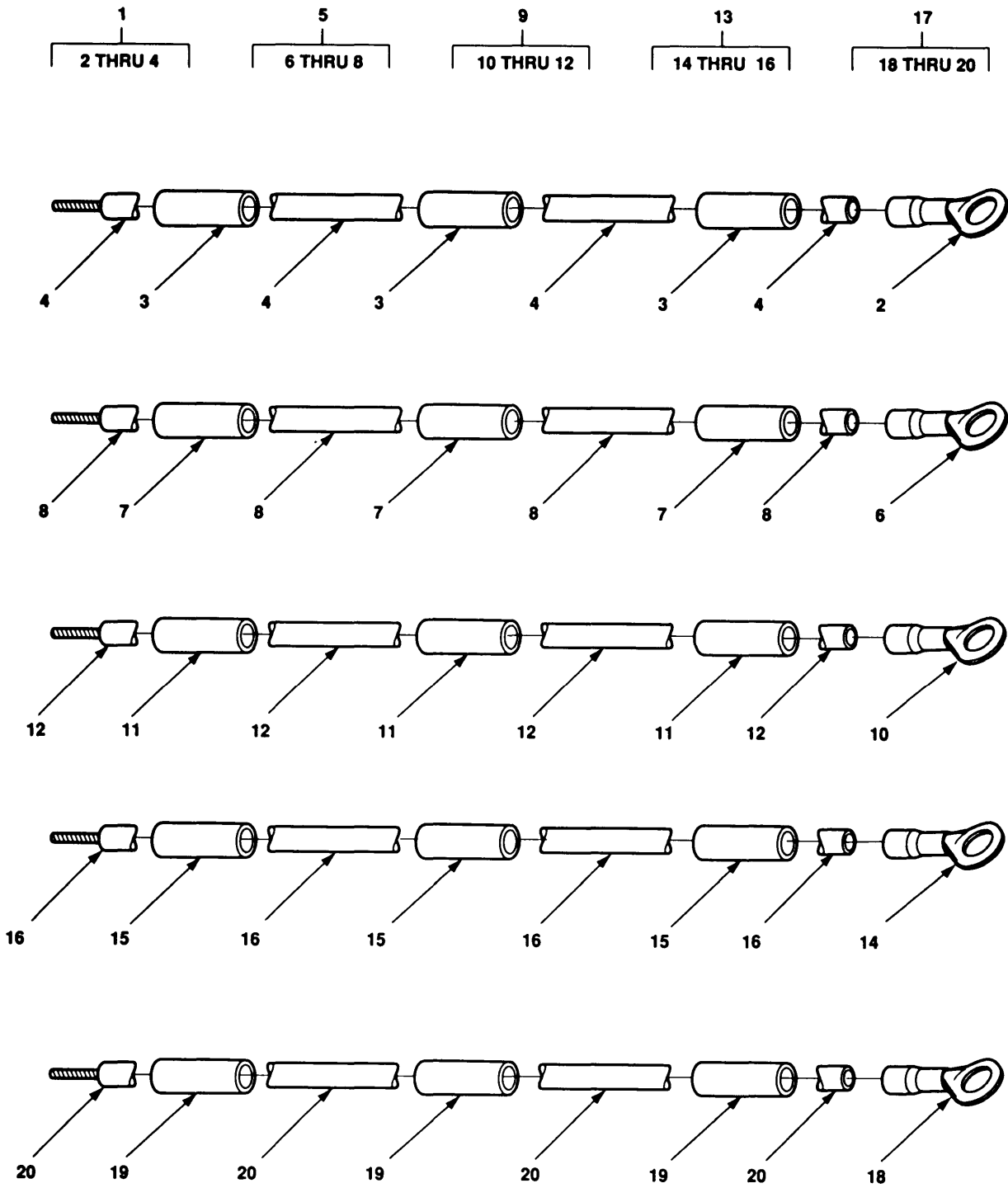


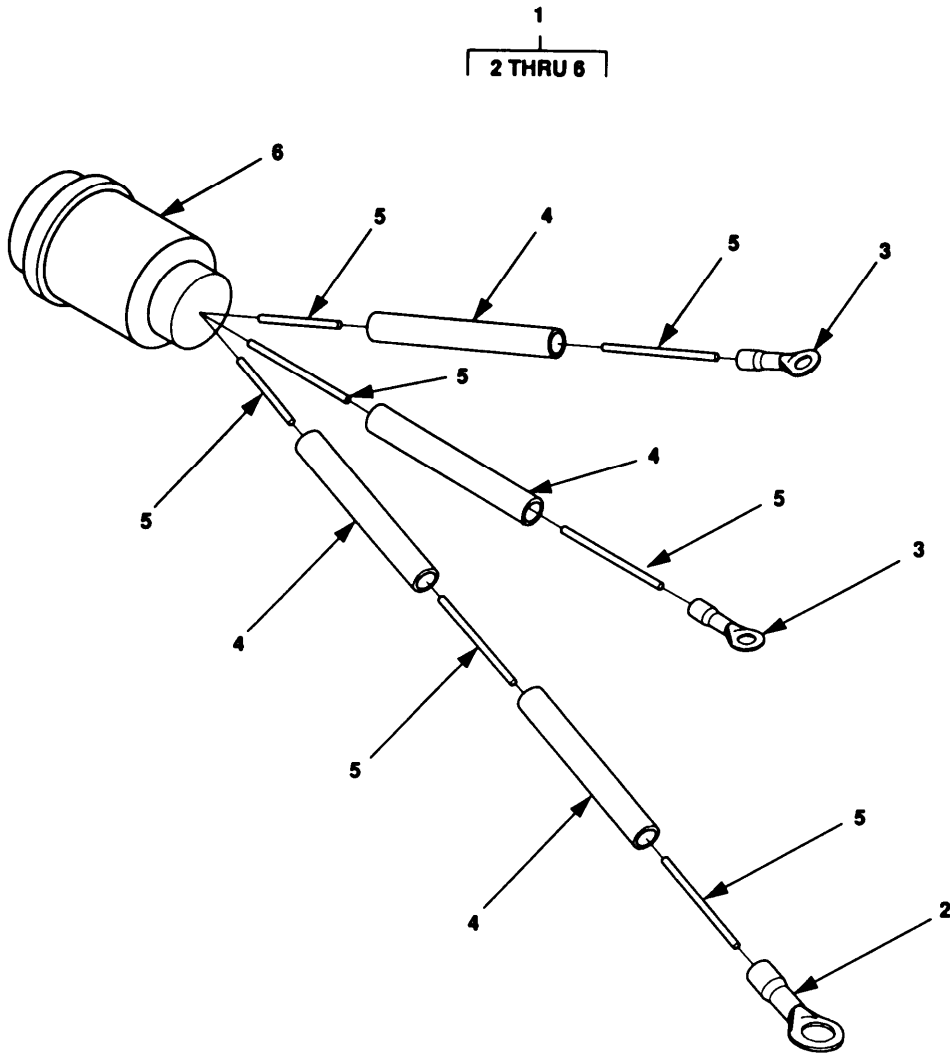
Figure F-16. Power Lead



SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM FIG. 16 POWER LEAD					
1	AFFFF	97403	13229E5811-11	.LEAD,ELECTRICAL UOC:EWB	1
2	PAFZZ	96906	MS25036-136	..TERMINAL,LUG UOC:EWB	3
3	MFFZZ	19099	13229E5811-11-5	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	V
4	MFFZZ	19099	13229E5811-11-3	..WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	V
5	AFFFF	97403	13229E5811-12	.LEAD,ELECTRICAL UOC:EWB	1
6	PAFZZ	96906	MS25036-136	..TERMINAL,LUG UOC:EWB	1
7	MFFZZ	19099	13229E5811-12-5	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	3
8	MFFZZ	19099	13229E5811-12-3	..WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
9	AFFFF	97403	13229E5811-13	.LEAD,ELECTRICAL UOC:EWB	1
10	PAFZZ	96906	MS25036-136	..TERMINAL,LUG UOC:EWB	1
11	MFFZZ	19099	13229E5811-13-5	..INSULATION SLEEVING MAKE FROM P/ N M2053/5-109-4 (81349) AS REQUIRED. UOC:EWB	3
12	MFFZZ	19099	13229E5811-13-3	..WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
13	AFFFF	97403	13229E5811-14	.LEAD,ELECTRICAL UOC:EWB	1
14	PAFZZ	98410	J787-34	..TERMINAL,LUG UOC:EWB	1
15	MFFZZ	19099	13229E5811-14-5	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	1
16	MFFZZ	19099	13229E5811-14-3	..WIRE,ELECTRICAL MAKE FROM P/N M5086/2-02-9 (81349) AS REQUIRED UOC:EWB	1
17	AFFFF	97403	13229E5811-15	.LEAD,ELECTRICAL UOC:EWB	1
18	PAFZZ	96906	MS20659-153	..TERMINAL,LUG UOC:EWB	1
19	MFFZZ	19099	13229E5811-15-5	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-109-4 (81349) AS REQUIRED UOC:EWB	1
20	MFFZZ	19099	13229E5811-15-3	..WIRE,ELECTRICAL MAKE FROM P/N	1

SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
ITEM NO	CODE		NUMBER		
			TM9-6115-663-13&P	C01	
				M5086/2-02-9 (81349) AS REQUIRED	
				UOC:EWB	
				END OF FIGURE	





WIRE LIST					
WIRE NO.	TERMINATION		TERMINATION		WIRE ITEM NO.
	FROM	ITEM NO.	TO.	ITEM NO.	
1	P1-A	6	K1-12	3	5
2	P1-B	6	K1-Y	3	5
3	P1-E	6	GND	2	5

Figure F-17. Power Switch Wiring Harness, W 18

SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 17 POWER SWITCH WIRING HARNESS, W18					
1	XDFFF	97403	13229E5806-2	.WIRING HARNESS POWER SWITCH BOX UOC:EWB	1
2	PAFZZ	96906	MS25036-154	..TERMINAL,LUG UOC:EWB	1
3	PAFZZ	96906	MS25036-107	..TERMINAL,LUG UOC:EWB	2
4	MFFZZ	19099	13229E5806-2-5	..INSULATION SLEEVING MAKE FROM P/ N M23053/5-104-4 (81349) AS REQUIRED UOC:EWB	1
5	MFFZZ	19099	13229E5806-2-2	..WIRE,ELECTRICAL MAKE FROM P/N M22759/16-16-9 (81349) AS REQUIRED UOC:EWB	1
6	PAFZZ	96906	MS3456W18-11S	..CONNECTOR,PLUG,ELEC UOC:EWB	1
END OF FIGURE					

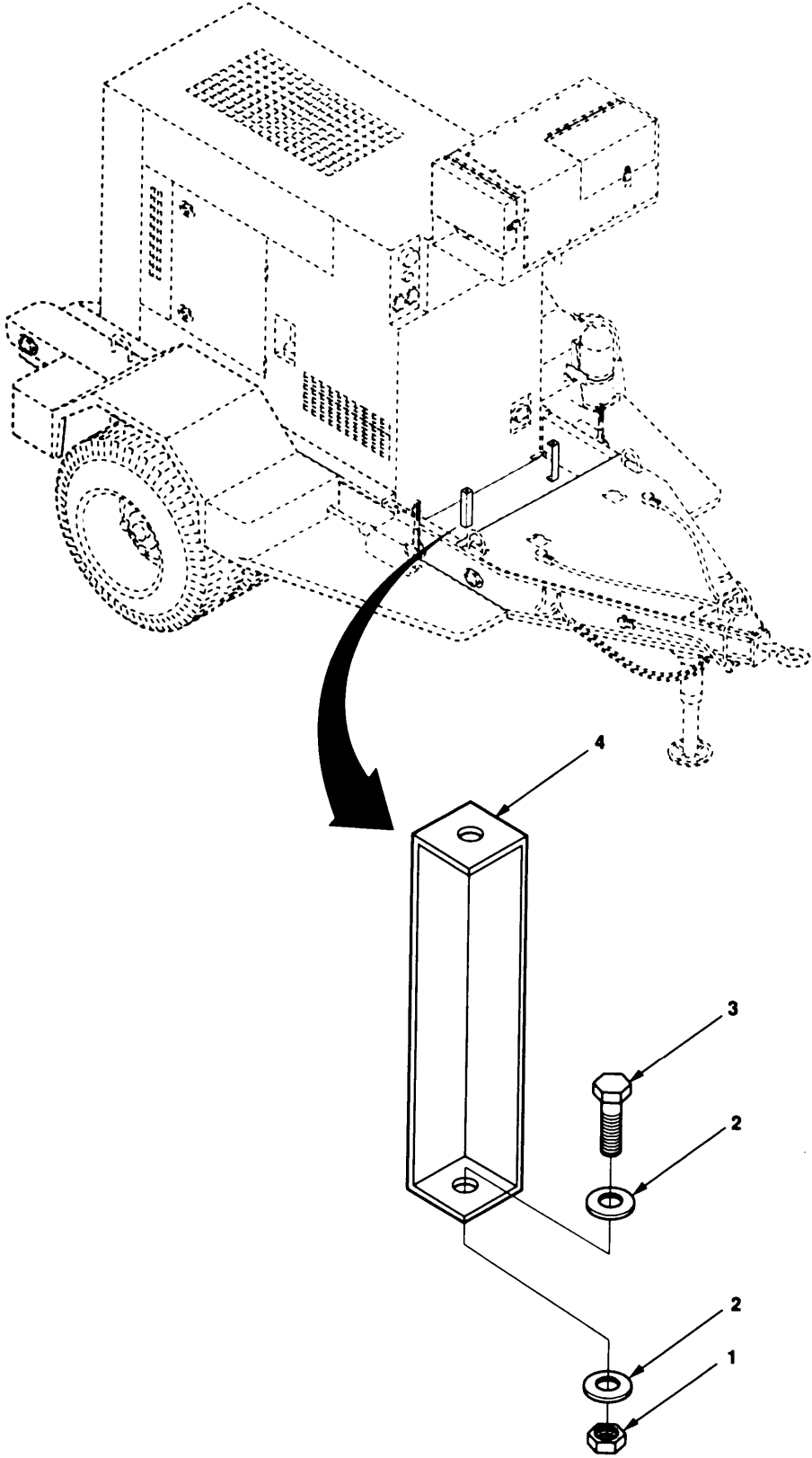


Figure F-18. Switch Box Support

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 02 ELECTRICAL SYSTEM					
FIG. 18 SWITCH BOX SUPPORT					
1	PAFZZ	96906	MS35649-2382	.NUT,PLAIN,HEXAGON UOC:EWB	2
2	PAFZZ	96906	MS51412-27	.WASHER,FLAT UOC:EWB	4
3	PAFZZ	80204	B1821BH038C138N	.SCREW,CAP,HEXAGON H UOC:EWB	2
4	XDFZZ	97403	13230E4592	.SUPPORT,SWITCH BOX UOC:EWB	2
END OF FIGURE					

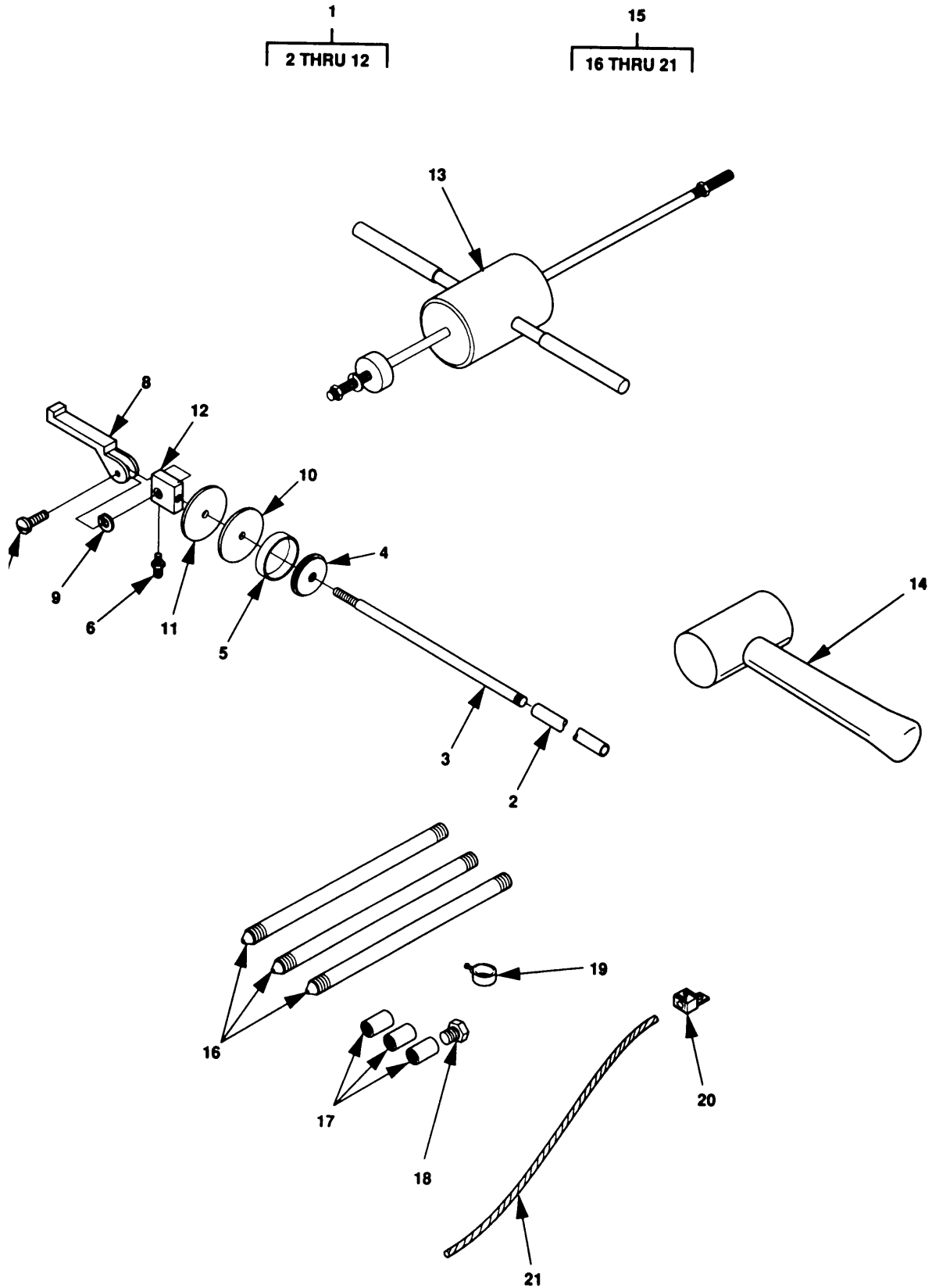


Figure F-19. Accessories



SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 03 ACCESSORIES					
FIG. 19 ACCESSORIES					
1	PAOZZ	06076	13211E7541	.ADAPTER,CONTAINER UOC:ETB,EWA	1
2	PAOZZ	97403	13211E7542	..PIPE,METALLIC UOC:EWA	1
3	PAOZZ	97403	13211E7543	..PIPE,METALLIC UOC:EWA	1
4	PAOZZ	97403	13211E7544	..WASHER,RECESSED UOC:EWA	1
5	PAOZZ	97403	13211E7546	..GASKET UOC:EWA	1
6	PAOZZ	88044	AN816-5-4	..ADAPTER,STRAIGHT,PI PIPE TO TUBE. UOC:EWA	1
7	PAOZZ	00141	4328	..SCREW,SHOULDER UOC:EWA	2
8	XAOZZ	97403	13200E6363	..CLAMP,STRAINER UOC:EWA	1
9	PAOZZ	96906	MS35335-60	..WASHER,LOCK UOC:EWA	2
10	XAOZZ	97403	13211E7547	..WASHER,FLAT UOC:EWA	1
11	XAOZZ	97403	13200E6361	..WASHER,FLAT UOC:EWA	1
12	XAOZZ	97403	13211E7548	..HEAD UOC:EWA	1
13	PAOZZ	45225	P74-144	.SLIDE HAMMER,GROUND UOC:ETB,EWA	1
14	PAOZZ	80244	GGG-H-86 TY10CL1	.HAMMER,HAND UOC:ETB,EWA	1
15	PAOOZ	15277	FS0216B122-1	.ROD,GROUND WITH ATTACHMENTS UOC:ETB,EWA	1
16	PAOZZ	56681	HLP1053A	..ROD,GROUND UOC:EWA	3
17	PAOZZ	OBKK8	GRC 58	..COUPLING,GROUND ROD UOC:EWA	3
18	PAOZZ	73616	GRB58	..DRIVE HEAD UOC:EWA	1
19	PAOZZ	04655	70-801074	..CLAMP,ELECTRICAL UOC:EWA	1
20	PAOZZ	01667	CBA-70	..TERMINAL,LUG UOC:EWA	1
21	MOOZZ	19099	FS0216B122-1-6	..WIRE,ELECTRICAL MAKE FROM P/N QQW343C06B1B (81348) AS REQUIRED UOC:EWA	1

END OF FIGURE

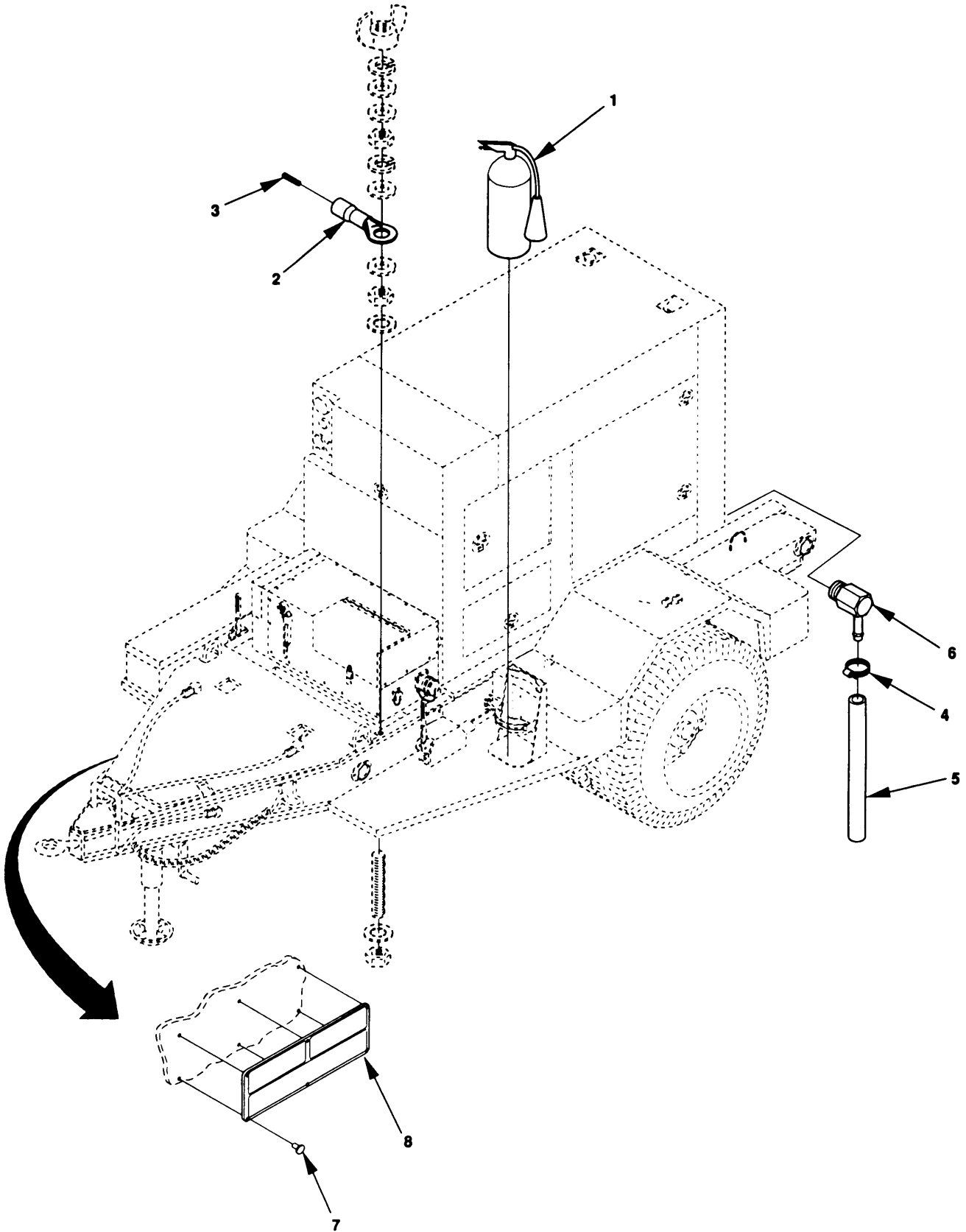


Figure F-20. Oil Drain, Fire Extinguisher and Ground Cable

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 03 ACCESSORIES					
FIG. 20 OIL DRAIN, FIRE EXTINGUISHER AND GROUND CABLE					
1	PAOZZ	99251	3304695-1	. EXTINGUISHER, FIRE UOC: ETB, EWA	1
2	PAOZZ	96906	MS25036-122	. TERMINAL, LUG UOC: ETB, EWA	1
3	MOOZZ	19099	13229E5760-16	. WIRE, ELECTRICAL MAKE FROM P/N QQ343C06B1B (81348) AS REQUIRED UOC: ETB, EWA	V
4	PAOZZ	96906	MS35842-11	. CLAMP, HOSE UOC: ETB, EWA	1
5	MOOZZ	81349	13229E5760-25	. HOSE, RUBBER MAKE FROM P/N M6000F00200 (81349) AS REQUIRED UOC: ETB, EWA	1
6	PAOZZ	96906	MS24519-9	. ELBOW, PIPE TO HOSE UOC: ETB, EWA	1
7	PAOZZ	81349	M24243/1B604	. RIVET, BLIND UOC: ETB, EWA	6
8	MDOZZ	97403	13229E5666-10	. PLATE, IDENTIFICATIO TRANSPORTATION DATA UNIT A WITH SWITCH BOX UOC: EWB	1
8	MDOZZ	97403	13229E5666-22	. PLATE, IDENTIFICATIO TRANSPORTATION DATA UOC: EWA	1
8	MDOZZ	97403	13229E5666-21	. PLATE, IDENTIFICATIO TRANSPORTATION DATA UOC: ETB	1
8	MDOZZ	97403	13229E5666-9	. PLATE, IDENTIFICATIO TRANSPORTATION DATA UNIT B WITHOUT SWITCH BOX UOC: EWB	1
END OF FIGURE					

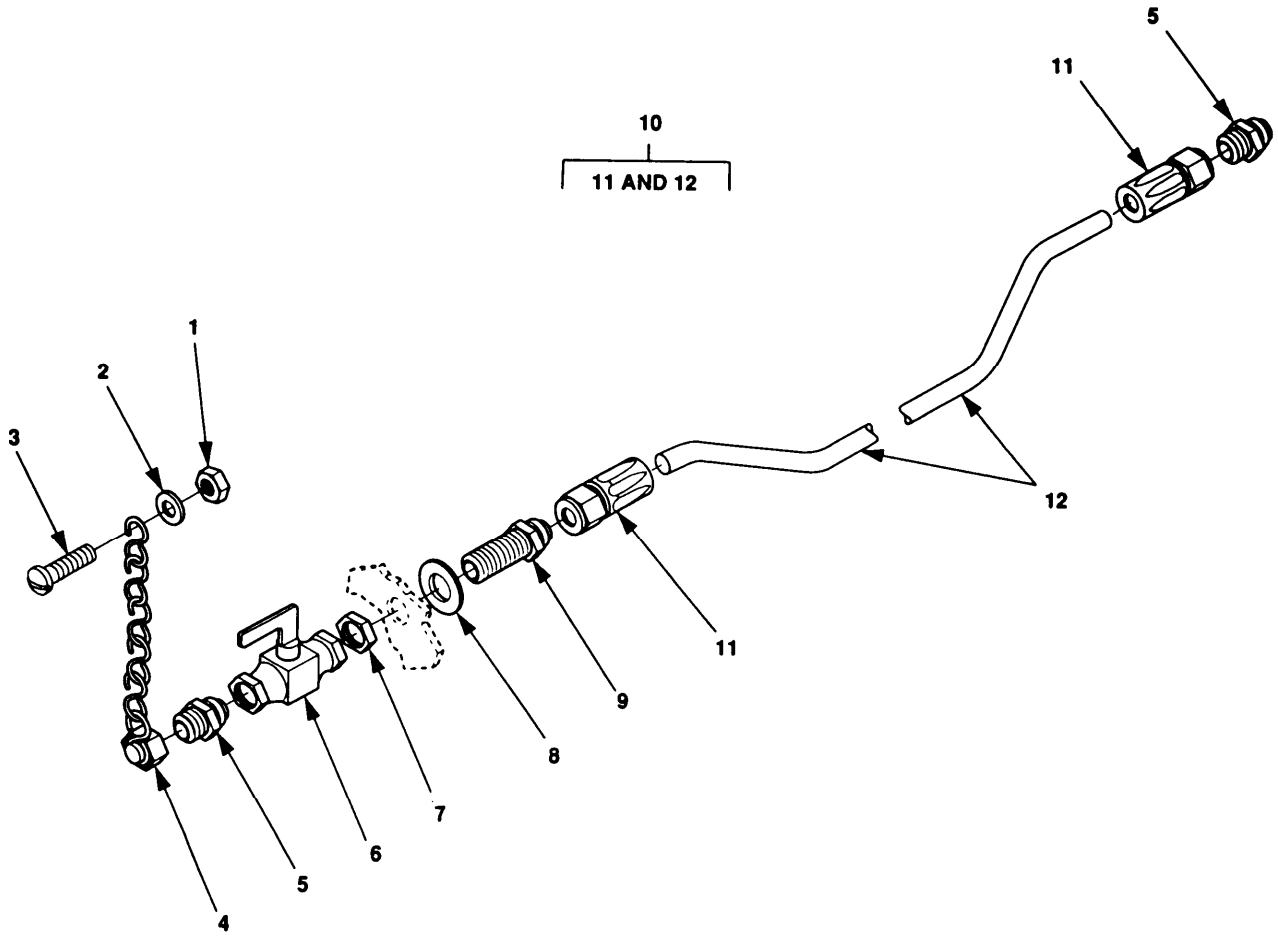


Figure F-21. Fuel Assembly Drain

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)  GROUP 03 ACCESSORIES  FIG. 21 FUEL ASSEMBLY DRAIN	(6) QTY
1	PAOZZ	96906	MS51922-1	.NUT, SELF-LOCKING, HE UOC: ETB, EWA	1
2	PAOZZ	96906	MS15795-852	. WASHER, FLAT UOC: ETB, EWA	2
3	PAOZZ	96906	MS35206-281	. SCREW, MACHINE UOC: ETB, EWA	1
4	PAOZZ	93742	69-539-2	. CAP, TUBE UOC: ETB, EWA	1
5	PAOZZ	96906	MS51519B5/A5	. NIPPLE, TUBE UOC: ETB, EWA	2
6	PAOZZ	96906	MS35930-2	. COCK, PLUG UOC: ETB, EWA	1
7	PAOZZ	96906	MS51860-54	. LOCKNUT, TUBE FITTIN UOC: ETB, EWA	1
8	PAFZZ	96906	MS51412-9	. WASHER, FLAT UOC: ETB, EWA	1
9	PAFZZ	96906	MS51520B5Z	. NIPPLE, TUBE UOC: ETB, EWA	1
10	AAAAA	96906	MS52103A050440R	. HOSE ASSEMBLY UOC: ETB, EWA	1
11	PAFZZ	96906	MS24587-5	. . ADAPTER, STRAIGHT, TU UOC: EWA	1
12	MFFZZ	19099	MS52103-2	. . HOSE, NONMETALLIC MAKE FROM P/N FC173-5 (01276) AS REQUIRED UOC: EWA	1

END OF FIGURE

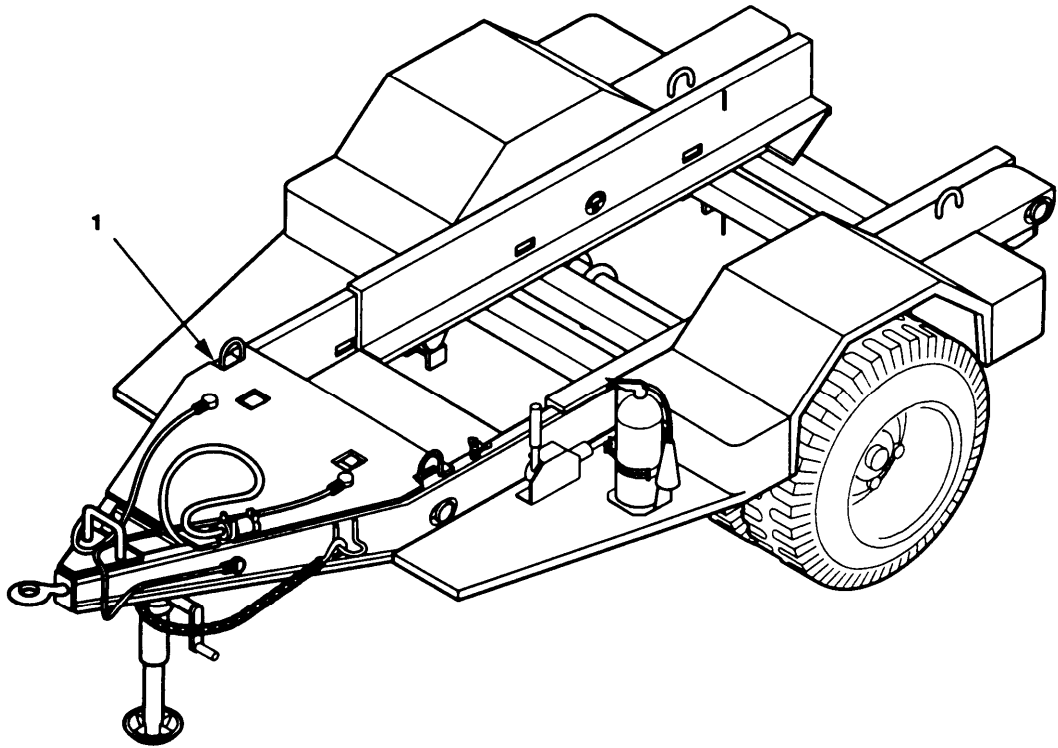


Figure F-22. Trailer Assembly

SECTION II

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
1	PBFFF	97403	13229E9632	TRAILER, GENERATOR ..... UOC:ETB,EWA,EWB	1

GROUP 04 TRAILER ASSEMBLY

FIG. 22 TRAILER ASSEMBLY

END OF FIGURE

F-22-1

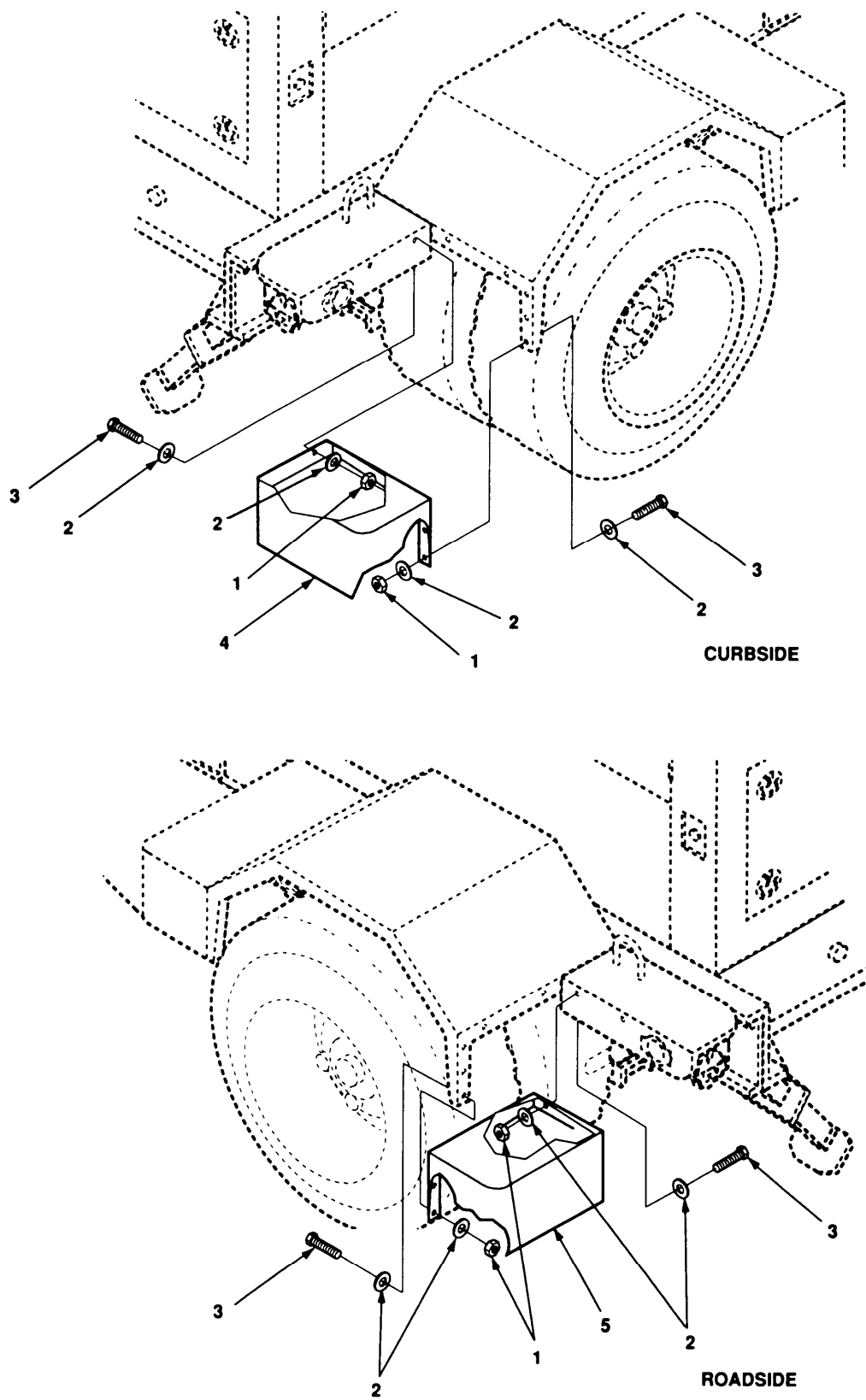


Figure F-23. Rear Steps



SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
NO	CODE		NUMBER		
GROUP 04 TRAILER ASSEMBLY					
FIG. 23 REAR STEPS					
1	PAOZZ	96906	MS51922-9	.NET, SELF-LOCKING, HE UOC: ETB, EWA	14
2	PAOZZ	96906	MS51412-25	. WASHER, FLAT UOC: ETB, EWA	28
3	PAOZZ	80204	B1821BH031C125N	. BOLT, MACHINE UOC: ET8, EWA	14
4	XDOFF	97403	13214E1259	. STEP, REAR CURBSIDE UOC: ETB, EWA	1
5	XDOFF	97403	13214E1261	. STEP, REAR ROADSIDE UOC: ETB, EWA	1
END OF FIGURE					

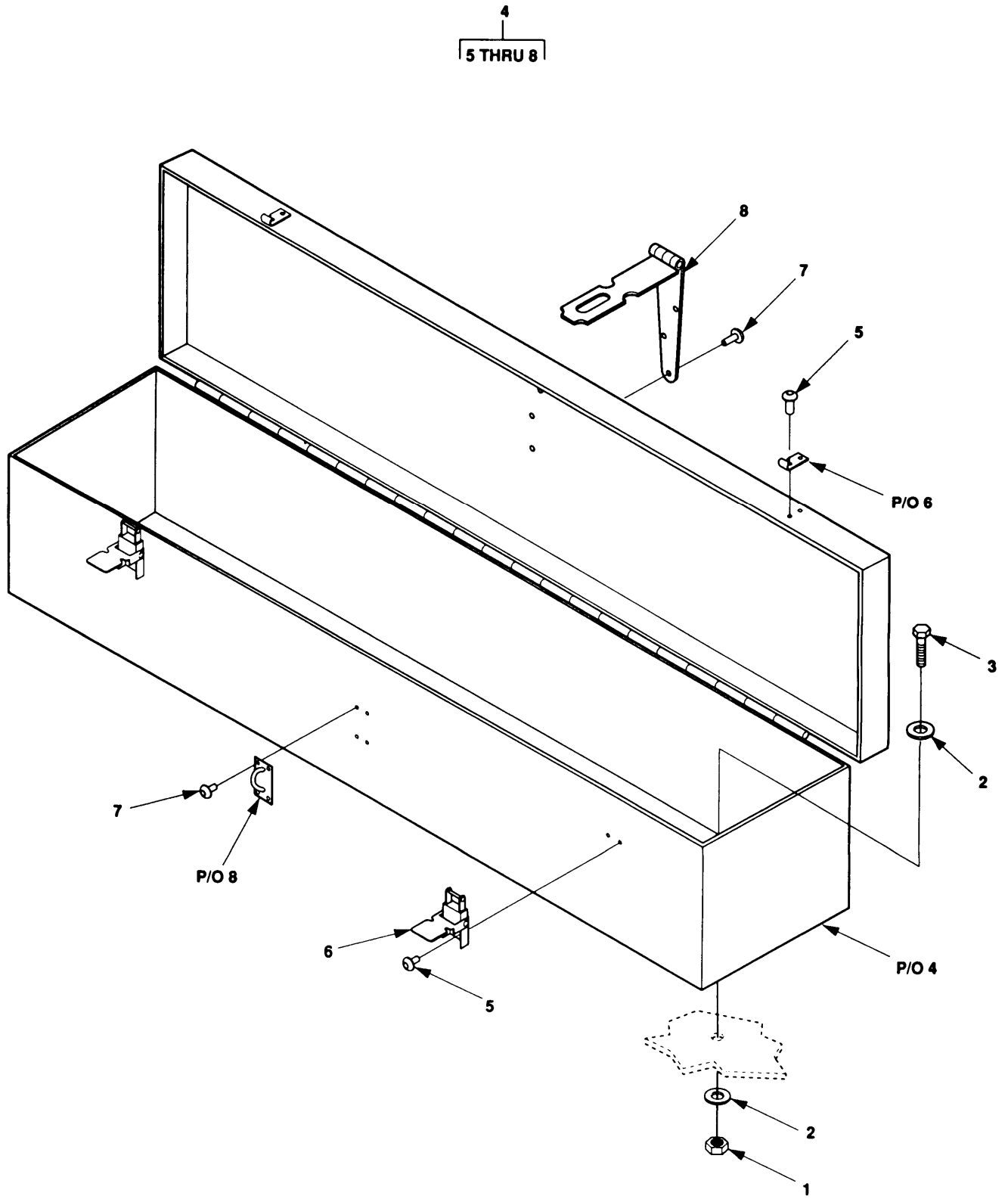


Figure F-24. Accessory Box

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 04 TRAILER ASSEMBLY					
FIG. 24 ACCESSORY BOX					
1	PAOZZ	96906	MS51922-9	.NUT, SELF-LOCKING, HE UOC: ETB, EWA	4
2	PAOZZ	96906	MS51412-25	.WASHER, FLAT UOC: ETB, EWA	8
3	PAOZZ	80204	B1821BH031C125N	.BOLT, MACHINE UOC: ETB, EWA	4
4	XDOZZ	97403	13229E7946	.ACCESSORY BOX UOC: ETB, EWA	1
5	PAOZZ	96906	MS20613-4P5	.RIVET, SOLID UOC: ETB, EWA	8
6	PAOZZ	96906	MS18015-1	.CATCH, CLAMPING UOC: ETB, EWA	2
7	PAOZZ	96906	MS20427-4C6	.RIVET, SOLID UOC: ETB, EWA	8
8	PAOZZ	96906	MS27969-4	.HASP, HINGED UOC: ETB, EWA	1
END OF FIGURE					

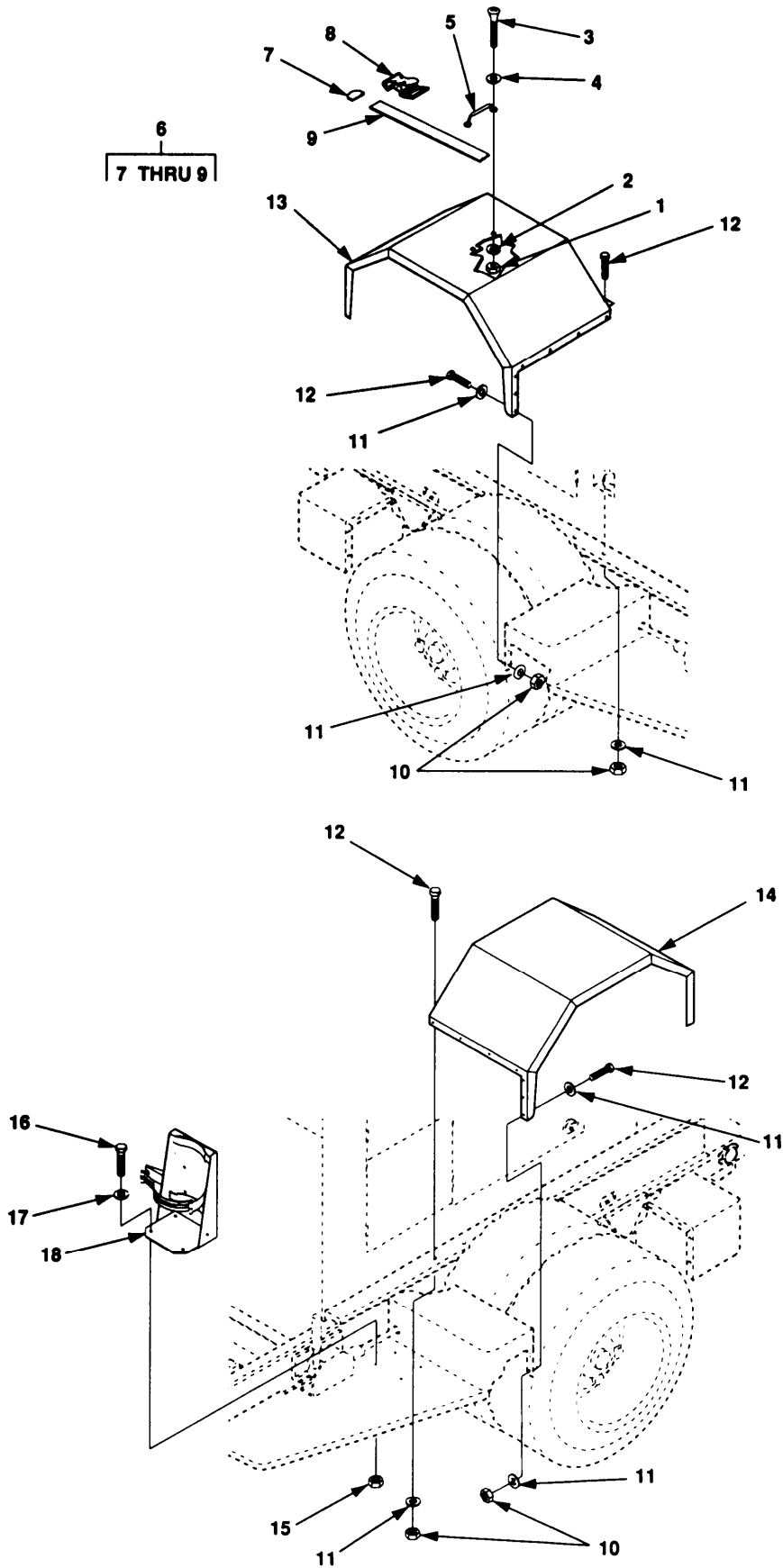


Figure F-25. Fenders

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 04 TRAILER ASSEMBLY					
FIG. 25 FENDERS					
1	PAOZZ	96906	MS35650-302	.NUT,PLAIN,HEXAGON UOC:ETB,EWA	12
2	PAOZZ	96906	MS51415-3	.WASHER,LOCK UOC:ETB,EWA	12
3	PAOZZ	96906	MS35191-273	.SCREW,MACHINE UOC:ETB,EWA	12
4	PAOZZ	96906	MS51412-21	.WASHER,FLAT UOC:ETB,EWA	12
5	PAOZZ	96906	MS51939-3	.LOOP,STRAP FASTENER UOC:ETB,EWA	6
6	XDOOO	97403	13214E9975-1	.STRAP ASSEMBLY UOC:ETB,EWA	6
7	PAOZZ	96906	MS51926-3	.CLIP,END,STRAP UOC:ETB,EWA	1
8	XAOZZ	81349	MIL-B-543 TYII,S TY1,CL 3	.BUCKLE UOC:ETB,EWA	1
9	XAOZZ	19099	13214E9975-1-3	.WEBBING,TEXTILE UOC:ETB,EWA	1
10	PAOZZ	96906	MS51922-9	.NUT,SELF-LOCKING,HE UOC:ETB,EWA	24
11	PAOZZ	96906	MS51412-25	.WASHER,FLAT UOC:ETB,EWA	48
12	PAOZZ	80204	B1821BH031C125N	.BOLT,MACHINE UOC:ETB,EWA	24
13	PAOFF	97403	13214E1263	.FENDER,VEHICULAT CURBSIDE UOC:ETB,EWA	1
14	PAOFF	97403	13214E1264	.FENDER ROADSIDE UOC:ETB,EWA	1
15	PAOZZ	96906	MS51922-17	.NUT,SELF-LOCKING,HE UOC:ETB,EWA	4
16	PAOZZ	80204	B1821BH038C075N	.SCREW,CAP,HEXAGON H UOC:ETB,EWA	4
17	PAOZZ	96906	MS51412-27	.WASHER,FLAT UOC:ETB,EWA	4
18	PAOZZ	97403	13214E1235	.BRACKET,FIRE EXTING UOC:ETB,EWA	1

END OF FIGURE

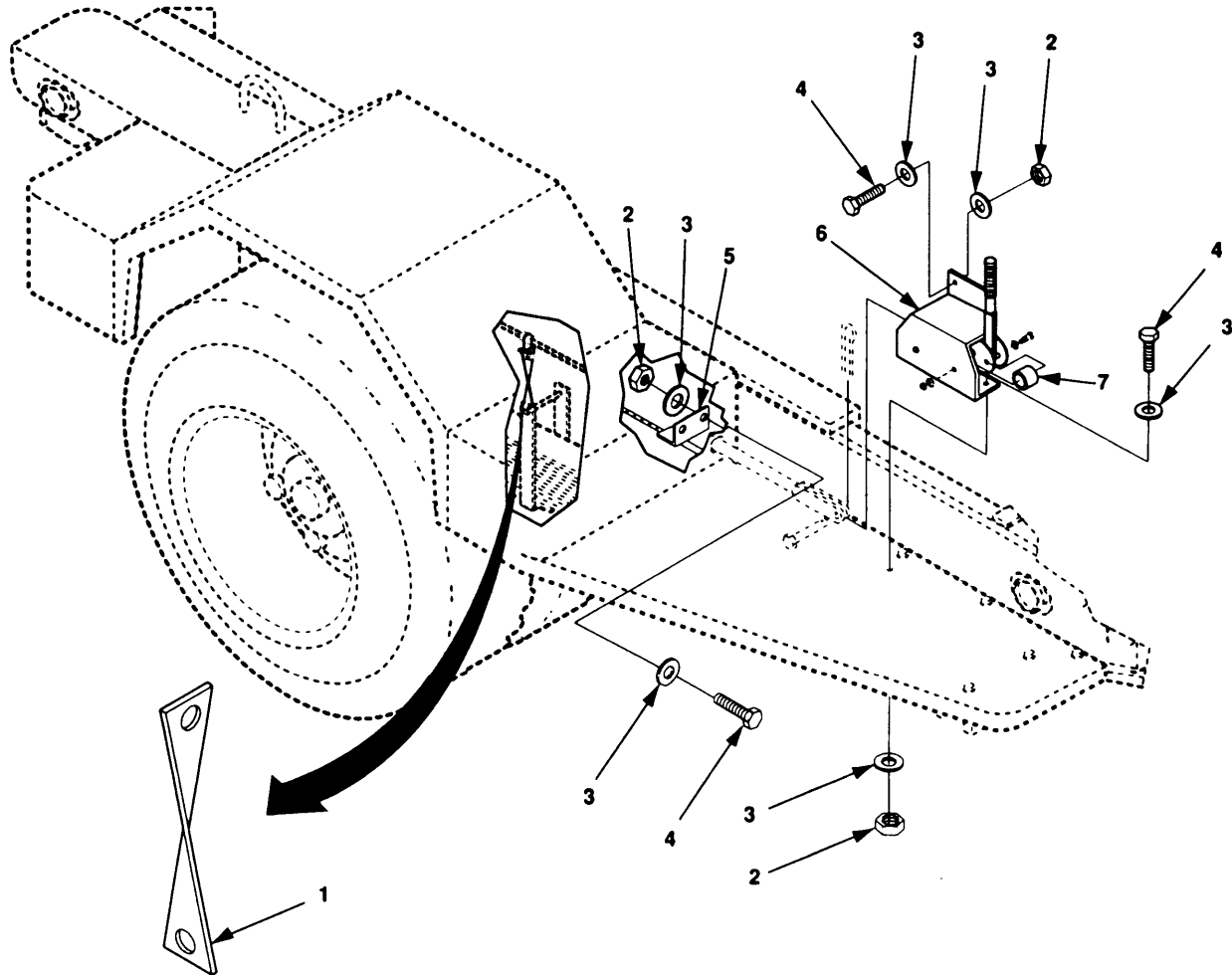


Figure F-26. Brake Assembly

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 04 TRAILER ASSEMBLY					
FIG. 26 BRAKE ASSEMBLY					
1	XDOZZ	97403	13214E1271	. STRAP, BRAKE, CABLE UOC: ETB, EWA	2
2	PAOZZ	96906	MS51922-9	. NUT, SELF-LOCKING, HE UOC: ETB, EWA	12
3	PAOZZ	96906	MS51412-25	. WASHER, FLAT UOC: ETB, EWA	24
4	PAOZZ	80204	B1821BH031C125N	. BOLT, MACHINE UOC: ETB, EWA	12
5	XDOZZ	97403	13214E1270	. BRACKET, ANGLE UOC: ETB, EWA	2
6	XDOZZ	97403	13214E1269	. BRACKET, BRAKE UOC: ETB, EWA	6
7	PAOZZ	97403	13214E1272	. SPACER, SLEEVE UOC: ETB, EWA	4
END OF FIGURE					

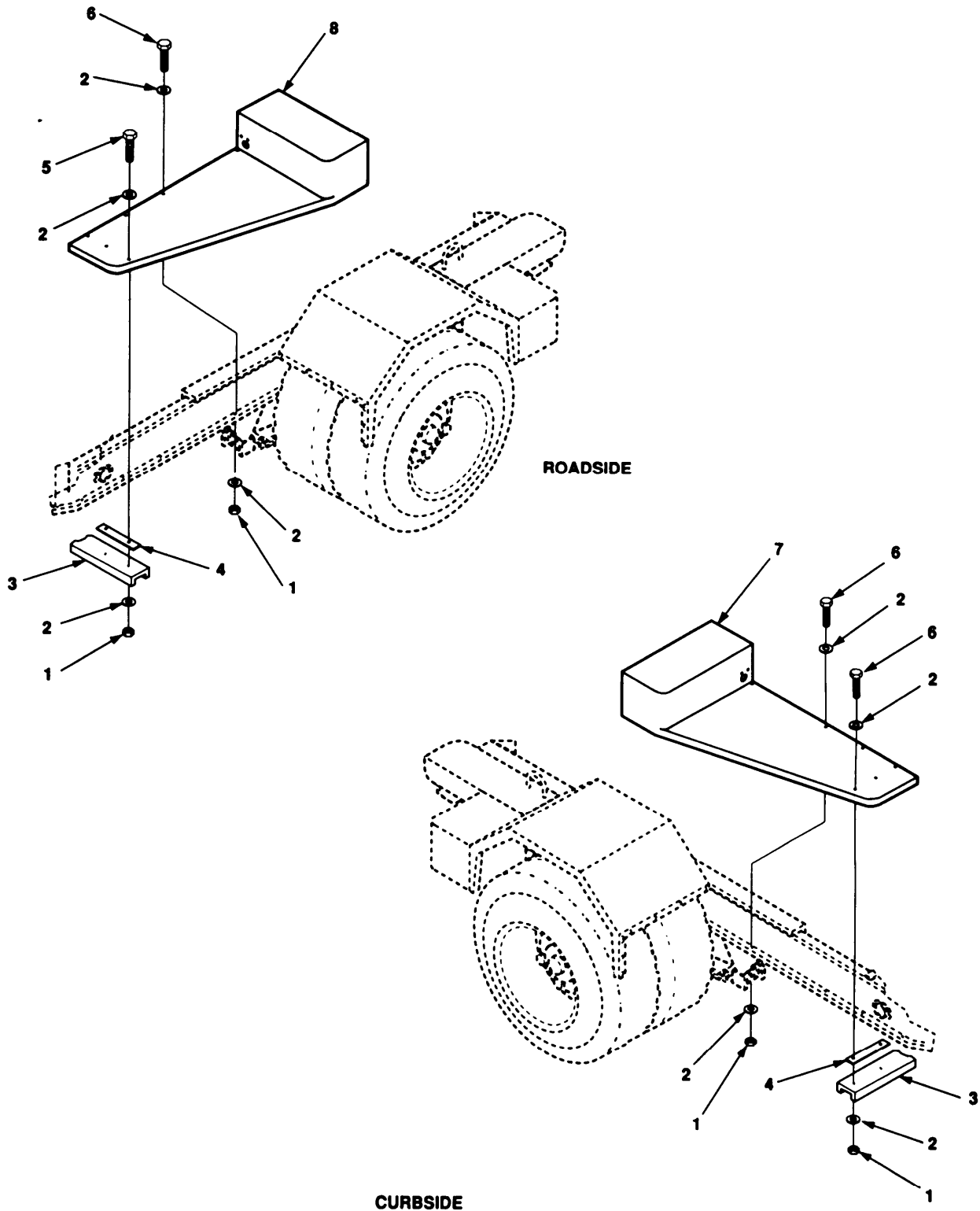


Figure F-27. Front Steps



SECTION II (1)	SMR (2)	CAGEC (3)	TM9-6115-663-13&P PART (4)	C01 (5)	(6)
ITEM NO	CODE		NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 04 TRAILER ASSEMBLY					
FIG. 27 FRONT STEPS					
1	PAOZZ	96906	MS51922-9	.NUT, SELF-LOCKING, HE UOC: ETB, EWA	12
2	PAOZZ	96906	MS51412-25	. WASHER, FLAT UOC: ETB, EWA	24
3	XDOZZ	97403	13214E1268	. CHANNEL UOC: ETB, EWA	1
5	PAOZZ	80204	B1821BH031C175N	. BOLT, MACHINE UOC: ETB, EWA	6
6	PAOZZ	80204	B1821BH031C125N	. BOLT, MACHINE UOC: ETB, EWA	6
7	PAOFF	97403	13214E1461	. STEP, FRONT, CURBSIDE UOC: ETB, EWA	1
8	PAOFF	97403	13214E1462	. STEP, FRONT, CURBSIDE UOC: ETB, EWA	1
END OF FIGURE					

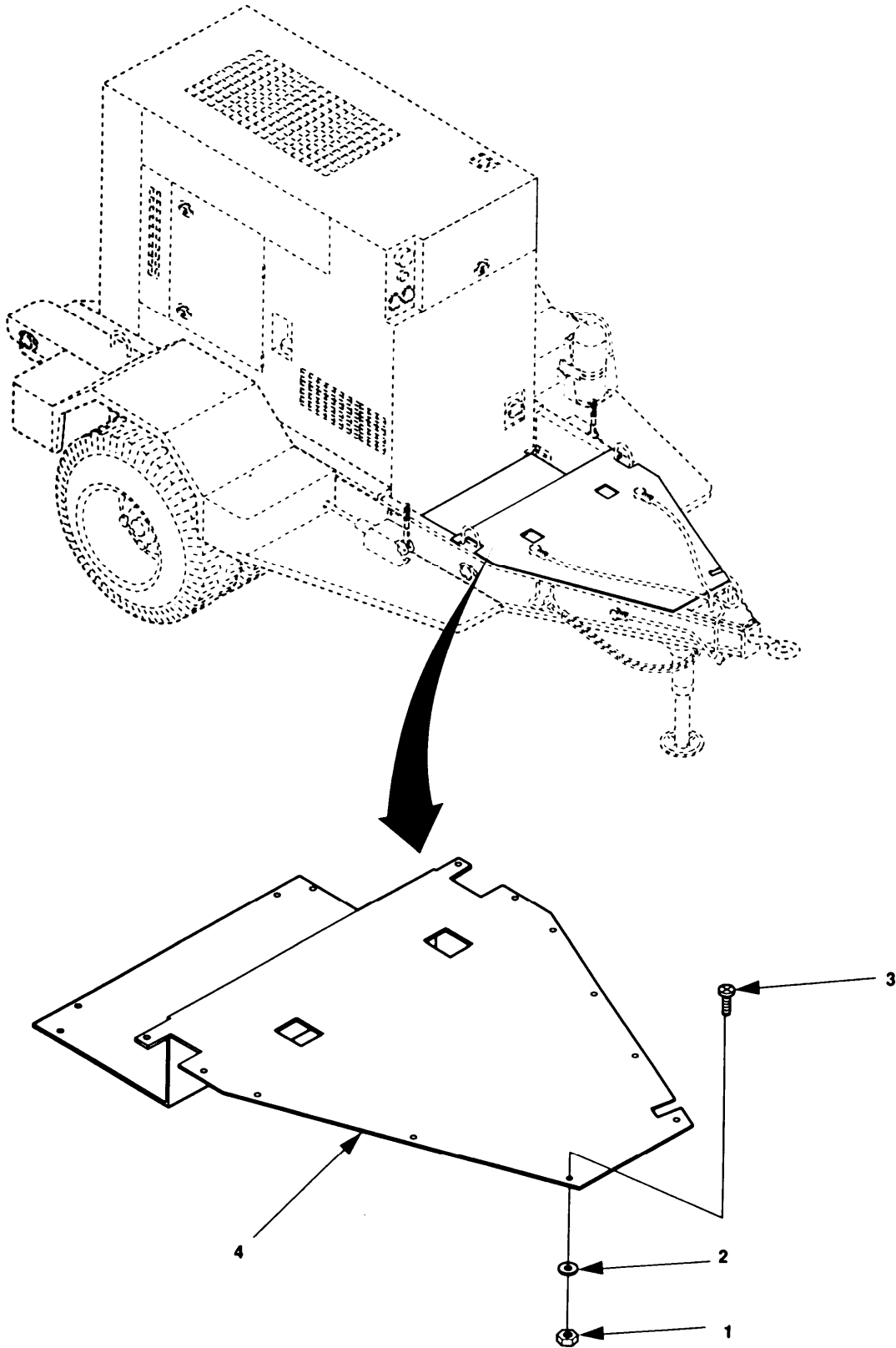


Figure F-28. Front Platform

SECTION II (1)	ITEM (2)	(3)	TM9-6115-663-13&P (4)	C01 (5)	(6)
NO	SMR CODE	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
GROUP 04 TRAILER ASSEMBLY					
FIG. 28 FRONT PLATFORM					
1	PAOZZ	96906	MS51922-9	.NUT, SELF-LOCKING, HE UOC: ETB, EWA	15
2	PAOZZ	96906	MS51412-25	. WASHER, FLAT UOC: ETB, EWA	15
3	PAOZZ	80204	B1821BH031C125N	. BOLT, MACHINE UOC: ETB, EWA	15
4	XDOFF	97403	13229E6108	. PLATFORM, FRONT UOC: ETB, EWA	1
END OF FIGURE					

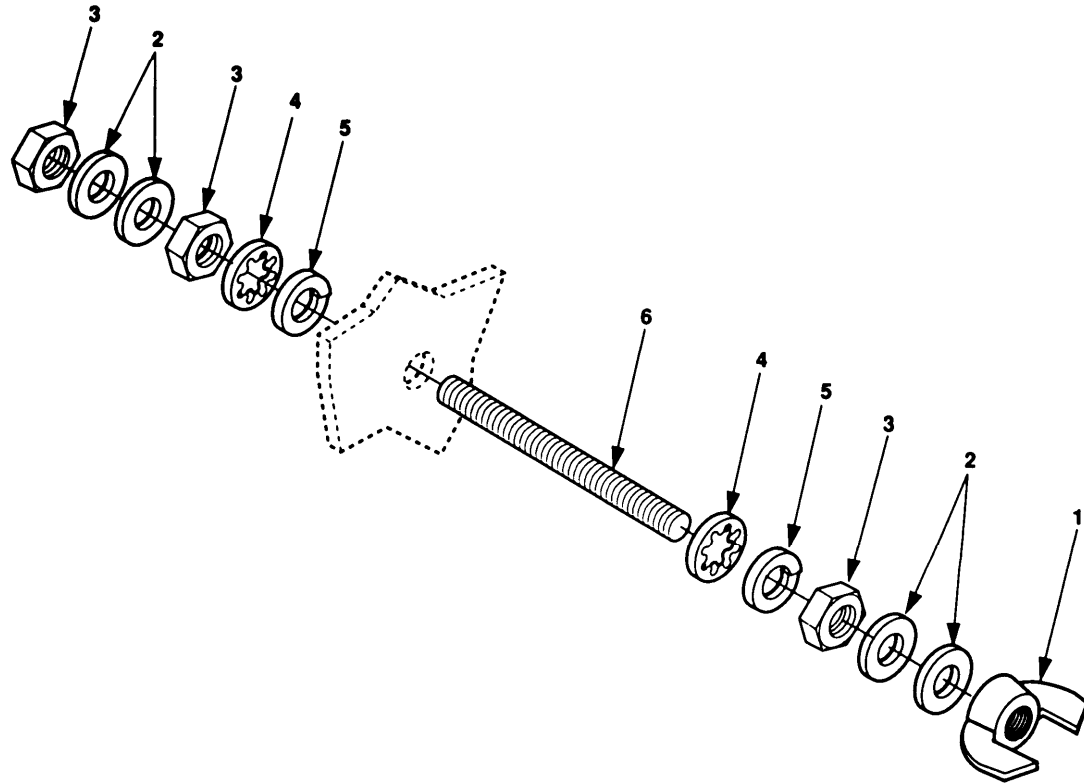


Figure F-29. Ground Stud

SECTION II (1)	SMR (2)	CAGEC (3)	PART (4)	DESCRIPTION AND USABLE ON CODES (UOC) (5)	QTY (6)
NO	CODE		NUMBER		
GROUP 04 TRAILER ASSEMBLY					
FIG. 29 GROUND STUD					
1	PAOZZ	96906	MS35425-75	.NUT,PLAIN,WING UOC:ETB,EWA	1
2	PAOZZ	81352	AN961-616	.WASHER,FLAT UOC:ETB,EWA	4
3	PAOZZ	96906	MS16203-27	.NUT,PLAIN,HEXAGON UOC:ETB,EWA	3
4	PAOZZ	96906	MS35338-103	.WASHER,LOCK UOC:ETB,EWA	2
5	PAOZZ	96906	MS35333-110	.WASHER,LOCK UOC:ETB,EWA	2
6	PAOZZ	97403	13214E1223	.STUD,CONTINUOUS THR UOC:ETB,EWA	1
END OF FIGURE					

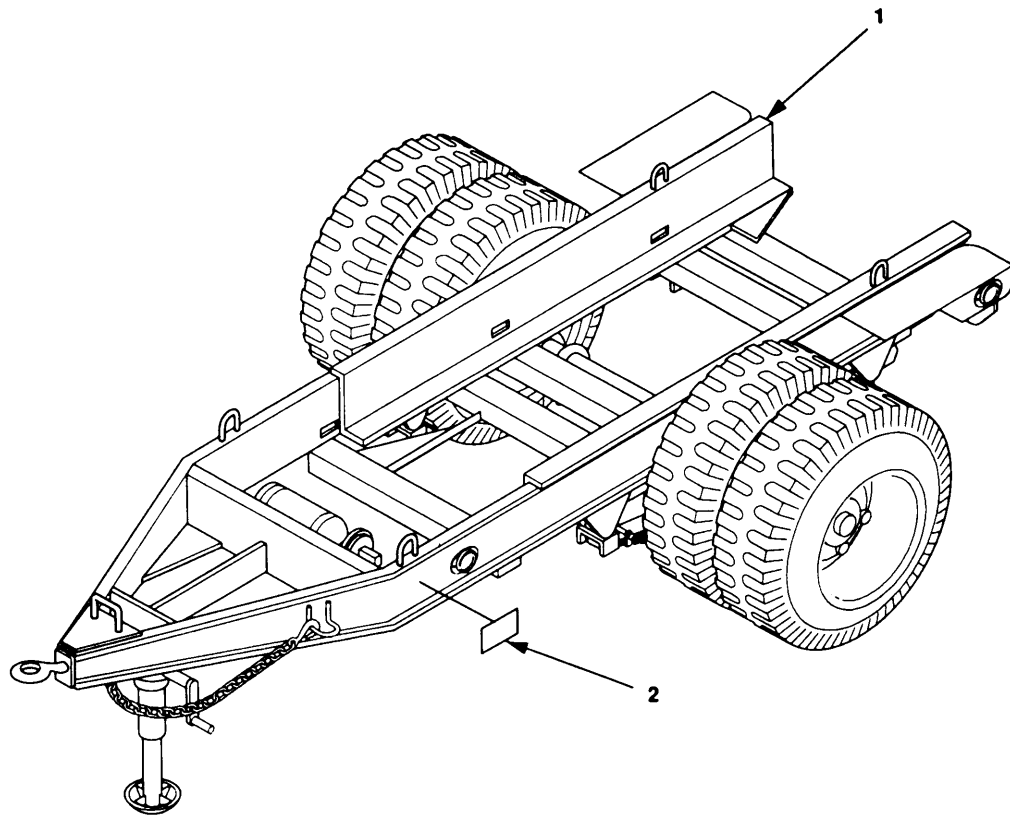


Figure F-30. Trailer Chassis

SECTION II (1)	SMR (2)	CAGEC (3)	TM9-6115-663-13&P PART (4)	C01 (5)	(6)
ITEM NO	CODE		NUMBER	DESCRIPTION AND USABLE ON CODES (UOC)	QTY
				GROUP 04 TRAILER ASSEMBLY	
				FIG. 30 TRAILER CHASSIS	
1	XAFZZ	97403	13229E9633	.CHASSIS TRLR, 2.5TON UOC:ETB, EWA	1
2	MDOZZ	97403	13205E4918	.PLATE, IDENTIFICATIO GROUND TERMINAL UOC:ETB, EWA	1
				END OF FIGURE	

SECTION II (1) ITEM NO	(2) SMR CODE	(3) CAGEC	TM9-6115-663-13&P (4) PART NUMBER	C01 (5) DESCRIPTION AND USABLE ON CODES (UOC)	(6) QTY
GROUP 05 BULK MATERIALS					
FIG. BULK					
1	PAFZZ	81349	CO-04HDE(4/0-4-4 R)2380	CABLE UOC:EWB	V
2	PAOZZ	96906	MS21266-2N	GROMMET, NONMETALLIC UOC:EWB	V
3	PAOZZ	81349	M6000F00200	HOSE, NONMETALLIC UOC:ETB, EWA	1
4	PAOZZ	01276	FC173-5	HOSE, NONMETALLIC UOC:EWB	V
5	PAFZZ	81349	M23053/5-113-0	INSULATION SLEEVING UOC:EWB	V
6	PAFZZ	81349	M23053/5-110-9	INSULATION SLEEVING UOC:EWB	V
7	PAOZZ	81349	M23053/5-107-9	INSULATION SLEEVING UOC:EWB	V
8	PAFZZ	81349	M23053/5-110-4	INSULATION SLEEVING UOC:EWB	V
9	PAFZZ	81349	M23053/5-104-4	INSULATION SLEEVING UOC:EWB	V
10	PAFZZ	81349	M23053/5-108-4	INSULATION SLEEVING UOC:EWB	V
11	PAFZZ	81349	M23053/5-109-9	INSULATION SLEEVING UOC:EWB	V
12	PAFZZ	81349	MS23053/5-109-4	INSULATION SLEEVING UOC:EWB	V
13	PAOZZ	81349	M24768/2-S-7	PLASTIC, SHEET UOC:EWB	V
14	PAOZZ	81349	MIL-R-17343	ROPE, FIBROUS UOC:EWB	V
15	PAOZZ	81348	SN60PB40	SOLDER UOC:EWB	V
16	PAOZZ	81349	M22759/16-20-9	WIRE, ELECTRICAL UOC:EWB	V
17	PAOZZ	81349	M5086/2-02-9	WIRE, ELECTRICAL UOC:EWB	V
18	PAFZZ	81349	M5086/2-4-9	WIRE, ELECTRICAL UOC:EWB	V
19	PAOZZ	81349	M22759/16-16-9	WIRE, ELECTRICAL UOC:EWB	V
20	PAOZZ	81348	QQW343C06B1B	WIRE, ELECTRICAL UOC:ETB, EWA	V

END OF FIGURE

BULK-1



**Section III**

**Special Tools List  
(Not Applicable)**



## CROSS-REFERENCE INDEXES

## NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5320-00-005-6279	3	15	5940-00-113-9835	16	10
5310-00-022-8847	29	5	5940-00-115-2678	4	9
5940-00-025-1821	9	2	5940-00-143-4774	5	10
	10	8	5940-00-143-4793	12	5
	13	2	5310-00-184-8971	29	4
	13	7	4710-00-185-6948	19	3
	13	12	5999-00-186-3912	19	19
	13	18	5310-00-209-1239	19	9
	13	23	5310-00-213-4960	8	9
	13	28	4210-00-223-4857	25	18
	16	14	5310-00-225-6993	1	1
5310-00-043-0520	8	4	5306-00-226-4829	23	3
	10	1		24	3
5310-00-043-1680	25	2		25	12
5310-00-044-6477	23	2		26	4
	24	2		27	6
	25	11		28	3
	26	3	5306-00-226-4832	27	5
	27	2	5307-00-227-1741	29	6
	28	2	5340-00-229-0340	25	5
5305-00-052-1457	14	6	5940-00-230-0515	11	2
5305-00-054-5652	3	22		17	2
5305-00-054-6670	5	1	5340-00-234-8422	24	8
5305-00-054-6671	3	7	5940-00-237-2704	8	3
	8	10	5310-00-250-9477	14	1
5310-00-056-3395	3	1	5120-00-251-4489	19	14
	18	1	4210-00-270-4512	20	1
5305-00-059-3660	15	3	5940-00-271-9504	19	20
5340-00-066-1235	19	1	4820-00-277-1765	21	6
5305-00-071-2070	1	3	4730-00-277-5115	19	6
5975-00-074-2072	3	25	5940-00-283-5280	12	3
	6	2	5340-00-291-3484	14	5
	12	2	5935-00-342-3736	8	16
5325-00-074-3301	BULK	2	5310-00-400-5503	4	1
5340-00-078-3615	5	7		10	16
5340-00-078-7029	25	7	5330-00-402-5125	19	5
5310-00-087-4652	25	15	5310-00-421-9608	8	8
5310-00-088-1251	21	1	5320-00-493-4101	20	7
5940-00-113-8179	11	3	5305-00-543-4372	25	16
	17	3	5940-00-557-4341	9	3
5940-00-113-8190	20	2		10	6
5940-00-113-9835	10	7	5310-00-566-9502	19	4
	13	3	6145-00-578-6595	BULK	18
	13	8	6145-00-578-6600	BULK	17
	13	13	5320-00-582-3304	3	18
	13	17	5320-00-582-3305	3	13
	13	22	5320-00-582-3502	3	5
	13	27	5310-00-584-7995	29	3
	16	2	4710-00-597-8731	19	2
	16	6	5305-00-685-3511	4	4

## CROSS-REFERENCE INDEXES

## NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-685-3511	10	18	5120-01-013-1676	19	13
5305-00-688-2111	3	3	4730-01-020-5607	21	7
	18	3	5935-01-035-5139	17	6
5970-00-740-2971	BULK	7	6145-01-042-4621	BULK	16
5320-00-753-3830	24	5	6145-01-044-8799	BULK	19
5970-00-781-6826	BULK	5	5310-01-078-5996	29	1
5970-00-787-2325	BULK	9	5935-01-106-4513	2	4
4730-00-809-9703	20	6	5310-01-141-6672	3	23
4730-00-812-1333	21	4	2330-01-150-9864	27	7
5970-00-812-1360	BULK	11	5999-01-167-0838	2	7
5940-00-813-0698	6	3	5935-01-175-8419	3	24
5970-00-822-2775	BULK	6	2510-01-195-4273	25	13
5305-00-841-2681	19	7	2510-01-196-4682	27	8
4730-00-842-2201	21	11	2510-01-213-3242	25	14
5935-00-852-9611	11	6	5999-01-217-4144	9	8
5975-00-878-3791	19	15		10	13
5310-00-880-5978	3	8	6145-01-226-9164	BULK	20
	5	2	5310-01-228-0597	10	2
6210-00-900-9423	7	1	6210-01-230-1851	7	4
4730-00-908-3194	20	4	5310-01-266-4641	1	2
5975-00-924-9927	19	18		21	8
4020-00-928-3438	BULK	14	5340-01-277-5068	4	6
5310-00-933-8118	3	21	5120-01-368-1646	4	5
5310-00-933-8119	3	9			
	5	3			
5310-00-933-8120	15	2			
5310-00-933-8121	4	2			
	8	5			
	10	17			
	14	2			
5310-00-934-9727	8	1			
5310-00-934-9748	3	20			
5310-00-934-9751	25	1			
5310-00-934-9760	15	1			
5970-00-959-6336	BULK	8			
5340-00-975-2126	3	6			
	3	14			
	24	6			
5310-00-982-6814	5	5			
5310-00-984-3806	23	1			
	24	1			
	25	10			
	26	2			
	27	1			
	28	1			
5305-00-984-7341	25	3			
5305-00-988-1725	21	3			
5365-00-989-3304	26	7			
5305-00-993-2457	8	6			
	10	3			

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
88044	AN816-5-4	4730-00-277-5115	19	6
88044	AN960-C4	5310-01-141-6672	3	23
81352	AN961-616		29	2
80204	B1821BH031C125N	5306-00-226-4829	23	3
			24	3
			25	12
			26	4
			27	6
			28	3
80204	B1821BH031C175N	5306-00-226-4832	27	5
80204	B1821BH038C075N	5305-00-543-4372	25	16
80204	B1821BH038C138N	5305-00-688-2111	3	3
			18	3
80204	B1821BH050C175N	5305-00-071-2070	1	3
01667	CBA-70	5940-00-271-9504	19	20
81349	CO-04HDE(4/0-4/4 R)2380		BULK	1
01276	FC173-5		BULK	4
15277	FS0216B122-1	5975-00-878-3791	19	15
19099	FS0216B122-1-6		19	21
80244	GGG-H-86 TY10CL1	5120-00-251-4489	19	14
73616	GRB58	5975-00-924-9927	19	18
OBKK8	GRC 58		19	17
58224	G9B (GR)		7	3
56681	HLP1053A		19	16
7E656	JCG-6026		15	5
98410	J787-34	5940-00-025-1821	9	2
			10	8
			13	2
			13	7
			13	12
			13	18
			13	23
			13	28
			16	14
			25	8
81349	MIL-B-543 TYII,S TY1,CL 3			
81349	MIL-R-17343	4020-00-928-3438	BULK	14
96906	MS124696	5340-00-291-3484	14	5
96906	MS15795-807	5310-00-880-5978	3	8
			5	2
96906	MS15795-852		4	3
			8	7
			10	19
			14	3
			21	2
96906	MS15795-857		15	4
96906	MS16203-27	5310-00-584-7995	29	3
96906	MS18015-1	5340-00-975-2126	3	6
			3	14
			24	6

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS20427-4C6		24	7
96906	MS20470AD4-4-5	5320-00-005-6279	3	15
96906	MS20600AD4W2	5320-00-582-3304	3	18
96906	MS20600AD4W3	5320-00-582-3305	3	13
96906	MS20601AD4W4	5320-00-582-3502	3	5
96906	MS20613-4P5	5320-00-753-3830	24	5
96906	MS20659-111	5940-00-115-2678	4	9
96906	MS20659-153		16	18
96906	MS21044C08	5310-00-982-6814	5	5
96906	MS21266-2N	5325-00-074-3301	BULK	2
96906	MS21322-33	5340-00-078-3615	5	7
81349	MS23053/5-109-4		BULK	12
96906	MS24519-9	4730-00-809-9703	20	6
96906	MS24587-5	4730-00-842-2201	21	11
96906	MS24693-C52		5	6
96906	MS25036-101	5940-00-813-0698	6	3
96906	MS25036-106	5940-00-283-5280	12	3
96906	MS25036-107	5940-00-113-8179	11	3
			17	3
96906	MS25036-110	5940-00-143-4793	12	5
96906	MS25036-122	5940-00-113-8190	20	2
96906	MS25036-123	5940-00-557-4341	9	3
			10	6
96906	MS25036-136	5940-00-113-9835	10	7
			13	3
			13	8
			13	13
			13	17
			13	22
			13	27
			16	2
			16	6
			16	10
96906	MS25036-153	5940-00-143-4774	5	10
96906	MS25036-154	5940-00-230-0515	11	2
			17	2
96906	MS25043-18DA	5935-01-175-8419	3	24
96906	MS27130-93		3	28
96906	MS27130-96		3	27
96906	MS27407-3		5	9
96906	MS27969-4	5340-00-234-8422	24	8
96906	MS3100R20-27S		12	8
96906	MS3102R18-11P	5935-00-852-9611	11	6
96906	MS3106R20-27P		6	6
96906	MS3348-4/0-2/0L	5999-01-217-4144	9	8
			10	13
96906	MS3348-6-8L	5999-01-167-0838	2	7
96906	MS3367-1-9	5975-00-074-2072	3	25
			6	2
			12	2
96906	MS3456W18-11S	5935-01-035-5139	17	6

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS35191-273	5305-00-984-7341	25	3
96906	MS35206-281	5305-00-988-1725	21	3
96906	MS35207-284	5305-00-993-2457	8	6
			10	3
96906	MS35308-3	5305-00-052-1457	14	6
96906	MS35308-306	5305-00-685-3511	4	4
			10	18
96906	MS35333-110	5310-00-022-8847	29	5
96906	MS35333-116		8	2
96906	MS35335-60	5310-00-209-1239	19	9
96906	MS35338-103	5310-00-184-8971	29	4
96906	MS35338-135	5310-00-933-8118	3	21
96906	MS35338-137	5310-00-933-8119	3	9
			5	3
96906	MS35338-138	5310-00-933-8120	15	2
96906	MS35338-139	5310-00-933-8121	4	2
			8	5
			10	17
			14	2
96906	MS35425-75	5310-01-078-5996	29	1
96906	MS35649-204	5310-00-934-9760	15	1
96906	MS35649-2254	5310-00-250-9477	14	1
96906	MS35649-2382	5310-00-056-3395	3	1
			18	1
96906	MS35649-244	5310-00-934-9748	3	20
96906	MS35650-302	5310-00-934-9751	25	1
96906	MS35650-3252	5310-00-043-0520	8	4
			10	1
96906	MS35650-3254	5310-00-400-5503	4	1
			10	16
96906	MS35691-59	5310-00-934-9727	8	1
96906	MS35842-11	4730-00-908-3194	20	4
96906	MS35930-2	4820-00-277-1765	21	6
96906	MS39347-6	5940-00-237-2704	8	3
96906	MS51412-21		25	4
96906	MS51412-25	5310-00-044-6477	23	2
			24	2
			25	11
			26	3
			27	2
			28	2
96906	MS51412-27		3	2
			18	2
			25	17
96906	MS51412-4		10	4
96906	MS51412-9	5310-01-266-4641	1	2
			21	8
96906	MS51415-3	5310-00-043-1680	25	2
96906	MS51415-5	5310-01-228-0597	10	2
96906	MS51519B5/A5		21	5
96906	MS51520B5Z		21	9

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
96906	MS51858-4	5310-00-421-9608	8	8
96906	MS51859-4	5310-00-213-4960	8	9
96906	MS51860-54	4730-01-020-5607	21	7
96906	MS51922-1	5310-00-088-1251	21	1
96906	MS51922-17	5310-00-087-4652	25	15
96906	MS51922-33	5310-00-225-6993	1	1
96906	MS51922-9	5310-00-984-3806	23	1
			24	1
			25	10
			26	2
			27	1
			28	1
96906	MS51926-3	5340-00-078-7029	25	7
96906	MS51939-3	5340-00-229-0340	25	5
96906	MS51957-18	5305-00-054-5652	3	22
96906	MS51957-45	5305-00-054-6670	5	1
96906	MS51957-46	5305-00-054-6671	3	7
			8	10
96906	MS51958-64	5305-00-059-3660	15	3
19099	MS52103-2		21	12
96906	MS52103A050440R		21	10
96906	MS90555C52413S		9	9
96906	MS90557C52413S	5935-01-106-4513	2	4
96906	MS90558C52413P		10	14
96906	MS90563-11C		14	7
96906	MS90564-11C	5935-00-342-3736	8	16
81349	M22759/16-16-9	6145-01-044-8799	BULK	19
81349	M22759/16-20-9	6145-01-042-4621	BULK	16
81349	M23053/5-104-4	5970-00-787-2325	BULK	9
81349	M23053/5-107-9	5970-00-740-2971	BULK	7
81349	M23053/5-108-4		BULK	10
81349	M23053/5-109-9	5970-00-812-1360	BULK	11
81349	M23053/5-110-4	5970-00-959-6336	BULK	8
81349	M23053/5-110-9	5970-00-822-2775	BULK	6
81349	M23053/5-113-0	5970-00-781-6826	BULK	5
81349	M24243/1B604	5320-00-493-4101	20	7
81349	M24768/2-S-7		BULK	13
81349	M39029/49-332		2	6
81349	M39029/49-335		2	5
81349	M45938/1-13C		5	14
81349	M5086/2-02-9	6145-00-578-6600	BULK	17
81349	M5086/2-4-9	6145-00-578-6595	BULK	18
81349	M6000F00200		BULK	3
45225	P74-144	5120-01-013-1676	19	13
81348	QQW343C06B1B	6145-01-226-9164	BULK	20
81348	SN60PB40		BULK	15
81349	TBJA		5	13
97403	13200E6361		19	11
97403	13200E6363		19	8
97403	13205E4918		30	2
06076	13211E7541	5340-00-066-1235	19	1



## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
97403	13211E7542	4710-00-597-8731	19	2
97403	13211E7543	4710-00-185-6948	19	3
97403	13211E7544	5310-00-566-9502	19	4
97403	13211E7546	5330-00-402-5125	19	5
97403	13211E7547		19	10
97403	13211E7548		19	12
97403	13214E1223	5307-00-227-1741	29	6
97403	13214E1235	4210-00-223-4857	25	18
97403	13214E1259		23	4
97403	13214E1261		23	5
97403	13214E1263	2510-01-195-4273	25	13
97403	13214E1264	2510-01-213-3242	25	14
97403	13214E1268		27	3
97403	13214E1269		26	6
97403	13214E1270		26	5
97403	13214E1271		26	1
97403	13214E1272	5365-00-989-3304	26	7
97403	13214E1391	6210-00-900-9423	7	1
97403	13214E1461	2330-01-150-9864	27	7
97403	13214E1462	2510-01-196-4682	27	8
97403	13214E9975-1		25	6
19099	13214E9975-1-3		25	9
97403	13229E5666-10		20	8
97403	13229E5666-21		20	8
97403	13229E5666-22		20	8
97403	13229E5666-9		20	8
97403	13229E5706-4		12	4
97403	13229E5728-2		3	11
97403	13229E5741		2	1
19099	13229E5741-2		2	8
19099	13229E5741-3		2	2
19099	13229E5741-4		2	3
19099	13229E5760-16		20	3
81349	13229E5760-25		20	5
97403	13229E5788-3		10	20
97403	13229E5792-3		3	19
97403	13229E5793-1		5	15
97403	13229E5793-2		5	16
97403	13229E5795-3		3	4
19099	13229E5795-3-65		4	8
19099	13229E5795-3-67		8	12
19099	13229E5795-3-68		8	13
19099	13229E5795-3-69		8	14
19099	13229E5795-3-70		8	15
19099	13229E5796-1-15		3	29
97403	13229E5796-3		3	26
97403	13229E5800-2		12	1
19099	13229E5800-2-2		12	7
19099	13229E5800-2-6		12	6
97403	13229E5801-3		3	12
97403	13229E5802		5	4

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
19099	13229E5802-10		5	11
19099	13229E5802-4		5	8
97403	13229E5804		3	10
97403	13229E5805		5	12
97403	13229E5806-1		11	1
19099	13229E5806-1-2		11	5
19099	13229E5806-1-5		11	4
97403	13229E5806-2		17	1
19099	13229E5806-2-2		17	5
19099	13229E5806-2-5		17	4
97403	13229E5807-3		8	11
97403	13229E5809-3		9	1
19099	13229E5809-3-17		9	5
19099	13229E5809-3-18		9	4
19099	13229E5809-3-5		9	7
19099	13229E5809-3-8		9	6
97403	13229E5809-4		10	5
19099	13229E5809-4-17		10	9
19099	13229E5809-4-18		10	10
19099	13229E5809-4-5		10	11
19099	13229E5809-4-8		10	12
97403	13229E5810-17		13	16
19099	13229E5810-17-11		13	19
19099	13229E5810-17-7		13	20
97403	13229E5810-18		13	21
19099	13229E5810-18-11		13	24
19099	13229E5810-18-7		13	25
97403	13229E5810-19		13	26
19099	13229E5810-19-11		13	29
19099	13229E5810-19-7		13	30
97403	13229E5810-7		13	11
19099	13229E5810-7-11		13	14
19099	13229E5810-7-7		13	15
97403	13229E5810-8		13	6
19099	13229E5810-8-11		13	9
19099	13229E5810-8-7		13	10
97403	13229E5810-9		13	1
19099	13229E5810-9-11		13	4
19099	13229E5810-9-7		13	5
97403	13229E5811-11		16	1
19099	13229E5811-11-3		16	4
19099	13229E5811-11-5		16	3
97403	13229E5811-12		16	5
19099	13229E5811-12-3		16	8
19099	13229E5811-12-5		16	7
97403	13229E5811-13		16	9
19099	13229E5811-13-3		16	12
19099	13229E5811-13-5		16	11
97403	13229E5811-14		16	13
19099	13229E5811-14-3		16	16
19099	13229E5811-14-5		16	15

## CROSS-REFERENCE INDEXES

CAGEC	PART NUMBER	PART NUMBER INDEX STOCK NUMBER	FIG.	ITEM
97403	13229E5811-15		16	17
19099	13229E5811-15-3		16	20
19099	13229E5811-15-5		16	19
97403	13229E5815		10	21
97403	13229E5816-2		14	4
97403	13229E5834		3	17
97403	13229E5835		3	16
97403	13229E5837		6	1
19099	13229E5837-2		6	5
19099	13229E5837-3		6	4
97403	13229E6108		28	4
97403	13229E7946		24	4
97403	13229E9632		22	1
97403	13229E9633		30	1
97403	13230E4592		18	4
72619	181-0931-001		7	2
72619	181-8836-09-553	6210-01-230-1851	7	4
59730	2G4-2		4	7
99251	3304695-1	4210-00-270-4512	20	1
00141	4328	5305-00-841-2681	19	7
93742	69-539-2	4730-00-812-1333	21	4
04655	70-801074	5999-00-186-3912	19	19
30554	72-2135	5340-01-277-5068	4	6
30554	88-21148	5120-01-368-1646	4	5
30554	88-806		1	4
30554	88-816		1	4

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
BULK	1		81349	CO-04HDE(4/0-4/4 R)2380
BULK	2	5325-00-074-3301	96906	MS21266-2N
BULK	3		81349	M6000F00200
BULK	4		01276	FC173-5
BULK	5	5970-00-781-6826	81349	M23053/5-113-0
BULK	6	5970-00-822-2775	81349	M23053/5-110-9
BULK	7	5970-00-740-2971	81349	M23053/5-107-9
BULK	8	5970-00-959-6336	81349	M23053/5-110-4
BULK	9	5970-00-787-2325	81349	M23053/5-104-4
BULK	10		81349	M23053/5-108-4
BULK	11	5970-00-812-1360	81349	M23053/5-109-9
BULK	12		81349	MS23053/5-109-4
BULK	13		81349	M24768/2-S-7
BULK	14	4020-00-928-3438	81349	MIL-R-17343
BULK	15		81348	SN60PB40
BULK	16	6145-01-042-4621	81349	M22759/16-20-9
BULK	17	6145-00-578-6600	81349	M5086/2-02-9
BULK	18	6145-00-578-6595	81349	M5086/2-4-9
BULK	19	6145-01-044-8799	81349	M22759/16-16-9
BULK	20	6145-01-226-9164	81348	QQW343C06B1B
1	1	5310-00-225-6993	96906	MS51922-33
1	2	5310-01-266-4641	96906	MS51412-9
1	3	5305-00-071-2070	80204	B1821BH050C175N
1	4		30554	88-806
1	4		30554	88-816
2	1		97403	13229E5741
2	2		19099	13229E5741-3
2	3		19099	13229E5741-4
2	4	5935-01-106-4513	96906	MS90557C52413S
2	5		81349	M39029/49-335
2	6		81349	M39029/49-332
2	7	5999-01-167-0838	96906	MS3348-6-8L
2	8		19099	13229E5741-2
3	1	5310-00-056-3395	96906	MS35649-2382
3	2		96906	MS51412-27
3	3	5305-00-688-2111	80204	B1821BH038C138N
3	4		97403	13229E5795-3
3	5	5320-00-582-3502	96906	MS20601AD4W4
3	6	5340-00-975-2126	96906	MS18015-1
3	7	5305-00-054-6671	96906	MS51957-46
3	8	5310-00-880-5978	96906	MS15795-807
3	9	5310-00-933-8119	96906	MS35338-137
3	10		97403	13229E5804
3	11		97403	13229E5728-2
3	12		97403	13229E5801-3
3	13	5320-00-582-3305	96906	MS20600AD4W3
3	14	5340-00-975-2126	96906	MS18015-1
3	15	5320-00-005-6279	96906	MS20470AD4-4-5
3	16		97403	13229E5835
3	17		97403	13229E5834

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX		
		STOCK NUMBER	CAGEC	PART NUMBER
3	18	5320-00-582-3304	96906	MS20600AD4W2
3	19		97403	13229E5792-3
3	20	5310-00-934-9748	96906	MS35649-244
3	21	5310-00-933-8118	96906	MS35338-135
3	22	5305-00-054-5652	96906	MS51957-18
3	23	5310-01-141-6672	88044	AN960-C4
3	24	5935-01-175-8419	96906	MS25043-18DA
3	25	5975-00-074-2072	96906	MS3367-1-9
3	26		97403	13229E5796-3
3	27		96906	MS27130-96
3	28		96906	MS27130-93
3	29		19099	13229E5796-1-15
4	1	5310-00-400-5503	96906	MS35650-3254
4	2	5310-00-933-8121	96906	MS35338-139
4	3		96906	MS15795-852
4	4	5305-00-685-3511	96906	MS35308-306
4	5	5120-01-368-1646	30554	88-21148
4	6	5340-01-277-5068	30554	72-2135
4	7		59730	2G4-2
4	8		19099	13229E5795-3-65
4	9	5940-00-115-2678	96906	MS20659-111
5	1	5305-00-054-6670	96906	MS51957-45
5	2	5310-00-880-5978	96906	MS15795-807
5	3	5310-00-933-8119	96906	MS35338-137
5	4		97403	13229E5802
5	5	5310-00-982-6814	96906	MS21044C08
5	6		96906	MS24693-C52
5	7	5340-00-078-3615	96906	MS21322-33
5	8		19099	13229E5802-4
5	9		96906	MS27407-3
5	10	5940-00-143-4774	96906	MS25036-153
5	11		19099	13229E5802-10
5	12		97403	13229E5805
5	13		81349	TBJA
5	14		81349	M45938/1-13C
5	15		97403	13229E5793-1
5	16		97403	13229E5793-2
6	1		97403	13229E5837
6	2	5975-00-074-2072	96906	MS3367-1-9
6	3	5940-00-813-0698	96906	MS25036-101
6	4		19099	13229E5837-3
6	5		19099	13229E5837-2
6	6		96906	MS3106R20-27P
7	1	6210-00-900-9423	97403	13214E1391
7	2		72619	181-0931-001
7	3		58224	G9B (GR)
7	4	6210-01-230-1851	72619	181-8836-09-553
8	1	5310-00-934-9727	96906	MS35691-59
8	2		96906	MS35333-116
8	3	5940-00-237-2704	96906	MS39347-6
8	4	5310-00-043-0520	96906	MS35650-3252

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX		PART NUMBER
		STOCK NUMBER	CAGEC	
8	5	5310-00-933-8121	96906	MS35338-139
8	6	5305-00-993-2457	96906	MS35207-284
8	7		96906	MS15795-852
8	8	5310-00-421-9608	96906	MS51858-4
8	9	5310-00-213-4960	96906	MS51859-4
8	10	5305-00-054-6671	96906	MS51957-46
8	11		97403	13229E5807-3
8	12		19099	13229E5795-3-67
8	13		19099	13229E5795-3-68
8	14		19099	13229E5795-3-69
8	15		19099	13229E5795-3-70
8	16	5935-00-342-3736	96906	MS90564-11C
9	1		97403	13229E5809-3
9	2	5940-00-025-1821	98410	J787-34
9	3	5940-00-557-4341	96906	MS25036-123
9	4		19099	13229E5809-3-18
9	5		19099	13229E5809-3-17
9	6		19099	13229E5809-3-8
9	7		19099	13229E5809-3-5
9	8	5999-01-217-4144	96906	MS3348-4/0-2/0L
9	9		96906	MS90555C52413S
10	1	5310-00-043-0520	96906	MS35650-3252
10	2	5310-01-228-0597	96906	MS51415-5
10	3	5305-00-993-2457	96906	MS35207-284
10	4		96906	MS51412-4
10	5		97403	13229E5809-4
10	6	5940-00-557-4341	96906	MS25036-123
10	7	5940-00-113-9835	96906	MS25036-136
10	8	5940-00-025-1821	98410	J787-34
10	9		19099	13229E5809-4-17
10	10		19099	13229E5809-4-18
10	11		19099	13229E5809-4-5
10	12		19099	13229E5809-4-8
10	13	5999-01-217-4144	96906	MS3348-4/0-2/0L
10	14		96906	MS90558C52413P
10	16	5310-00-400-5503	96906	MS35650-3254
10	17	5310-00-933-8121	96906	MS35338-139
10	18	5305-00-685-3511	96906	MS35308-306
10	19		96906	MS15795-852
10	20		97403	13229E5788-3
10	21		97403	13229E5815
11	1		97403	13229E5806-1
11	2	5940-00-230-0515	96906	MS25036-154
11	3	5940-00-113-8179	96906	MS25036-107
11	4		19099	13229E5806-1-5
11	5		19099	13229E5806-1-2
11	6	5935-00-852-9611	96906	MS3102R18-11P
12	1		97403	13229E5800-2
12	2	5975-00-074-2072	96906	MS3367-1-9
12	3	5940-00-283-5280	96906	MS25036-106
12	4		97403	13229E5706-4

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX STOCK NUMBER	CAGEC	PART NUMBER
12	5	5940-00-143-4793	96906	MS25036-110
12	6		19099	13229E5800-2-6
12	7		19099	13229E5800-2-2
12	8		96906	MS3100R20-27S
13	1		97403	13229E5810-9
13	2	5940-00-025-1821	98410	J787-34
13	3	5940-00-113-9835	96906	MS25036-136
13	4		19099	13229E5810-9-11
13	5		19099	13229E5810-9-7
13	6		97403	13229E5810-8
13	7	5940-00-025-1821	98410	J787-34
13	8	5940-00-113-9835	96906	MS25036-136
13	9		19099	13229E5810-8-11
13	10		19099	13229E5810-8-7
13	11		97403	13229E5810-7
13	12	5940-00-025-1821	98410	J787-34
13	13	5940-00-113-9835	96906	MS25036-136
13	14		19099	13229E5810-7-11
13	15		19099	13229E5810-7-7
13	16		97403	13229E5810-17
13	17	5940-00-113-9835	96906	MS25036-136
13	18	5940-00-025-1821	98410	J787-34
13	19		19099	13229E5810-17-11
13	20		19099	13229E5810-17-7
13	21		97403	13229E5810-18
13	22	5940-00-113-9835	96906	MS25036-136
13	23	5940-00-025-1821	98410	J787-34
13	24		19099	13229E5810-18-11
13	25		19099	13229E5810-18-7
13	26		97403	13229E5810-19
13	27	5940-00-113-9835	96906	MS25036-136
13	28	5940-00-025-1821	98410	J787-34
13	29		19099	13229E5810-19-11
13	30		19099	13229E5810-19-7
14	1	5310-00-250-9477	96906	MS35649-2254
14	2	5310-00-933-8121	96906	MS35338-139
14	3		96906	MS15795-852
14	4		97403	13229E5816-2
14	5	5340-00-291-3484	96906	MS124696
14	6	5305-00-052-1457	96906	MS35308-3
14	7		96906	MS90563-11C
15	1	5310-00-934-9760	96906	MS35649-204
15	2	5310-00-933-8120	96906	MS35338-138
15	3	5305-00-059-3660	96906	MS51958-64
15	4		96906	MS15795-857
15	5		7E656	JCG-6026
16	1		97403	13229E5811-11
16	2	5940-00-113-9835	96906	MS25036-136
16	3		19099	13229E5811-11-5
16	4		19099	13229E5811-11-3
16	5		97403	13229E5811-12

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX		PART NUMBER
		STOCK NUMBER	CAGEC	
16	6	5940-00-113-9835	96906	MS25036-136
16	7		19099	13229E5811-12-5
16	8		19099	13229E5811-12-3
16	9		97403	13229E5811-13
16	10	5940-00-113-9835	96906	MS25036-136
16	11		19099	13229E5811-13-5
16	12		19099	13229E5811-13-3
16	13		97403	13229E5811-14
16	14	5940-00-025-1821	98410	J787-34
16	15		19099	13229E5811-14-5
16	16		19099	13229E5811-14-3
16	17		97403	13229E5811-15
16	18		96906	MS20659-153
16	19		19099	13229E5811-15-5
16	20		19099	13229E5811-15-3
17	1		97403	13229E5806-2
17	2	5940-00-230-0515	96906	MS25036-154
17	3	5940-00-113-8179	96906	MS25036-107
17	4		19099	13229E5806-2-5
17	5		19099	13229E5806-2-2
17	6	5935-01-035-5139	96906	MS3456W18-11S
18	1	5310-00-056-3395	96906	MS35649-2382
18	2		96906	MS51412-27
18	3	5305-00-688-2111	80204	B1821BH038C138N
18	4		97403	13230E4592
19	1	5340-00-066-1235	06076	13211E7541
19	2	4710-00-597-8731	97403	13211E7542
19	3	4710-00-185-6948	97403	13211E7543
19	4	5310-00-566-9502	97403	13211E7544
19	5	5330-00-402-5125	97403	13211E7546
19	6	4730-00-277-5115	88044	AN816-5-4
19	7	5305-00-841-2681	00141	4328
19	8		97403	13200E6363
19	9	5310-00-209-1239	96906	MS35335-60
19	10		97403	13211E7547
19	11		97403	13200E6361
19	12		97403	13211E7548
19	13	5120-01-013-1676	45225	P74-144
19	14	5120-00-251-4489	80244	GGG-H-86 TY10CL1
19	15	5975-00-878-3791	15277	FS0216B122-1
19	16		56681	HLP1053A
19	17		OBKK8	GRC 58
19	18	5975-00-924-9927	73616	GRB58
19	19	5999-00-186-3912	04655	70-801074
19	20	5940-00-271-9504	01667	CBA-70
19	21		19099	FS0216B122-1-6
20	1	4210-00-270-4512	99251	3304695-1
20	2	5940-00-113-8190	96906	MS25036-122
20	3		19099	13229E5760-16
20	4	4730-00-908-3194	96906	MS35842-11
20	5		81349	13229E5760-25



## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX		PART NUMBER
		STOCK NUMBER	CAGEC	
20	6	4730-00-809-9703	96906	MS24519-9
20	7	5320-00-493-4101	81349	M24243/1B604
20	8		97403	13229E5666-10
20	8		97403	13229E5666-21
20	8		97403	13229E5666-22
20	8		97403	13229E5666-9
21	1	5310-00-088-1251	96906	MS51922-1
21	2		96906	MS15795-852
21	3	5305-00-988-1725	96906	MS35206-281
21	4	4730-00-812-1333	93742	69-539-2
21	5		96906	MS51519B5/A5
21	6	4820-00-277-1765	96906	MS35930-2
21	7	4730-01-020-5607	96906	MS51860-54
21	8	5310-01-266-4641	96906	MS51412-9
21	9		96906	MS51520B5Z
21	10		96906	MS52103A050440R
21	11	4730-00-842-2201	96906	MS24587-5
21	12		19099	MS52103-2
22	1		97403	13229E9632
23	1	5310-00-984-3806	96906	MS51922-9
23	2	5310-00-044-6477	96906	MS51412-25
23	3	5306-00-226-4829	80204	B1821BH031C125N
23	4		97403	13214E1259
23	5		97403	13214E1261
24	1	5310-00-984-3806	96906	MS51922-9
24	2	5310-00-044-6477	96906	MS51412-25
24	3	5306-00-226-4829	80204	B1821BH031C125N
24	4		97403	13229E7946
24	5	5320-00-753-3830	96906	MS20613-4P5
24	6	5340-00-975-2126	96906	MS18015-1
24	7		96906	MS20427-4C6
24	8	5340-00-234-8422	96906	MS27969-4
25	1	5310-00-934-9751	96906	MS35650-302
25	2	5310-00-043-1680	96906	MS51415-3
25	3	5305-00-984-7341	96906	MS35191-273
25	4		96906	MS51412-21
25	5	5340-00-229-0340	96906	MS51939-3
25	6		97403	13214E9975-1
25	7	5340-00-078-7029	96906	MS51926-3
25	8		81349	MIL-B-543 TYII,S TYI,CL 3
25	9		19099	13214E9975-1-3
25	10	5310-00-984-3806	96906	MS51922-9
25	11	5310-00-044-6477	96906	MS51412-25
25	12	5306-00-226-4829	80204	B1821BH031C125N
25	13	2510-01-195-4273	97403	13214E1263
25	14	2510-01-213-3242	97403	13214E1264
25	15	5310-00-087-4652	96906	MS51922-17
25	16	5305-00-543-4372	80204	B1821BH038C075N
25	17		96906	MS51412-27
25	18	4210-00-223-4857	97403	13214E1235

## CROSS-REFERENCE INDEXES

FIG.	ITEM	FIGURE AND ITEM NUMBER INDEX		PART NUMBER
		STOCK NUMBER	CAGEC	
26	1		97403	13214E1271
26	2	5310-00-984-3806	96906	MS51922-9
26	3	5310-00-044-6477	96906	MS51412-25
26	4	5306-00-226-4829	80204	B1821BH031C125N
26	5		97403	13214E1270
26	6		97403	13214E1269
26	7	5365-00-989-3304	97403	13214E1272
27	1	5310-00-984-3806	96906	MS51922-9
27	2	5310-00-044-6477	96906	MS51412-25
27	3		97403	13214E1268
27	5	5306-00-226-4832	80204	B1821BH031C175N
27	6	5306-00-226-4829	80204	B1821BH031C125N
27	7	2330-01-150-9864	97403	13214E1461
27	8	2510-01-196-4682	97403	13214E1462
28	1	5310-00-984-3806	96906	MS51922-9
28	2	5310-00-044-6477	96906	MS51412-25
28	3	5306-00-226-4829	80204	B1821BH031C125N
28	4		97403	13229E6108
29	1	5310-01-078-5996	96906	MS35425-75
29	2		81352	AN961-616
29	3	5310-00-584-7995	96906	MS16203-27
29	4	5310-00-184-8971	96906	MS35338-103
29	5	5310-00-022-8847	96906	MS35333-110
29	6	5307-00-227-1741	97403	13214E1223
30	1		97403	13229E9633
30	2		97403	13205E4918

## APPENDIX G ILLUSTRATED LIST OF MANUFACTURED ITEMS

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### G-1. INTRODUCTION.

This appendix includes complete instructions for making items authorized to be manufactured or fabricated at unit maintenance level and direct support maintenance level.

A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria

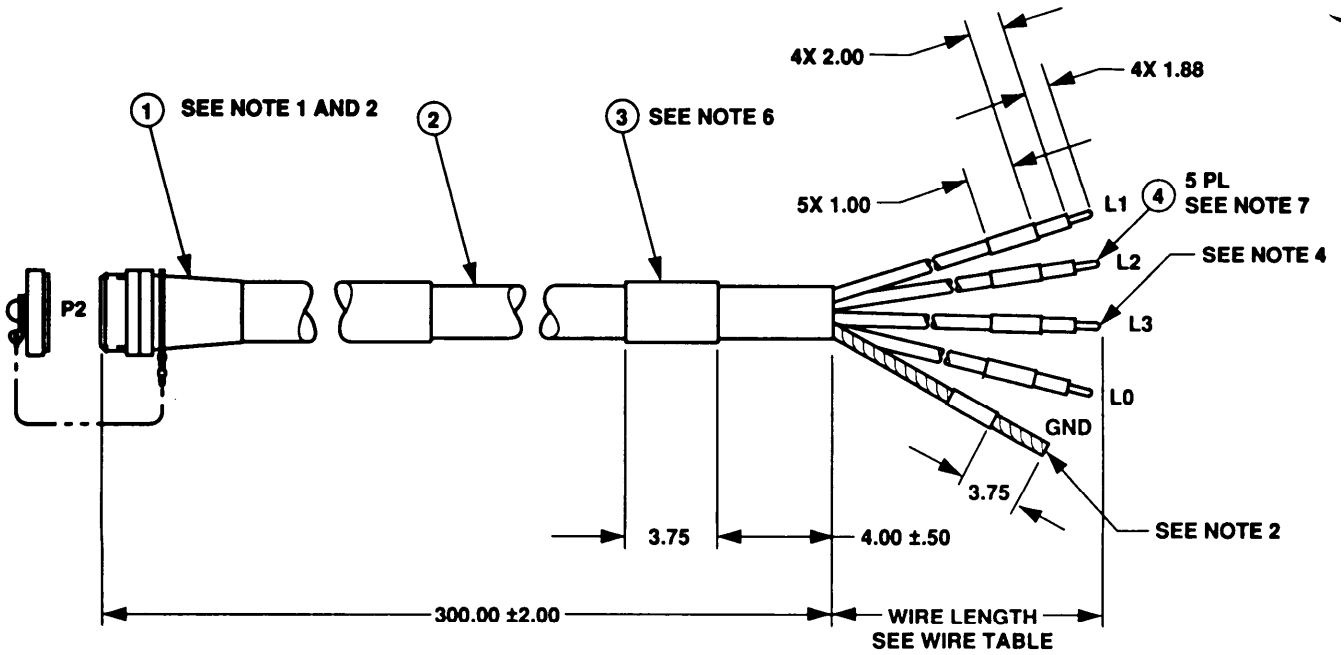
All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

### G-2 MANUFACTURED ITEMS PART NUMBER INDEX.

Part Number of Manufactured Item	Applicable Figure
13229E5741	G-1
13229E5800	G-2
13229E5806	G-3
13229E5809	G-4
13229E5810	G-5
13229E5811	G-6
13229E5837	G-7
MS521034050420R	G-8

### G-3 GENERAL INSTRUCTIONS

The manufacture of items listed above consists of cutting wires to length specified on figures and soldering terminal lugs or connectors on appropriate wires. Use standard shop procedures in the manufacture of these items.



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED	DESCRIPTION	SPECIFICATION
1	MS90557C44413S	1	CONNECTOR, PLUG, ELECT, CABLE CONNECTING	
2	CO-04HDE(4/1-4/8R)1820	AR	CABLE, SEE NOTE 4	MIL-C-3432
3	M23053/5-113-4	1	INSULATION SLEEVING, HEAT SHRINKABLE, BLK	MIL-I-23053/5
4	M23053/5-110-4	5	INSULATION SLEEVING, HEAT SHRINKABLE, WHT	MIL-I-23053/5
5	Sn60Pb40	AR	SOLDER	QQ-S-571

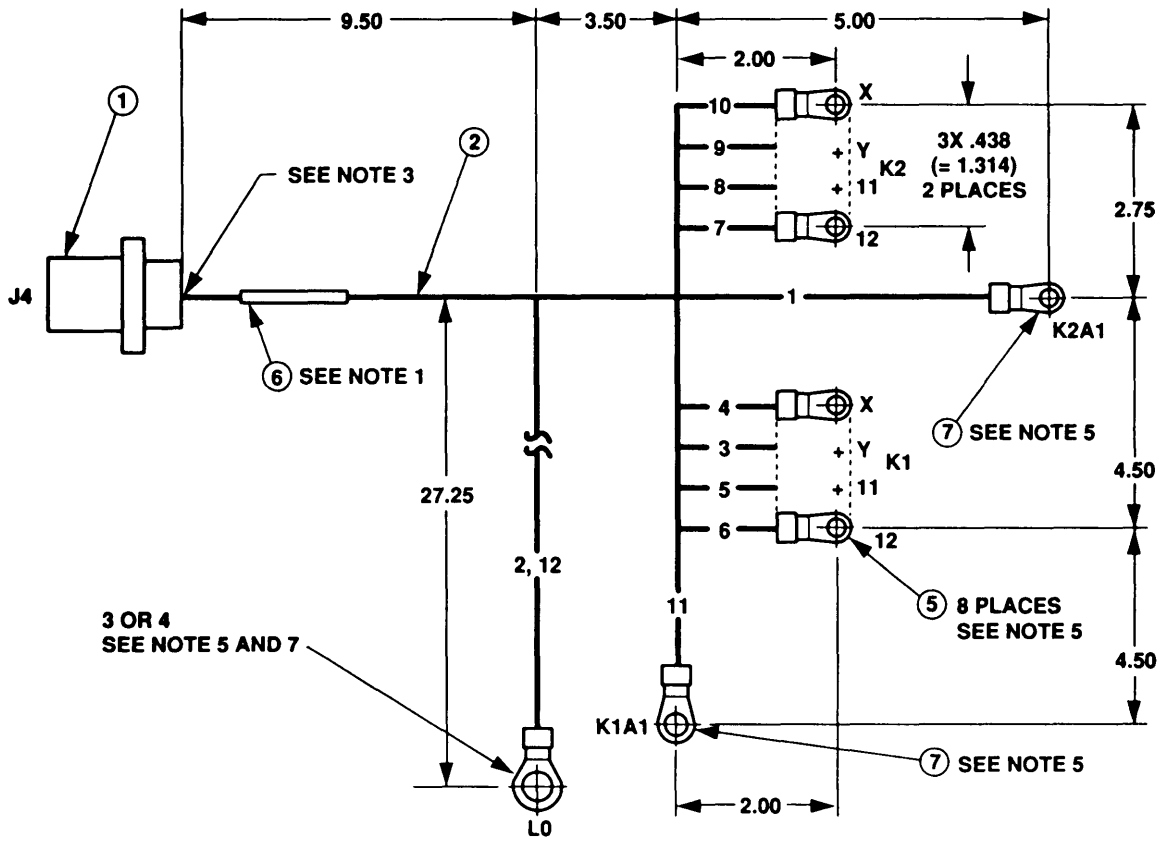
Figure G-1. B Unit Cable Assembly W19 (Sheet 1 of 2).

1. CRIMP CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-E-45782.
2. AT PIGTAIL END OF CABLE, THE FOUR 8 AWG GROUNDING CONDUCTORS SHALL BE TWISTED TOGETHER STARTING AT THE JACKET. CONDUCTORS SHALL BE SOLDER COATED FOR A LENGTH OF .250 FROM END USING SOLDER, FIND NO. 5.
3. AT PIGTAIL END OF CABLE, EACH INSULATED CONDUCTOR SHALL HAVE THEIR INDIVIDUAL STRANDS TWISTED TOGETHER AND SOLDER COATED FOR A LENGTH OF .126 FROM END USING SOLDER, FIND NO. 6.
4. INSULATION COLORS, IN ACCORDANCE WITH WIRE TABLE, SHALL BE INCLUDED AS PART OF THE ORDERING DATA.
5. HOT STAMP "97403-13229ES674-" AND W19" IN .23-.39 HIGH WHITE CHARACTERS ON INSULATION SLEEVEING, FIND NO. 3, IN ACCORDANCE WITH MIL-M-60903.
6. HOT STAMP TERMINAL DESIGNATION, AS SHOWN IN WIRE TABLE, USING .09-.16 HIGH BLACK CHARACTERS, IN TWO PLACES (180" APART) ON INSULATION SLEEVEING, FIND NO. 4, IN ACCORDANCE WITH MIL-M-60903.

**WIRE LIST**

TERMINATION		TERMINATION		WIRE LENGTH +/- .50	WIRE COLOR SEE NOTE 4	AWG (REF)
FROM	FIND NO.	TO SEE NOTE 6	FIND NO.			
P2-A	1	G2-L1	-	16.00	BLK	1
P2-B	1	G2-L2	-	19.50	RED	1
P2-C	1	G2-L3	-	23.00	BLU	1
P2-N	1	G2-L0	-	12.50	WHT	1
P2-G1	1	G2-GND	-	9.00	GRN	8
P2-G2	1	G2-GND	-	9.00	GRN	8
P2-G3	1	G2-GND	-	9.00	GRN	8
P2-G4	1	G2-GND	-	9.00	GRN	8

Figure G-1. B Unit Cable Assembly W19 (Sheet 2).



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED		DESCRIPTION	SPECIFICATION
		-1	-2		
1	MS3100R20-27S	1	1	CONNECTOR, RECEPTACLE, ELECTRICAL	
2	M22759/16-16-9	AR	AR	WIRE, ELECTRICAL, 16 AWG, WHT	MIL-W-22759/16
3	MS25036-155	1	-	TERMINAL LUG, 16-14 AWG, .500 STUD SIZE	
4	13229E5706-4	-	1	TERMINAL LUG, INSULATED	
5	MS25036-106	8	8	TERMINAL LUG, 16-14 AWG, .138 STUD SIZE	
6	M23053/5-108-4	1	1	INSULATION SLEEVING, HEAT SHRINKABLE, .500 ID X 2.50 LONG	MIL-I-23053/5
7	MS25036-110	2	2	TERMINAL LUG, 16-14 AWG, .375 STUD SIZE	
8	Sn60Pb40	AR	AR	SOLDER	QQ-S-571
9	MS3367-1-9	AR	AR	STRAP, TIE DOWN, ELECTRICAL	
10	M23053/5-105-4	12	12	INSULATION SLEEVING, HEAT SHRINKABLE, .187 ID X L AS REQUIRED	MIL-I-23053/5

Figure G-2. Control Wing Harness W7 (Sheet 1 of 2).

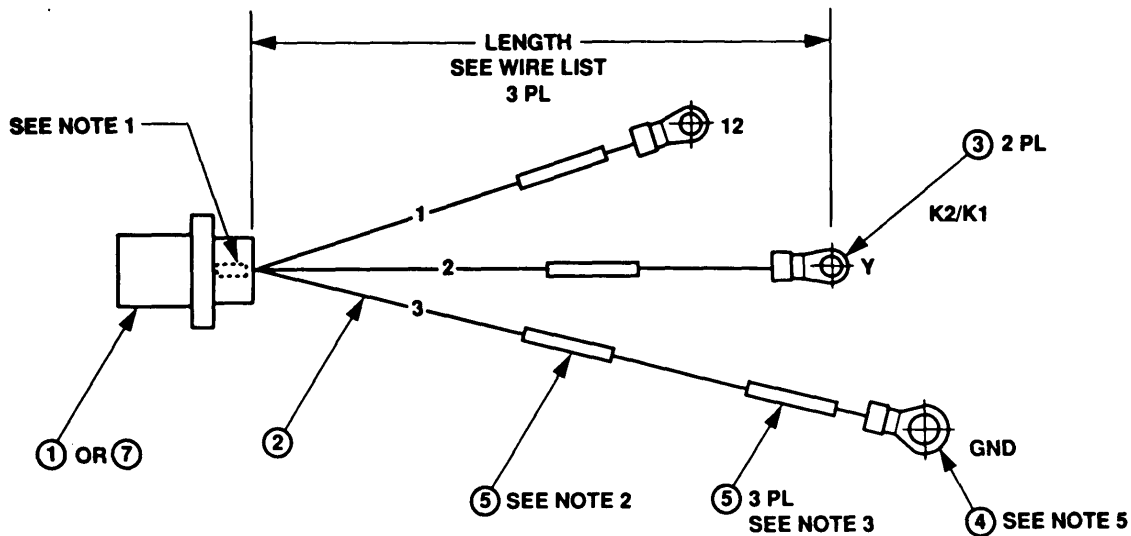
**NOTES:**

1. HOT STAMP "W7" AND "97403-13229E5800-" WITH APPROPRIATE DASH NO. ON SLEEVING, FIND NO. 6 IN ACCORDANCE WITH MIL-M-60903. LOCATE APPROXIMATELY AS SHOWN.
2. HOT STAMP SLEEVING, FIND NO. 10, WITH WIRE ADDRESS WITHIN 2 INCHES OF ITS TERMINATION, IN ACCORDANCE WITH MIL-M-60903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW AND THE TO TERMINATION.
3. SOLDER CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-STD-2000, USING SOLDER FIND NO. 8.
4. STRIP AND TIN ENDS IN ACCORDANCE WITH MIL-STD-2000.
5. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-E-45782.
6. BUNDLE WIRES USING TIE DOWN STRAPS, FIND NO. 9, AT INTERVALS OF 3.00 MAX. AND AT ALL BREAKOUTS.
7. WIRE NO.2 AND 12 SHALL TERMINATE AT TERMINAL, FIND NO.3 OR 4. CRIMP WIRES IN TERMINAL, FIND NO. 3 OR 4, AND SOLDER.

**WIRE LIST**

WIRE NO.	TERMINATION		TERMINATION		WIRE FIND NO.
	FROM	FIND NO.	TO	FIND NO.	
1	J4-A	1	K1-A1	7	2
2	J4-B	1	L0	3 OR 4	2
3	J4-C	1	K1-Y	5	2
4	J4-D	1	K1-X	5	2
5	J4-F	1	K1-11	5	2
6	J4-G	1	K1-12	5	2
7	J4-H	1	K2-12	5	2
8	J4-I	1	K2-11	5	2
9	J4-K	1	K2-X	5	2
10	J4-L	1	K2-Y	5	2
11	J4-M	1	K2-A1	7	2
12	J4-N	1	L0	3 OR 4	-

Figure G-2. Control Wiring Harness W7 (Sheet 2).



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED		DESCRIPTION	SPECIFICATION
		-1	-2		
1	MS3102R18-11P	1	-	CONNECTOR, RECEPTACLE, ELECTRICAL	
2	M22759/16-16-9	AR	AR	WIRE, ELECTRICAL, 16 AWG, WHT	MIL-W-22759/16
3	MS25036-107	2	2	TERMINAL LUG, CRIMP STYLE, 16-14 AWG, .138 STUD SIZE	
4	MS25036-154	1	1	TERMINAL LUG, CRIMP STYLE, 16-14 AWG, .250 STUD SIZE	
5	M23053/5-104-4	4	4	INSULATION SLEEVING, HEAT SHRINKABLE, .125 ID X 2.00 LONG	MIL-I-23053/5
6	Sn60Pb40	AR	AR	SOLDER	QQ-S-571
7	MS3102R18-11S	-	1	CONNECTOR, PLUG, ELECTRICAL	

Figure G-3. Switch Box Power Wiring Harness W17 and W18 (Sheet 1 of 2).



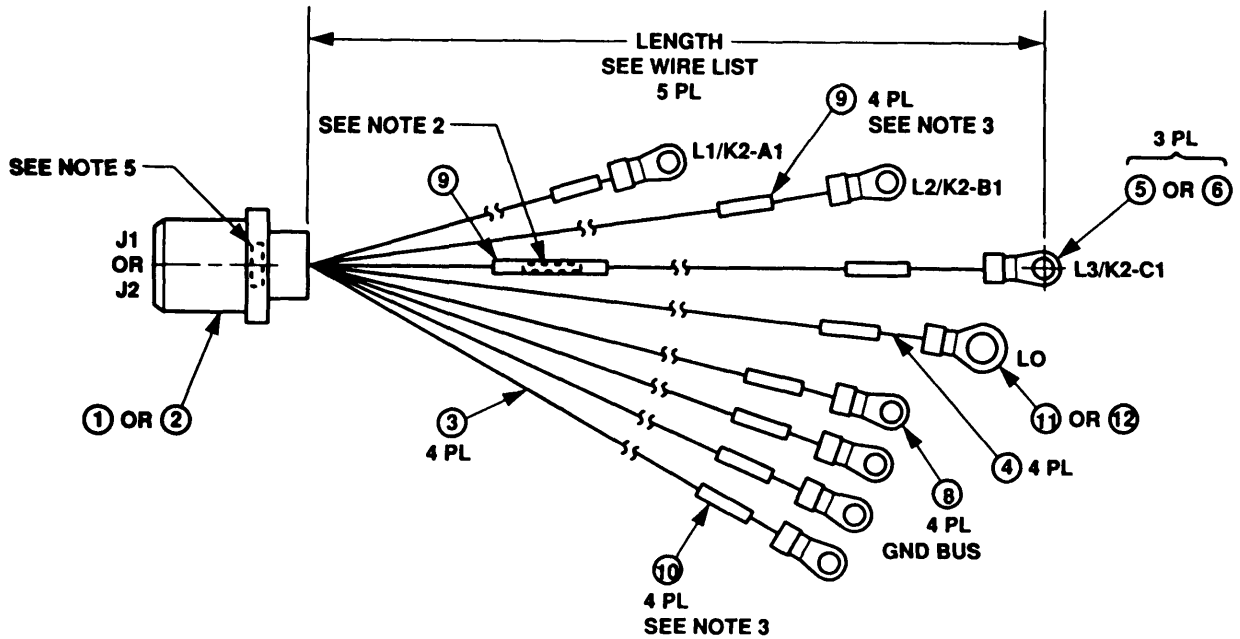
NOTES:

1. MARK REFERENCE DESIGNATION "J3" OR "P1" IN ACCORDANCE WITH MIL-STD-130, METHOD OPTIONAL.
2. HOT STAMP "W17" OR "W18", INDICATED IN WIRE LIST, AND "97403-13229E5806- " WITH APPROPRIATE DASH NO. ON SLEEVING, FIND NO. 5, IN ACCORDANCE WITH MIL-M-60903. LOCATE APPROXIMATELY AT MIDPOINT OF WIRE.
3. HOT STAMP SLEEVING, FIND NO. 5, WITH WIRE ADDRESS, WITHIN 2 INCHES OF ITS TERMINATIONS, IN ACCORDANCE WITH MIL-M060903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW, AND THE TO TERMINATION.
4. SOLDER CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-STD-2000, USING SOLDER, FIND NO. 6.
6. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-E-45782.

**WIRE LIST**

DASH NO.	WIRE NO.	TERMINATION		TERMINATION		LENGTH +/- .12	HARNESS REF DES
		FROM	FIND NO.	TO	FIND NO.		
-1	1	J3-A	1	K2-12	3	12.00	W17
	2	J3-B	1	K2-Y	3	12.00	
	3	J3-E	1	GND	4	21.00	
-2	1	P1-A	7	K1-12	3	36.00	W18
	2	P1-B	7	K1-Y	3	36.00	
	3	P1-E	7	GND	4	45.00	

Figure G-3. Switch Box Power Wiring Harness W17 and W18 (Sheet 2).



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED		DESCRIPTION	SPECIFICATION
		-1	-2		
1	MS90555C44413S	1	-	CONNECTOR, RECEPTACLE, ELECTRICAL	
2	MS90555C44413P	-	1	CONNECTOR, RECEPTACLE, ELECTRICAL	
3	M5086/2-1-9	AR	AR	WIRE, ELECTRICAL, 1 AWG, WHT	MIL-W-5086/2
4	M5086/2-6-9	AR	AR	WIRE, ELECTRICAL, 6 AWG, WHT	MIL-W-5086/2
5	MS25036-130	-	3	TERMINAL LUG, 1 AWG, .375 STUD SIZE	
6	MS25036-131	4	1	TERMINAL LUG, 1 AWG, .500 STUD SIZE	
7	MS25036-120	4	4	TERMINAL LUG, 6 AWG, .250 STUD SIZE	
8	M23053/5-109-4	4	4	INSULATION SLEEVING, HEAT SHRINKABLE, .750 ID X 2.50 LONG	MIL-I-23053/5
9	M23053/5-108-4	4	4	INSULATION SLEEVING, HEAT SHRINKABLE, .500 ID X 2.50 LONG	MIL-I-23053/5

Figure G-4. Input/Output Connector Wiring Harness W9 and W10 (Sheet 1 of 2).

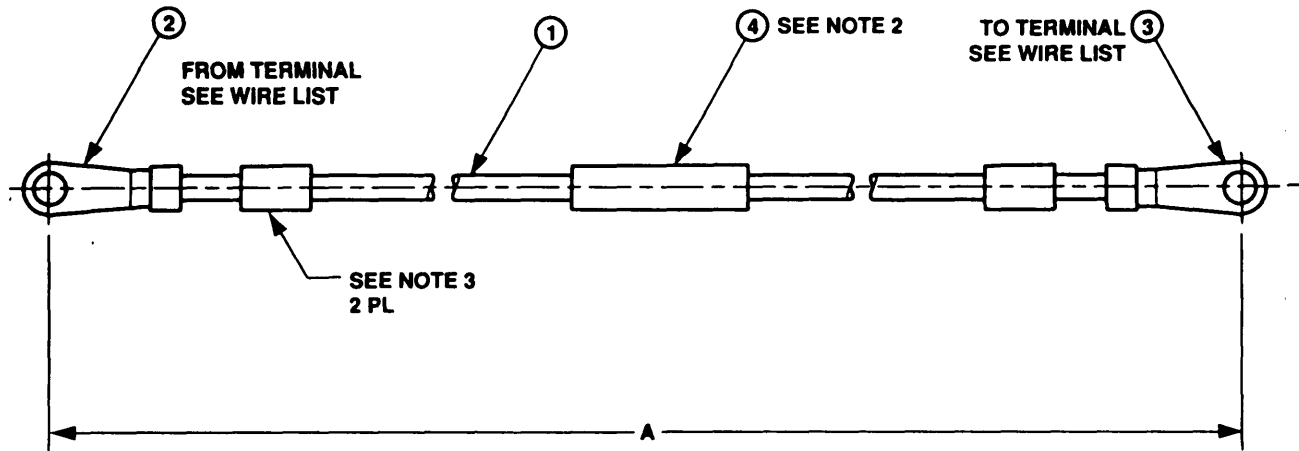
**NOTES:**

1. ASSEMBLE WIRE, FIND NO. 3 AND 4, INTO CONNECTOR, FIND NO. 1 OR 2, IN ACCORDANCE WITH MIL-C-22992, CLASS L.
2. HOT STAMP "W", INDICATED IN WIRE LIST, AND "97403-13229E5809-" WITH APPROPRIATE DASH NO. ON SLEEVING, FIND NO. 8, IN ACCORDANCE WITH MIL-M-60903. LOCATE AT MIDPOINT OF WIRE.
3. HOT STAMP SLEEVING, FIND NO. 9, WITH WIRE ADDRESS, WITHIN 2 INCHES OF ITS TERMINATIONS, IN ACCORDANCE WITH MIL-M-60903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW, AND THE TO TERMINATION.
4. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-E-45782.
5. MARK CONNECTOR REFERENCE DESIGNATION IN .12 MIN HIGH CHARACTERS IN ACCORDANCE WITH MIL-STD-130, METHOD OPTIONAL.

**WIRE LIST**

DASH NO.	CONN REF DES	WIRE NO.	TERMINATION		TERMINATION		LENGTH +/- .12	WIRE FIND NO.	HARNESS REF DES
			FROM	FIND NO.	TO	FIND NO.			
-1	J1	1	J1-A	1	L1	6	14.00	3	W9
		2	J1-B		L2		17.00		
		3	J1-C		L3		20.00		
		4	J1-N		L0		8.00		
		5	J1-G1		GND	7		4	
		6	J1-G2		GND				
		7	J1-G3		GND				
		8	J1-G4		GND				
-2	J2	1	J2-A	2	K2-A1	5	10.00	3	W10
		2	J2-B		K2-B1				
		3	J2-C		K2-C1				
		4	J2-N		L0				
		5	J2-G1		GND	7	22.50	4	
		6	J2-G2		GND				
		7	J2-G3		GND				
		8	J2-G4		GND				

Figure G-4. Input/Output Connector Wiring Harness W9 and W10 (Sheet 2).



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED		DESCRIPTION	SPECIFICATION
		-7 THRU -9	-17 THRU -19		
1	M5086/2-1-9	AR	AR	WIRE, ELECTRICAL, 1 AWG, WHT	MIL-W-5086/2
2	MS25036-130	1	1	TERMINAL LUG, 1 AWG, .375 STUD SIZE	
3	MS25036-131	1	1	TERMINAL LUG, 4 AWG, .500 STUD SIZE	
4	M23053/5-109-4	3	3	INSULATION SLEEVING, HEAT SHRINKABLE, .750 ID X L AS REQUIRED	MIL-I-23053/5

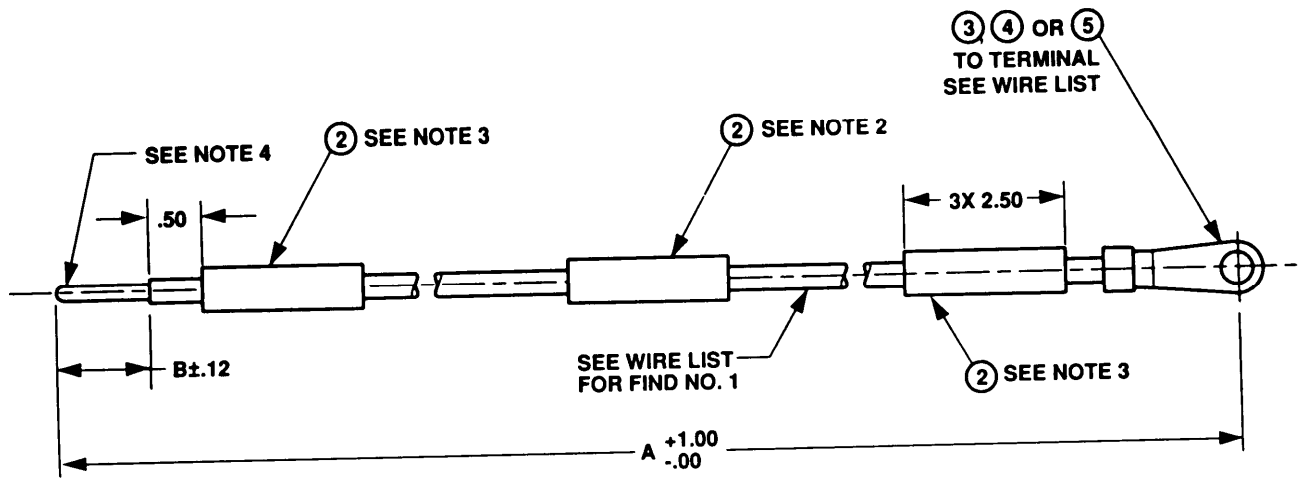
NOTE:

1. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-STD-454, REQUIREMENT 19.
2. HOT STAMP "W", INDICATED IN WIRE LIST, AND "97403-13229E5810- " WITH APPROPRIATE DASH NO. ON SLEEVING, FIND NO. 4, IN ACCORDANCE WITH MIL-M-60903. LOCATE AT MIDPOINT OF WIRE.
3. HOT STAMP INSULATION SLEEVING, FIND NO. 4, WITH WIRE ADDRESS, WITHIN 2 INCHES OF ITS TERMINATIONS. IN ACCORDANCE WITH MIL-M-60903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW, AND THE TO TERMINATION.

**WIRE LIST**

DASH NO.	REF DES	TERMINATION		TERMINATION		DIM. A	WIRE FIND NO.
		FROM	FIND NO.	TO	FIND NO.		
-4	W11	K1-A2	2	L1	3	12.50	1
-5	W12	K1-B2		L2			
-6	W13	K1-C2		L3			
-14	W14	K2-A2	2	L1	3	15.50	1
-15	W15	K2-B2		L2			
-16	W16	K2-C2		L3			

Figure G-5. Electrical Leads W11-W16.



**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED			DESCRIPTION	SPECIFICATION
		-11 THRU -13	-14	-15		
1	M5086/2-1-9	1	1	1	WIRE, ELECTRICAL, 1 AWG, WHT	MIL-W-5086/2
2	M23053/5-109-4	3	3	3	INSULATION SLEEVING, HEAT SHRINKABLE	MIL-I-23053/5
3	MS25036-130	1	-	-	TERMINAL LUG, CRIMP, 1 AWG, .375 STUD SIZE	
4	MS25036-131	-	1		TERMINAL LUG, CRIMP, 1 AWG, .500 STUD SIZE	
5	MS25036-129	-	-	1	TERMINAL LUG, CRIMP, 1 AWG, .250 STUD SIZE	
6	Sn60Pb40	AR	AR	AR	SOLDER	QQ-S-571

**NOTES:**

1. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-STD-454, REQUIREMENT 19.
2. HOT STAMP "W", INDICATED IN WIRE LIST, AND "97403-13229E5811-" WITH APPROPRIATE DASH NO. ON SLEEVING, FIND NO. 2, IN ACCORDANCE WITH MIL-M-60903. LOCATE AT MIDPOINT OF WIRE.
3. HOT STAMP INSULATION SLEEVING, FIND NO. 2, WITH WIRE ADDRESS, WITHIN 2 INCHES OF ITS TERMINATIONS, IN ACCORDANCE WITH MIL-M-60903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW, AND THE TO TERMINATION.
4. STRIP WIRE IN ACCORDANCE WITH WIRE LIST AND TIN EXPOSED CONDUCTOR FOR A DISTANCE OF .12 +/- .03 INCHES FROM CONDUCTOR END IN ACCORDANCE WITH MIL-STD-2000.

**Figure G-6. Power Leads W1-W5 (Sheet 1 of 2).**

**WIRE LIST**

DASH NO.	REF DES	TERMINATION		TERMINATION		DIM. A	DIM. B	WIRE FIND NO.
		FROM	FIND NO.	TO	FIND NO.			
-6	W1	G1-L1	-	K1-A1	3	54.50	1.62	1
-7	W2	G1-L2	-	K1-B1	3	59.50	1.62	1
-8	W3	G1-L3	-	K1-C1	3	64.50	1.62	1
-9	W4	G1-L0	-	L0	4	46.50	1.62	1
-10	W5	G1-GND	-	GND	5	37.50	1.62	1

*Figure G-6. Power Leads W1-W5 (Sheet 2).*

FIND		PARTS LIST			
NO.	PART NO.	QUANTITY REQUIRED	DESCRIPTION	SPECIFICATION	
1	MS3106R20-27P	1	CONNECTOR, PLUG, ELECTRICAL		
2	MS22759/16-20-9	AR	WIRE, ELECTRICAL, 20 AWG, WHT	MIL-W-22759/16	
3	M23053/5-107-4	1	INSULATION SLEEVING, HEAT SHRINK, 2.50 L	MIL-I-23053/5	
4	MS25036-101	8	TERMINAL LUG, 22-18 AWG, NO. 6 STUD		
5	Sn60Pb40	AR	SOLDER	QQ-S-571	
6	MS3367-1-9	AR	STRAP, TIE DOWN, ELECTRICAL		
7	M23053/5-105-4	14	INSULATION SLEEVING, HEAT SHRINK, L AS REQUIRED	MIL-I-23053/5	

FIGURE G-7. CONTROL PANEL HARNESS ASSEMBLY W20 (SHEET 1 OF 2).

**NOTES:**

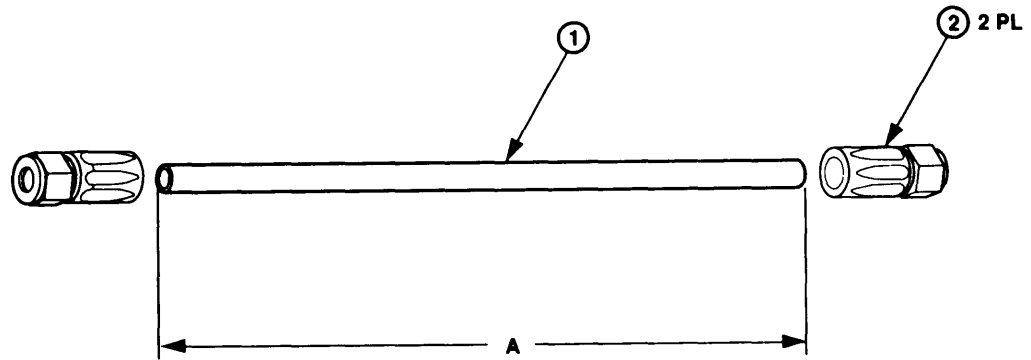
1. MARK REFERENCE DESIGNATION "P3" IN ACCORDANCE WITH MIL-STD-130, METHOD OPTIONAL.
2. HOT STAMP "W20" AND "97403-13229E5837" ON SLEEVING, FIND NO. 3, IN ACCORDANCE WITH MIL-M-60903. LOCATE APPROXIMATELY AT MIDPOINT OF WIRE.
3. HOT STAMP SLEEVING, FIND NO. 7, WITH WIRE ADDRESS USING .09-.16 HIGH BLACK CHARACTERS, WITHIN 2 INCHES OF ITS TERMINATIONS, IN ACCORDANCE WITH MIL-M-60903. THE ADDRESS CONSISTS OF THE FROM TERMINATION, A DOUBLE HEADED ARROW, AND THE TO TERMINATION.
4. SOLDER CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-STD-2000, USING SOLDER, FIND NO. 5.
6. CRIMPED CONNECTIONS SHALL BE IN ACCORDANCE WITH MIL-E-45782.
6. USE TIEDOWN STRAPS, FIND NO. 6, TO BUNDLE WIRES AT INTERVALS OF 3.00 MAX.

**WIRE LIST**

WIRE NO.	TERMINATION		TERMINATION		WIRE FIND NO.	REMARKS
	FROM	FIND NO.	TO	FIND NO.		
1	XDS1-1	-	P3-A	1	2	
2	XDS1-2	-	P3-B	1	2	
3	XDS3-2	-	P3-C	1	2	
4	S1-3	4	P3-D	1	2	SEE NOTE 6
5	S1-5	4	P3-F	1	2	SEE NOTE 6
6	S1-6	4	P3-G	1	2	SEE NOTE 6
7	S2-6	4	P3-H	1	2	SEE NOTE 6
8	S2-5	4	P3-I	1	2	SEE NOTE 6
9	S2-3	4	P3-K	1	2	SEE NOTE 6
10	XDS4-2	-	P3-L	1	2	
11	XDS2-1	-	P3-M	1	2	
12	XDS2-2	-	P3-N	1	2	
13	XDS3-1	-	S1-3	4	2	SEE NOTE 6
14	XDS4-1	-	S2-3	4	2	SEE NOTE 6

*Figure G-7. Control Panel Harness Assembly W20 (Sheet 2).*





**PARTS LIST**

FIND NO.	PART NO.	QUANTITY REQUIRED	DESCRIPTION	SPECIFICATION
1	MS52103-2	42"	HOSE, NONMETALLIC	
2	MS24587-5	2	FLARED, FITTING	

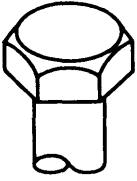
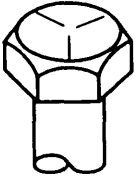

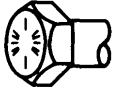
**NOTES:**

1. CUT NONMETALLIC HOSE TO LENGTH. USE OLD HOSE AS A TEMPLATE FOR APPROXIMATE LENGTH.
2. INSTALL FITTING FLARED AT EACH END OF NONMETALLIC HOSE AND TURN COUNTERCLOCKWISE TO INSTALL.

*Figure G-8. Fuel Drain Assembly.*



## APPENDIX H TORQUE LIMITS

SAE Grade Number	1 or 2	5	6 or 7	8
<b>Quality of Material</b>  <b>Capscrew Head Markings</b>	Indeterminate  	Minimum Commercial  	Medium Commercial  	Best Commercial  
<p><b>NOTE</b></p> <p>Head marking may vary with different manufacturers.</p>				
Capscrew Body Size (Inches ) - (Thread)	Torque Ft Lb (N.m)	Torque Ft Lb (N.m)	Torque Ft Lb (N.m)	Torque Ft Lb (N.m)
1/4      20	5      (7)	8      (11)	10     (14)	12     (16)
	6      (8)	10     (14)		14     (19)
5/16     18	11     (15)	17     (23)	19     (26)	24     (33)
	13     (18)	19     (26)		27     (37)
3/8      16	18     (24)	31     (42)	34     (46)	44     (60)
	20     (27)	35     (47)		49     (66)
7/16     14	28     (38)	49     (66)	55     (75)	70     (95)
	30     (41)	55     (75)		78     (106)
1/2      13	39     (53)	75     (102)	85     (115)	105    (142)
	41     (56)	85     (115)		120    (163)
9/16     12	51     (69)	110    (149)	120    (163)	155    (210)
	55     (75)	120    (163)		170    (231)
5/8      11	83     (113)	150    (203)	167    (226)	210    (285)
	95     (129)	170    (231)		240    (325)
3/4      10	105    (142)	270    (366)	280    (380)	375    (508)
	115    (156)	295    (400)		420    (569)
7/8      9	160    (217)	395    (536)	440    (597)	605    (820)
	175    (237)	435    (590)		675    (915)
1        8	235    (319)	590    (800)	660    (895)	910    (1234)
	250    (339)	660    (895)		990    (1342)

**CAUTION**

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for that placement. This will prevent equipment damage due to over torquing.

**NOTE**

Always use the torque values listed above when specific torque values are not available.



## GLOSSARY

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### Section I. ABBREVIATIONS

#### COMMON ABBREVIATIONS.

The common abbreviations used in this manual are in accordance with MIL-STD-12D.

#### SPECIAL OR UNIQUE ABBREVIATIONS.

The following are abbreviations and symbols that are used in this manual and not listed in MIL-STD-12D.

AAL	additional authorization-list
BII	basic issueitem
BOA	basis of issue
°C	degrees Celsius
CAGE	commercial and government entity
CAGE	commercial and government entity code
conex	container express
COED	components of end item
CPC	corrosion prevention and control
CTA	common table-of-allowance
CUCV	commercial utility cargo vehicle
DOD	Department of Defense
EIR	equipment improvement recommendation
°F	degrees Fahrenheit
HMMWV	high mobility multipurpose wheeled vehicle
Hz	hertz
JTA	joint table of allowances
kg	kilogram
kPa	kilopascals
kph	<b>kilometers per hour</b>
kW	kilowatt
lbf•ft	foot pound•force
<b>m</b>	meter (metric measure)
<b>MAC</b>	<b>maintenance allocation chart</b>
MTOE	modification table of organization and equipment
NUN	national item identification number
N•m	<b>newton meter</b>
NSNS	national stocknumbers
PMCS	preventive maintenance checks and services
RPSTL	repair parts and special tools list
SMR	source, maintenance, and recoverability
TAMMS	The Army Maintenance Management System
TDA	<b>table of distribution and allowances</b>
TIDE	test, measurement, and diagnostic equipment
UOC	usable on code

## Section II. DEFINITION OF UNUSUAL TERMS

### UNUSUAL TERMS.

The following are terms that are used in this manual and not listed in the Army dictionary (AR 310-25).

None.

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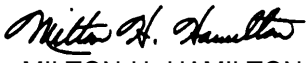
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B1		4-3	
125	line 20		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other.

I ordered a gasket, item 19 on figure B-16 by NSN 2 910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

JOHN DOE, PFC (268) 317-7111

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JOHN DOE

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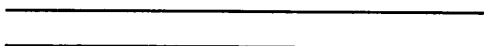
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PUBLICATION DATE

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PUBLICATION TITLE

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO

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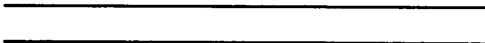
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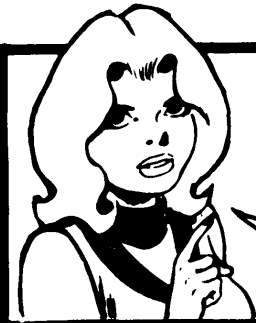
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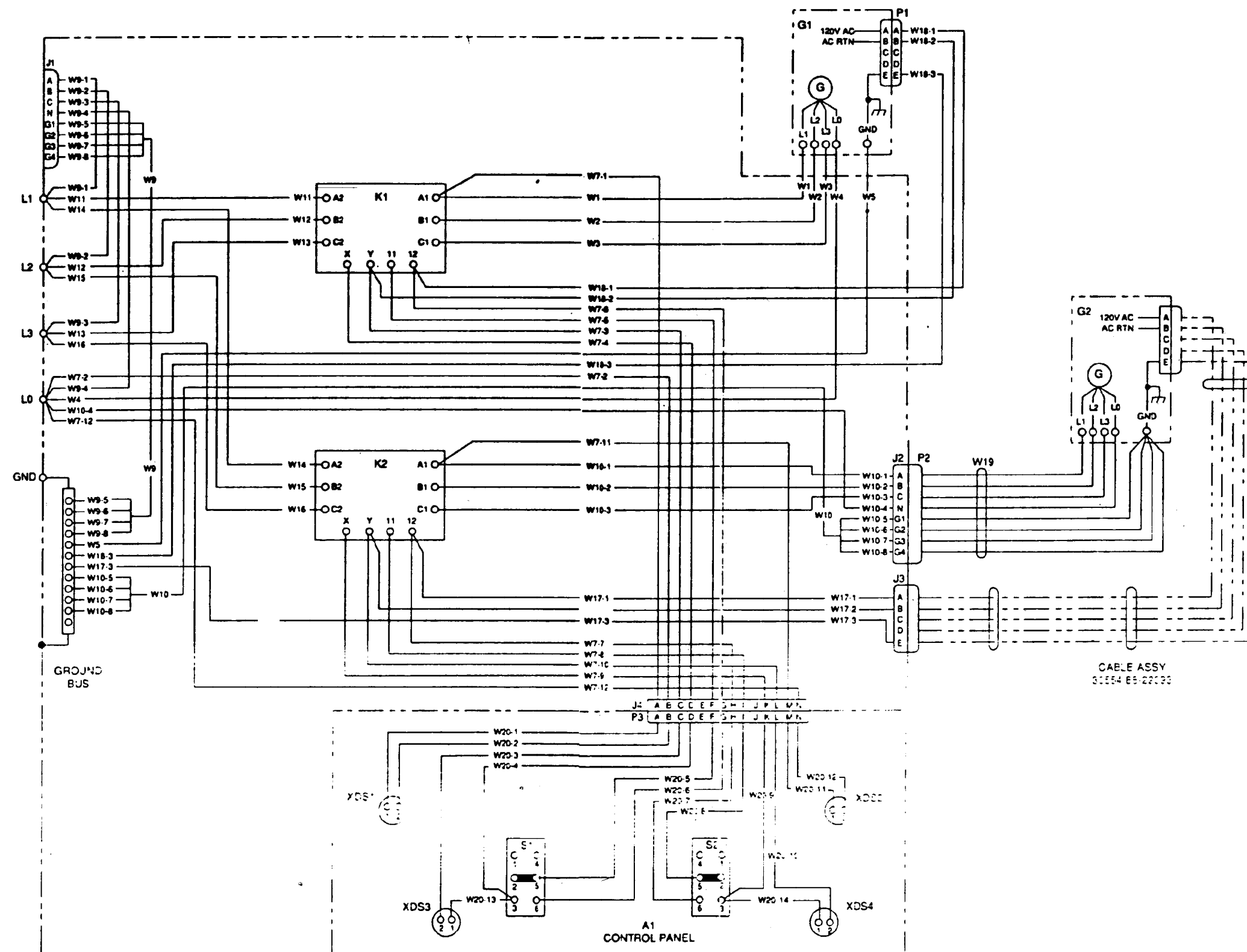
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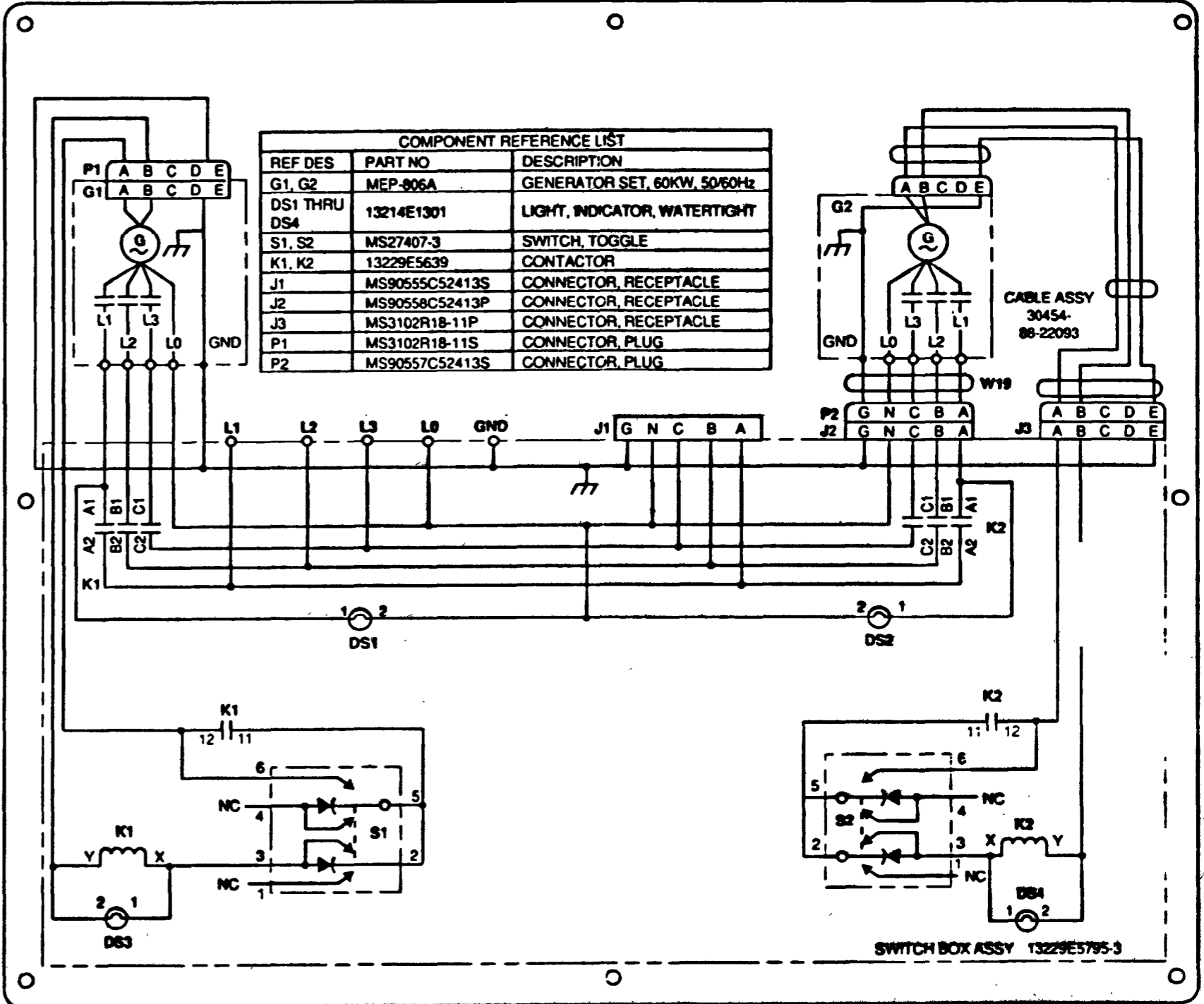
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FO-1. Power Plant Wiring Diagram.



FO-2 Power Plant Schematic.



## The Metric System and Equivalents

### Linear Measure

1 centimeter = 10 millimeters = .39 inch  
 1 decimeter = 10 centimeters = 3.94 inches  
 1 meter = 10 decimeters = 39.37 inches  
 1 dekameter = 10 meters = 32.8 feet  
 1 hectometer = 10 dekameters = 328.08 feet  
 1 kilometer = 10 hectometers = 3,280.8 feet

### Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce  
 1 deciliter = 10 centiliters = 3.38 fl. ounces  
 1 liter = 10 deciliters = 33.81 fl. ounces  
 1 dekaliter = 10 liters = 2.64 gallons  
 1 hectoliter = 10 dekaliters = 26.42 gallons  
 1 kiloliter = 10 hectoliters = 264.28 gallons

### Weights

1 centigram = 10 milligrams = .15 grain  
 1 decigram = 10 centigrams = 1.54 grains  
 1 gram = 10 decigrams = .035 ounce  
 1 dekagram = 10 grams = .35 ounce  
 1 hectogram = 10 dekagrams = 3.52 ounces  
 1 kilogram = 10 hectograms = 2.2 pounds  
 1 quintal = 100 kilograms = 220.46 pounds  
 1 metric ton = 10 quintals = 1.1 short tons

### Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch  
 1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches  
 1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet  
 1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet  
 1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres  
 1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

### Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch  
 1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches  
 1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

To change	To	Multiply by	To change	To	Multiply by
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29.573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

## Temperature (Exact)

°F Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
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