TECHNICAL MANUAL

OPERATOR, UNIT, INTERMEDIATE DIRECT SUPPORT AND INTERMEDIATE GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

POWER PLANT AN/MJQ-12A (NSN 6115-00-257-1602) (2) MEP-006A 60 KW 60 HZ GENERATOR SETS (2) M200A1 2-WHEEL, 4-TIRE, MODIFIED TRAILERS

Approved for public release. Distribution is unlimited.

*This manual supersedes Chapter 11 of TM 5-6115-594-14&P dated 25 September 1984.

HEADQUARTERS, DEPARTMENT OF THE ARMY

17 JUNE 1988

CHANGE

NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 30 January 1997

Operator, Unit, Intermediate Direct Support and
Intermediate General Support Maintenance Manual
(Including Repair Parts and Special Tools Lists)

POWER PLANT
AN/MJQ-12A (NSN 6115-00-257-1602)
(2) MEP-006A 60 KW 60 HZ GENERATOR SETS
(2) M200A1 2-WHEEL, 4-TIRE,
MODIFIED TRAILERS

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D-37 through D-40	D-37 through D-40
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TM 5-6115-629-14&P

By Order of the Secretary of the Army:

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HEADQUARTERS
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WASHINGTON, D.C., 5 December 1990

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

POWER PLANT
AN/MJQ-12A (NSN 6115-00-257-1602)
(2) MEP-006A 60 KW 60 HZ
GENERATOR SETS
(2) M200A1 2-WHEEL, 4-TIRE,
MODIFIED TRAILERS

Approved for public release; distribution is unlimited

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TM 5-6115-629-14&P
C 1

CHANGE

No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 8 November 1989

Operator, Unit, Intermediate Direct Support and
Intermediate General Support Maintenance Manual
(Including Repair Parts and Special Tools Lists)

POWER PLANT AN/MJQ-12A (NSN 6115-00-257-1602)

(2) MZ00A1 2-WHEEL, 4-TIRE, MODIFIED TRAILERS

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Remove pages	Insert pages
3-19 and 3-20	3-19 and 3-20
4-9 through 4-14	4-9 through 4-14

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Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA 12-25A, Operator, Unit, Direct Support and General Support Maintenance requirements for Generator Set, Diesel Engine Driven, Trailer Mounted.

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

DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL

IF POSSIBLE, TURN OFF THE ELECTRICAL POWER

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

SEND FOR HELP AS SOON AS POSSIBLE

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

WARNING

All specific cautions and warnings contained in this manual shall be strictly adhered to. Otherwise, severe injury, death and/or damage to the equipment may result.

HIGH VOLTAGE

is produced when this power plant is in operation.

DEATH

or severe burns may result if personnel fail to observe safety precautions. Do not operate this power plant until the ground terminal studs have been connected to a suitable ground. Disconnect the battery ground cable on the generator set before removing and installing components on the engine or in the electrical control panel system. Remove all rings, watches, and other jewelry when performing maintenance on this equipment. Loose fitting clothing should be secured to prevent it catching in moving parts. Do not attempt to service or otherwise make any adjustments, connections or reconnections of wires or cables until generator set is shut down and completely de-energized.

DANGEROUS GASES

Batteries generate explosive gas during charging: therefore, utilize extreme caution. Do not smoke, or use open flame in the vicinity of the generator sets when servicing batteries.

Exhaust discharge contains noxious and deadly fumes. Do not operate power plant generator sets in enclosed areas unless exhaust discharge is properly vented to the outside.

To avoid sparking between filler nozzle and fuel tank, always maintain metal to metal contact between filler nozzle and fuel tank when filling generator set fuel tanks.

Do not smoke or use open flame in the vicinity of the power plant while fueling generator sets.

LIQUIDS UNDER HIGH PRESSURE

are generated as a result of operation of the power plant generator sets. Do not expose any part of the body to a high pressure leak in the fuel injection system.

NOISE

Operating noise level of the generator set can cause hearing damage. Ear protectors, as recommended by the medical or safety officer, must be worn when working near this power plant.

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not smoke or use near open flame or excessive heat. Flash point of solvent is 100°F. to 138°F. (38°C. to 59°C.).

TECHNICAL MANUAL

NO. 5-6115-629-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 17 June 1988

Operator, Unit, Intermediate Direct Support and
Intermediate General Support Maintenance Manual
(Including Repair Parts and Special Tools Lists)

POWER PLANT
AN/MJQ-12A (NSN 6115-00-257-1602)
(2) MEP-06A 60 KW 60 HZ GENERATOR SETS
(2) M200A1 2-WHEEL, 4TIRE,
MODIFIED TRAILERS

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 these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. You may also submit your recommended changes by E-mail directly to <mpmtO/oavma28@st-louis-emh7.army.mil>. A reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

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*This manual supersedes Chapter 11 of TM 5-6115-594-14&P dated 25 September 1984.

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. **Scope**. This manual is for your use in operating and maintaining the Power Plant, AN/MJQ-12A. The AN/MJQ-12A is a mobile power plant used to supply power to any system or equipment requiring up to 60 KW of 60 Hz input operating power. In addition to operating instructions and operator, unit, and intermediate direct support and general support maintenance procedures, this manual contains a Repair Parts and Special Tools List for the power plant.

1-2. **Limited Applicability**. Some portions of this publication are not applicable to both services. These portions are prefixed to indicate the service to which they pertain: (A) for Army, and (F) for Air Force. Portions not prefixed are applicable to both services.

1-3. **Maintenance Forms and Records**.

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

b. (F) Maintenance forms and records used by Air Force personnel are prescribed in AFM66-1 and the applicable 00-20 Series Technical Orders.

1-4. **Reporting of Errors**. Reporting of errors and omissions and recommendations for improvement of this publication by the individual user is encouraged. Reports should be submitted as follows:

a. (A) Army - DA Form 2028 directly to: Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MT, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798.

b. (F) Air Force - AFTO Form 22 directly to: Commander, Sacramento Air Logistics Center, ATTN: SM-ALC-MMEDTA, McClellan Air Force Base, CA, 95652-5609, in accordance with TO-00-5-1.

1-5. **Reporting Equipment Improvement Recommendations (EIR).** EIR's will be prepared using SF368, Product Quality Deficiency Report. Instructions for preparing EIR's are provided in DA PAM 738-750, The Army Maintenance Management System. EIR's should be mailed directly to: Commander, US Army Aviation and Troop Support Command, ATTN: AMSAT-I-MDO, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798.

1-6. **Levels of Maintenance Accomplishment**.

a. (A) Army users shall refer to the Maintenance Allocation Chart (MAC) for tasks and levels of maintenance to be performed

b. (F) Air Force users shall accomplish maintenance at the user level consistent with their capability in accordance with policies established in AFM 66-1.

1-7. **Destruction of Army Materiel**. Destruction of Army materiel to prevent enemy use shall be in accordance with TM 750-244-3.

1-8. **Administrative Storage**.

a. Army equipment placed in administrative storage will have preventative maintenance performed in accordance with the PMCS tables before storage. When equipment is removed from storage, PMCS will be performed to ensure operational readiness.

b. (F) For administrative storage procedures for Air Force equipment, refer to TO 35-1-4, Processing and Inspection of Aerospace Ground Equipment for Storage and Shipment.

1-9. **Preparation for Shipment and Storage**.

a. (A) Army - Refer to TB 740-97-2.
b. (F) Air Force - Refer to TO 35-1-4 for component of end item generator sets and TO 38-1-5 for installed engine.

Section II. DESCRIPTION AND DATA

1-10. **Description**. Power Plant AN/MIJQ-12A is made up of two PU-650B/G power units. Each power unit is, in turn, made up of one Tactical Utility Generator Set, DOD Model MEP-006A mounted on a modified M200A1 trailer. These generator sets are liquid-cooled, diesel engine-driven units, each with a load capacity of 60KW at 60 Hz. The trailers are two-wheeled units with dual tires mounted. Each trailer has a 2 1/2 ton carrying capacity. The modifications to the basic trailers provide stowage for the accessories and all equipment necessary for mobile operation as well as providing a work platform for the operator and maintenance personnel. Output from the power plant is applied to the system or equipment being powered through a switch box. The AN/MJQ-12A is supplied with either a 4-wire or a 5-wire configuration switch box. Figures 1-1 and 1-2 illustrate the power plant.

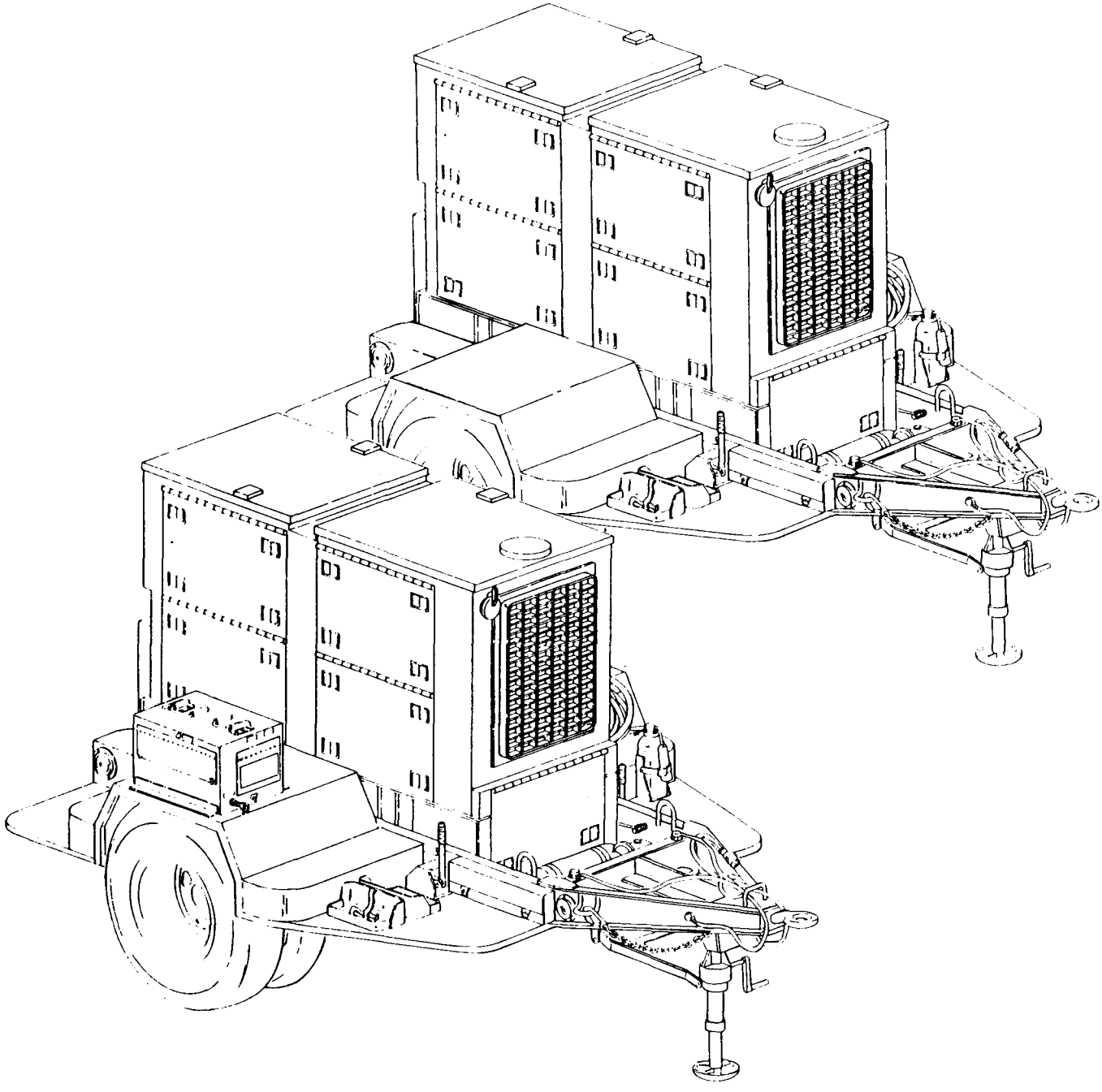


Figure 1-1. Power Plant, Curbside Front, Three-Quarter View.

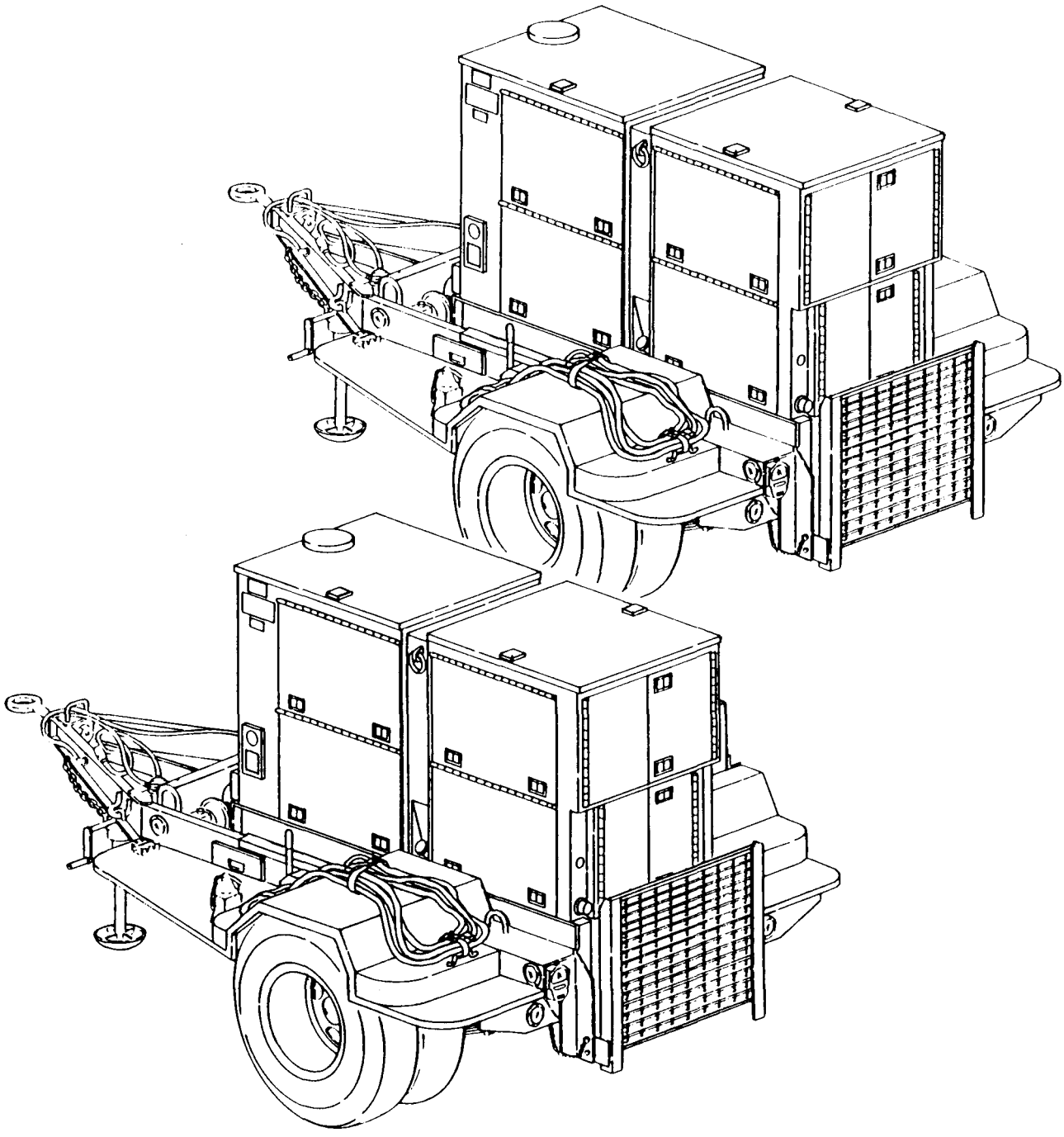


Figure 1-2. Power Plant, Roadside Rear, Three-Quarter View.

1-11. Tabulated Data. The tabulated data provides operator and unit level personnel with the dimensions and weights for Power Plant, AN/MJQ-12A. These specifications are computed from the combined dimensions and weights of the two power units that make up the power plant. Specifications for a single PU-650B/G power unit can be found in TM 5-6115-594-14&P. For additional information concerning Generator Set DOD Model MEP-006A, refer to TM 5-6115-545-12, – 34, and – 24P. For additional information on the M200A1 trailer, refer to TM 9-2330-205-14&P. The tabulated data also includes the location and content of all data plates unique to the power plant.

a. Identification, Information, and Warning Plates.

(1) *Modification identification p/ate.*

(a) Location. This plate is located on front roadside frame between the trailer body and lunette.

(b) *Content.*

MODIFIED FOR POWER PLANT AN/MJQ-12A
NSN 6115-00-464-4194
UNIT A (or B, as applicable)

(2) *Identification p/ate.*

(a) Location. This plate is located on front curbside frame between trailer body and lunette.

(b) Content.

U.S.
POWER UNIT
PU-650B/G KW 60 HERTZ 50/60
NSN 6115-00-258-1622

(3) *Identification plate.*

(a) Location. This plate is located below ground stud above curbside front step.

(b) Content.
GROUND TERMINAL

(4) *Wiring diagram designation plate.*

(a) Location. This plate is located inside switch box access cover.

(b) Contents. (See figure 4-14 or 4-15).

(5) *Identification p/ate.*

(a) Location. This plate is located on connector side of switch box.

(b) Content.

NOTE

Because both a 4-wire or 5-wire switch box may be supplied with the AN/MJQ-12A, the NSN on switch box identification plate will be either NSN 6110-01-038-3732 (4-wire) or Part Number 13226E6296, FSCM 97403 (5-wire).

(6) *Instruction P/ate.*

(a) Location. This plate is located on the outside of switch box access door.

(b) *Content.*

OPERATING INSTRUCTIONS

A. PRIOR TO OPERATION, READ INSTRUCTION MANUAL FURNISHED WITH THE POWER UNIT (GENERATOR SET), INCLUDING APPLICABLE REVISION SHEETS.

B. INSURE GENERATOR CIRCUIT BREAKERS AND SWITCH BOX SWITCHES ARE IN THE "OFF" POSITION.

C. TO OPERATE ONE UNIT, THIS PROCEDURE SHOULD BE FOLLOWED:

1. CONNECT ALL NECESSARY CABLES TO THE GENERATOR AND SWITCH BOX ASSEMBLY.

2. BRING GENERATOR UP TO RATED SPEED, VOLTAGE AND FREQUENCY.

3. CLOSE GENERATOR CIRCUIT BREAKER.

4. MOVE SWITCH BOX SWITCH, CORRESPONDING TO GENERATOR USED, TO "ON" POSITION.

5. POWER IS NOW SUPPLIED TO SWITCH BOX OUTPUT TERMINALS.

D. TO OPERATE TWO UNITS IN PARALLEL, THIS PROCEDURE SHOULD BE FOLLOWED:

1. CONNECT ALL NECESSARY CABLES TO GENERATORS AND SWITCH BOX ASSEMBLY.

2. BRING FIRST GENERATOR INTO OPERATION ACCORDING TO THE PROCEDURE OUTLINED IN SECTIONS B AND C.

3. BRING SECOND GENERATOR UP TO RATED SPEED, VOLTAGE AND FREQUENCY.

4. MOVE SWITCH BOX SWITCH, CORRESPONDING TO THE SECOND GENERATOR, TO "ON" POSITION.

5. CLOSE CIRCUIT BREAKER ON SECOND GENERATOR.

6. THE PARALLELING OPERATING SHOULD BE COMPLETE.

E. TO STOP OPERATION OF UNIT(S), THIS PROCEDURE SHOULD BE FOLLOWED:

1. MOVE SWITCH BOX SWITCH, CORRESPONDING TO GENERATOR(S) STOPPED, TO "OFF" POSITION.

2. OPEN CIRCUIT BREAKERS ON GENERATOR(S) TO BE STOPPED.

(7) *Instruction p/ate.*

(a) Location. This plate is located on the outside of load terminal cover.

(b) Content.

DANGER
HIGH VOLTAGE

(8) *Identification plate.*

(a) Location. This plate is located on the circuit breaker side of switch box above ground stud E1.

(b) Content.

GROUND TERMINAL

(9) *Instruction plate.*

(a) Location. This plate is located on connector side of switch box above connectors J3 and J4 (parallel cable inputs).

(b) Content.

PARALLELING CAPABILITY FOR
PRECISE GENERATOR SETS ONLY

(10) *Designation plate,*

(a) Location. This plate is located on load terminal side of switch box next to indicator lamp.

(b) Content.

PILOT LIGHT
OUTPUT

(11) *Designation plate.*

(a) Location. This plate is located on circuit breaker side of switch box above indicator lamp DS2.

(b) Content.

PILOT LIGHT
GEN NO. 1
INPUT

(12) *Designation plate.*

(a) Location. This plate is located on circuit breaker side of switch box above indicator lamp DS3.

(b) Content.

PILOT LIGHT
GEN NO. 2
INPUT

(13) *Designation plate.*

(a) Location. This plate is located on connector side of switch box above connector J1.

(b) Content.

POWER CABLE
GEN NO. 1
INPUT

(14) *Designation p/ate.*

(a) Location. This plate is located on connector side of switch box above connector J2.

(b) Content.

POWER CABLE
GEN NO. 2
INPUT

(15) *Designation plate.*

(a) Location. This plate is located on connector side of switch box above connector J3.

(b) Content.

PARALLEL CABLE
GEN NO. 1
INPUT

(16) *Designation p/ate,*

(a) Location. This plate is located on connector side of switch box above connector J4.

(b) Content.

PARALLEL CABLE
GEN NO. 2
INPUT

(17) *Designation plate.*

NOTE

This designation plate appears only on the 5-wire configuration switch box.

(a) Location. This plate is located on circuit breaker side of switch box above ground stud E2.

(b) Content.

AC GROUND

b. Tabulated Data for Power P/ant.

Overall Length	166 3/8 inches (423.6 centimeters)
Overall Width	95 1/2 inches (242.6 centimeters)
Overall Height	85 inches (216 centimeters)
Net Weight (empty)	14,260 pounds (6467 kilograms)
Net Weight (filled)	15,060 pounds (6830 kilograms)
Shipping Weight	15,640 pounds (7093 kilograms)
Cubage	2114 cubic feet (60 cubic meters)

1-12. Differences Between Models. There are no differences between models, serial numbers, or serial number groups applicable to this equipment.

CHAPTER 2

OPERATING INSTRUCTIONS

Section I. OPERATING PROCEDURES

2.1. Power Plant Operating Procedures. The typical mission for any mobile power generating equipment can be described in three steps or phases. In the first phase, the power plant is towed to the worksite and installed by unit level technicians (paragraph 4-2). In the second phase of the mission, the operator starts the generator sets, runs them to power a system or equipment, and eventually shuts them down. In the final phase, the power plant is dismantled, packed up and either moved to a new worksite or returned to standby status (paragraph 4-3). This final phase is also accomplished by unit level technicians.

a. Generator Set *Operating Procedures.*

WARNING

Do not operate power plant generator set(s) until properly grounded (paragraph 4-2, b.) Serious injury or death by electrocution can result from operating an ungrounded generator set.

Operating noise level of generator sets can cause hearing damage. Ear protectors, as recommended by medical or safety officer, must be worn when working near power plant.

CAUTION

To avoid damage to equipment, make certain of voltage, frequency, and phase requirements of load connected to power plant.

NOTE

Before starting generator set, do your Before PMCS as described in table 3-2.

Detailed procedures for prestarting, starting, operating, and shutting down the power plant generator sets are found in TM 5-6115-545-12 and on the Operating Instruction data plates found on the equipment. Refer to the data plate, located inside the right hand control panel door, to start and run the generator sets. Monitor and adjust power output as required during operation. At the end of the mission, shut down the generator sets in accordance with the operating instructions on the data plate.

b. Switch Box Operating Procedures. Start and stop generator sets in accordance with paragraph 2-1, a., when instructed to do so in the following procedures.

CAUTION

Close all doors on generator sets except doors over control panels and louvers.

(1) Set circuit breakers on both power plant generator sets to OFF position.

(2) Set both switches on switch box to OFF position.

(3) Start one power plant generator set and bring generator up to rated speed, voltage, and frequency.

(4) Set generator set circuit breaker to ON position.

(5) Set associated switch on switch box to ON position.

NOTE

When the power plant generator set in operation must be shut down, follow steps (6) thru (10) to continue to supply power to system or equipment being powered.

(6) Start second power plant generator set and bring generator up to rated speed, voltage, and frequency.

(7) Set generator circuit breaker to ON position.

(8) At switch box, set switch associated with first generator set to OFF position.

(9) Set switch box switch associated with second generator set to ON position.

(10) Shut down first power plant generator set.

c. Trailer Operating Procedures. Refer to TM 9-2330-205-14&P for specific operating procedures for the M200A1 trailer.

Section II. OPERATION OF AUXILIARY EQUIPMENT

2-2. Operation of Auxiliary Equipment. There is no auxiliary equipment supplied with the power plant.

Section III. OPERATION UNDER UNUSUAL CONDITIONS

2-3. Operation Under Unusual Conditions. When operating the power plant under unusual conditions such as extremes in temperature or difficult terrain, there are steps that must be taken to protect the equipment.

a. Refer to TM 5-6115-545-12 for special procedures when operating the generator set under unusual conditions.

b. Refer to TM 9-2330-205-14&P for special procedures when operating the trailer under unusual conditions.

CHAPTER 3

OPERATOR/CREW MAINTENANCE INSTRUCTIONS

Section I. CONSUMABLE OPERATING AND MAINTENANCE SUPPLIES

3-1. Consumable Supplies. Consumable supplies used in the maintenance and operation of the power plant are listed in Table 3-1.

Table 3-1. Consumable Operating and Maintenance Supplies.

(1) Component application	(2) National stock number	(3) Description	(4) Qty required for initial operation	(5) Qty required 8 hours operation	(6) Notes
General Cleaning	6850-00-664-5685	Solvent, Drycleaning, P-D-680	1 quart	As required	
Personnel Platform	9150-00-186-6681	Oil, Lubricating, OE/HDO-30	1 quart	As required	
	9150-00-402-4478	Oil, Lubricating, OEA	1 quart	As required	

Section II. LUBRICATION INSTRUCTIONS

3-2. General. Detailed instructions for the lubrication of the major components of the power plant are contained in the applicable Lubrication Orders (LO's). Refer to DA Pam 25-30 to ensure the latest editions of the LO's are used.

3-3. Generator Lubrication. Refer to TM 5-6115-545-12 for generator set Lubrication Order.

3-4. Trailer Lubrication. There are no operator/crew lubrication requirements for the power plant trailers.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

NOTE

The PMCS chart in this section contains all necessary Operator/Crew preventive maintenance checks and services for this equipment.

3-5. General. The preventive maintenance checks and services listed in Table 3-2 are grouped according to stages of equipment operation or time intervals. Using the following as a guide, do the checks and services at the intervals shown.

a. Before you operate, perform your before (B) PMCS. Observe all CAUTIONS and WARNINGS.

b. While you operate, perform your during (D) PMCS. Observe all CAUTIONS and WARNINGS.

c. After you operate, be sure to perform your after (A) PMCS.

d. Do (W) PMCS weekly.

e. Do (M) PMCS monthly.

f. If equipment fails to operate, refer to Section IV Troubleshooting. If the problem cannot be corrected, see paragraph 3-8, Reporting Deficiencies.

3-6. Purpose of PMCS Table. The purpose of the PMCS table is to provide a systematic method of inspecting and servicing the equipment. In this way, small defects can be detected early before they become a major problem causing the equipment to fail to complete its mission. The PMCS table is arranged with the individual PMCS procedures listed in sequence under assigned intervals. The most logical time (before, during, or after operation) to perform each procedure determines the interval to which it is assigned. Make a habit of doing the checks and services in the same order each time and anything wrong will be seen quickly. See paragraph 3-7 for an explanation of the columns in table 3-2.

3-7. Explanation of Columns. The following is a list of the PMCS table column headings with a description of the information found in each column.

a. Item No. This column shows the sequence in which the checks and services are to be performed, and is used to identify the equipment area on the Equipment Inspection and Maintenance Worksheet, DA Form 2404.

b. Interval. This column shows when each check is to be done.

c. Item to be inspected. This column identifies the general area or specific part where the check or service is to be done.

d. Procedures. This column lists the checks or services to be done and explains how to do them.

e. Equipment is Not Ready/Available If. This column lists conditions that make the equipment unavailable for use because it is unable to perform its mission or because it would represent a safety hazard. Do not accept or operate equipment with a condition in the “Equipment is Not Ready/Available If” column.

3-8. Reporting Deficiencies. If you discover any problem with the equipment during PMCS or while operating it that you are unable to correct, it must be reported. Refer to DA Pam 738-750 and report the deficiency using the proper forms.

3-9. Special Instructions. Preventive maintenance is not limited to performing the checks and services listed in the PMCS table. Covering unused receptacles, stowing unused equipment and other routine procedures such as equipment inventory, cleaning components, and touch-up painting are not listed in the PMCS table. These are things you should do any time you see they need to be done. If a routine check is listed in the PMCS table it is because other operators have reported problems 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.

a. Routine Inspections. Use the following information to help identify potential problems before and during checks and services.

WARNING

Drycleaning solvent P-D-680 is both toxic and flammable. Wear safety goggles and gloves and use in a well-ventilated area. Avoid prolonged breathing of vapors and avoid skin contact. Do not smoke or use near open flame or excessive heat. Flash point of solvent is 100°F to 138°F (38°C to 59°C). If you become dizzy while using P-D-680, get fresh air immediately and get medical aid. If P-D-680 contacts eyes, flush with water and get medical aid immediately.

(1) Keep it clean. Dirt, grease, and oil get in the way and may cover up a serious problem. Use drycleaning solvent P-D-680, to clean metal surfaces. Use soap and water to clean rubber or plastic parts and material.

(2) Bolts, nuts, and screws. Check them all to make sure they're not lose, missing, bent, or broken. Don't try to check them all with a tool, but look for chipped paint, bare metal, or rust around bolt heads. If you find one loose, tighten it or report it to unit maintenance.

(3) Welds. Look for loose or chipped paint, rust, or gaps where parts are welded together. If a broken weld is found, report it to higher level of maintenance.

(4) Electrical wires, connectors, terminals and receptacles. Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure the wires are in good condition. Examine terminals and receptacles for serviceability.

(5) Hoses and fluid lines. Look for wear, damage, and leaks. Make sure 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, tighten it. If something is broken or worn out, report it to unit maintenance.

b. Leakage Definitions. It is necessary for you to 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!

Leakage Definitions:

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

CAUTION

Equipment operation is allowable with minor leakage (Class I or II) of any fluid except fuel. Of course, consideration must be given to the fluid capacity in the item being checked/inspected. When in doubt, notify your supervisor.

When operating with Class I or II leaks, continue to check fluid level more often than required in the PMCS. Parts without fluid will stop working and/or cause equipment damage.

Class III leaks should be reported to your supervisor or unit maintenance.

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

Within designated interval, these checks are to be performed in the order listed.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS)

B – Before D – During A – After W – Weekly M - Monthly

Item no.	Interval					Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
	B	D	A	W	M		
						WARNING Before performing any maintenance that requires climbing on or under trailer, set trailer handbrakes, chock wheels, and lower both rear leveling jacks. Injury to personnel could result from trailer suddenly rolling or tipping.	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M – Monthly

Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
						NOTE This PMCS table lists the checks and services as performed on a single power unit. These procedures must be duplicated on each of the two power units that make up the AN/MJQ-12A. Perform weekly as well as before PMCS if: You are the assigned operator but have not operated the equipment since the last weekly inspection. You are operating the equipment for the first time.	
1	●					GENERATOR SET EXTERIOR	
						a. Check on, around, and beneath generator set for fuel or oil and coolant leaks.	A Class III coolant or lubrication oil leak or any class fuel leak is detected.
						b. Check that generator set ground is properly installed and grounding connections are tight.	Not properly grounded.
						c. Manually open and close radiator louver doors to check for proper operation.	
						d. Check operation of dead crank switch in run position.	Dead crank switch malfunctions.
2	●	●	●			FUEL GAGE Check fuel gage (1) for sufficient fuel for continuous operation.	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D - During A – After W – Weekly M – Monthly

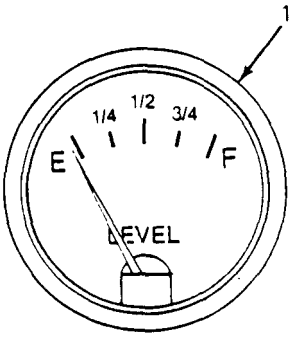
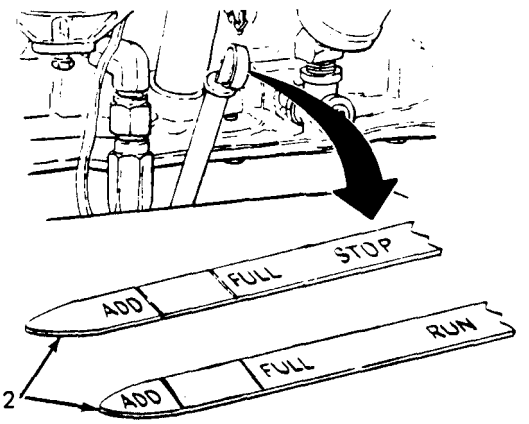
Item no.	Interval B	D	A	W		Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
2	●					FUEL GAGE - CONT  FUEL LEVEL	
3	●					ENGINE OIL LEVEL Check oil filler dipstick (2) for proper oil level. Add oil as required.  	
4	●					ACCESSORIES Check that the following accessories are not missing. a. Sledge hammer	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M – Monthly

Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
4	●					ACCESSORIES – CONT	
						b. Fire extinguisher	Fire extinguisher is missing.
						c. Driver/puller	
						d. Ground rods	Ground rods are missing.
5	●					BRACKETS Check fire extinguisher and fuel can mounting brackets for loose hardware and broken fittings.	
6	●					TIRES	
						a. Check for cuts, foreign objects or unusual tread wear. Remove any stones from between the treads.	One tire is flat, missing or unserviceable.
						b. Check that tire pressure is 35 psi (241.22 kPa) when tires are cool.	
7	●					WHEELS Check for wheel damage and loose or missing stud nuts (3).	One wheel is damaged. One stud nut is loose or missing.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M – Monthly

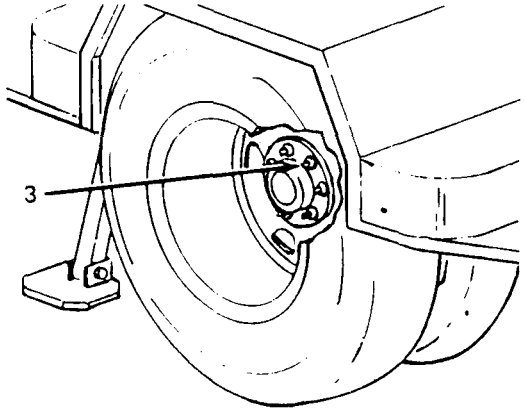
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
7	●					WHEELS – CONT  	
8	●					LUNETTE Check lunette (4) for insecure mounting and obvious damage.	Lunette is loose or bent.
9	●					INTERVEHICULAR CABLE Check cable (5) and connector for cuts and breaks.	Intervehicular cable is broken or missing.
10	●					SAFETY CHAINS Check safety chains (6) for insecure mounting and obvious damage.	Safety chains are missing or unsecured,

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M – Monthly

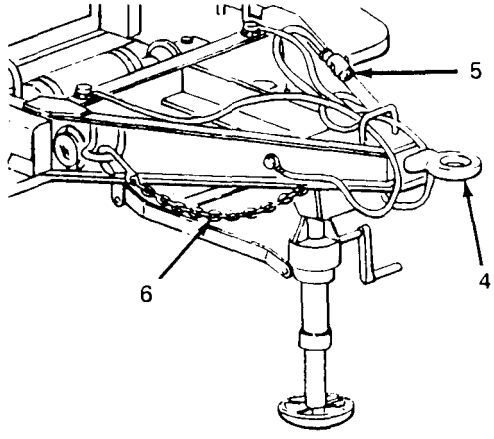
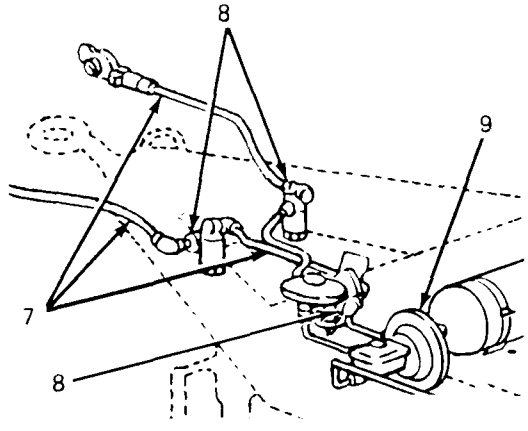
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
10	●					SAFETY CHAINS - CONT 	
11	●					AIR HOSES, FITTINGS AND BRAKE AIR CHAMBER Check air hoses (7), fittings (8) and brake air chamber (9) for signs of damage or leaks. 	Damage or leaks are detected.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B - Before D – During A – After W – Weekly M – Monthly

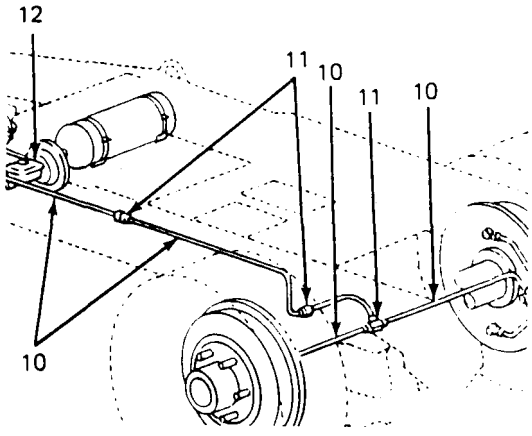
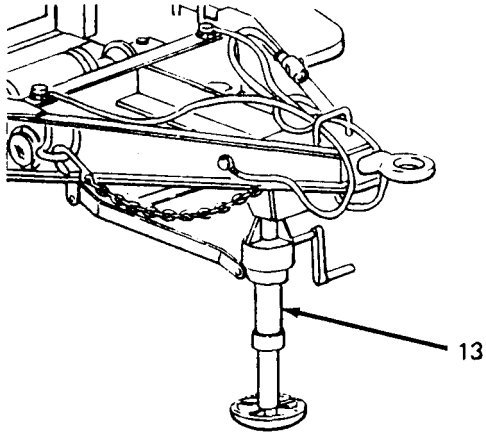
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
12	●					HYDRAULIC HOSES, FlITINGS AND MASTER CYLINDER Check brake system hoses (10) and fittings (11) and master cylinder (12), and check under vehicle for signs of brake fluid leaks.  	A class III brake fluid leak is detected.
13		●				LANDING LEG Check condition of landing leg (13).  	There is indication that leg might collapse.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B - Before D - During A – After W – Weekly M – Monthly

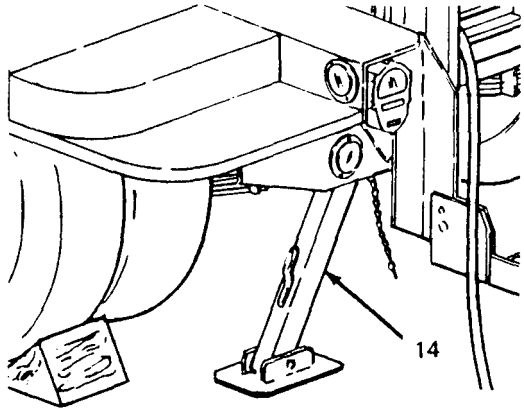
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
14		●				LEVELING JACK Check condition of leveling jack (14).  	There is indication that a jack might collapse.
15	●	●				LIGHTS a. With intervehicular cable connected to towing vehicle, operate vehicle light switch through all settings and check lights (15). NOTE An assistant is required while checking brake lights. b. Step on brake pedal and check brake lights (15).	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) - CONT.

B – Before D – During A – After W - Weekly M – Monthly

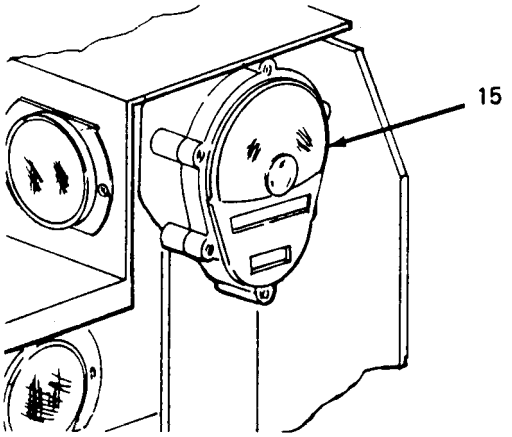
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/availabie if:
15		●				LIGHTS – CONT 	
16		●				BRAKE SYSTEM Test brake system by hooking trailer to towing vehicle and applying brakes.	Service brakes fail to operate.
17		●				TRAILER OPERATION a. Be alert for any unusual noises while towing trailer. Stop and investigate any unusual noises. b. Ensure that trailer is tracking/following correctly behind towing vehicle with no side pull.	
18		●				GENERATOR SET GAGES AND INSTRUMENTS a. Check that air cleaner condition indicator (16) does not indicate a clogged air cleaner. Press-to-test. b. Check that battery charging ammeter (17) is in green area during normal operation.	Light remains on during operation. Battery indicator not in green area.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B - Before D - During A – After W – Weekly M – Monthly

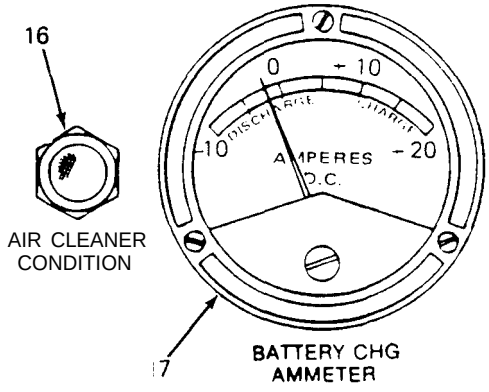
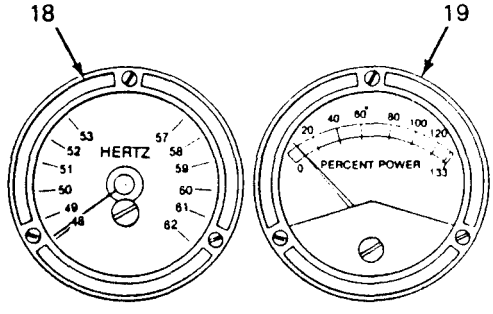
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
18		●				GENERATOR SET GAGES AND INSTRUMENTS – CONT 	
						c. Check that frequency meter (18) indicates 60 Hz (red line) when generator is operating under load.	Correct frequency cannot be maintained.
						d. Check that kilowatt meter (19) reading does not exceed 100% . 	
						e. Check that A.C. ammeter (20) reading does not exceed 100% of rated current or more than 5% load difference between phases.	No indication when load is applied.

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B - Before D – During A – After W – Weekly M – Monthly

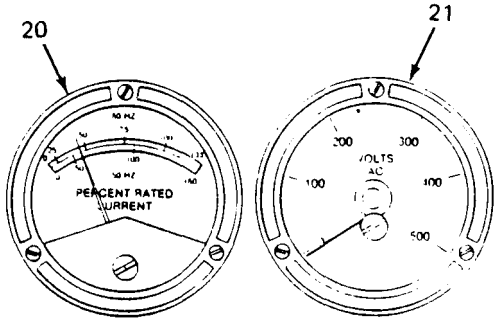
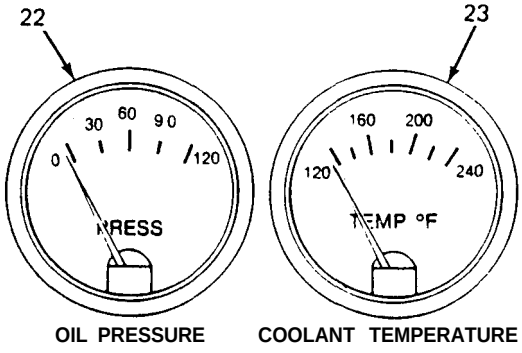
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
18		●				GENERATOR SET GAGES AND INSTRUMENTS – CONT	
						f. Check that A.C. voltmeter (21) indicates desired output voltage as determined by load connections and amps-volts selector switch.	Desired voltage cannot be obtained and maintained.
							
						g. Check engine oil pressure gage (22) for 30 to 55 psig indication.	Oil pressure drops below 30 psig.
						h. Check coolant temperature gage (23) for 170° to 200°F (76.7° to 93.3°C) indication.	Temperature exceeds 200° F (93.3°C).
						 OIL PRESSURE COOLANT TEMPERATURE	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W - Weekly M – Monthly

Item no.	Interval B	D	A	M	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
18		●				GENERATOR SET GAGES AND INSTRUMENTS – CONT i. Check that all lights on fault indicator panel (24) are out during operation. Check bulb operation with TEST or RESET switch on panel.	Fault light will not go out when switch is set to TEST or RESET position, then released. All bulbs should be lit when switch is in TEST or RESET position.
19			●			FUEL TANK a. Fill tank (25) upon completion of operation. NOTE Fuel system temperature must be above freezing when draining water and sediment.	

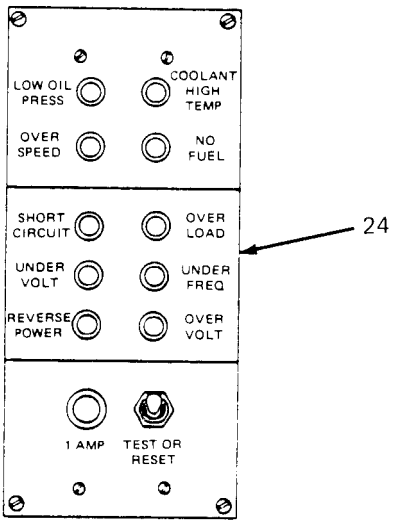


Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M - Monthly

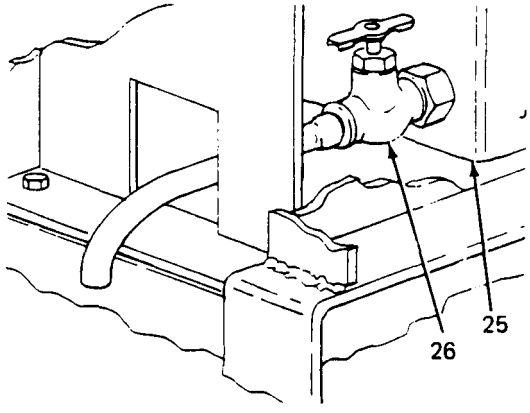
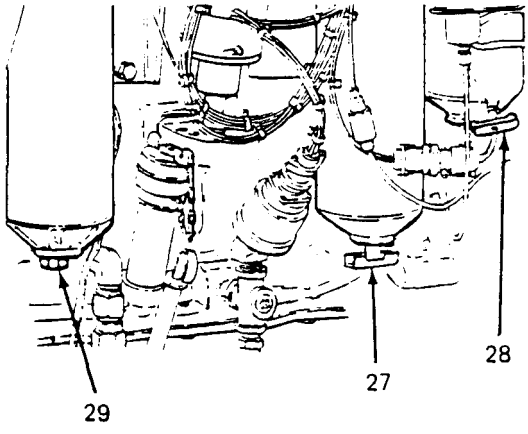
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
19			●			FUEL TANK – CONT b. Open drain (26) and drain water and sediment from fuel tank. Allow to drain until fuel runs clean.  	
20			●			FUEL STRAINER AND FILTERS Drain water and sediment from strainer (27), primary (28) and secondary (29) filters. Allow to drain until fuel runs clean.  	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) - CONT.

B – Before D – During A – After W – Weekly M – Monthly

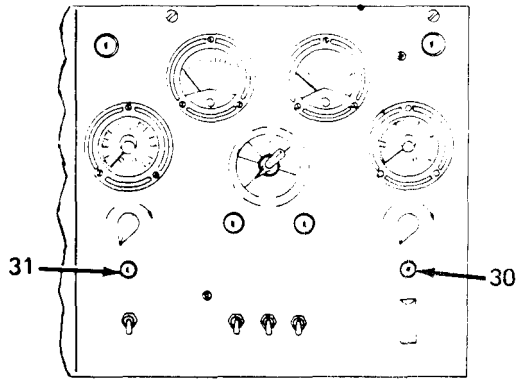
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
21			●			BATTLE SHORT INDICATOR LIGHT Push in on lens housing. Light (30) should illuminate. If not, replace bulb.	
22			●			CIRCUIT BREAKER INDICATOR LIGHT Push in on lens housing. Light (31) should illuminate. If not, replace bulb.  	
23			●			BRAKE DRUMS AND HUBS **WARNING** A defect in the operation of the brakes or hub can cause these parts to get hot enough to cause serious burns. Use extreme caution when attempting to detect heat in this area. Feel drums and hubs for overheating.	Brakes or hub are dragging or binding.
24			●			AIR RESERVOIR Open draincock (32) to drain moisture from air reservoir (33) and close when finished.	

Table 3-2. Operator/Crew Preventive Maintenance Checks and Services (PMCS) – CONT.

B – Before D – During A – After W – Weekly M – Monthly

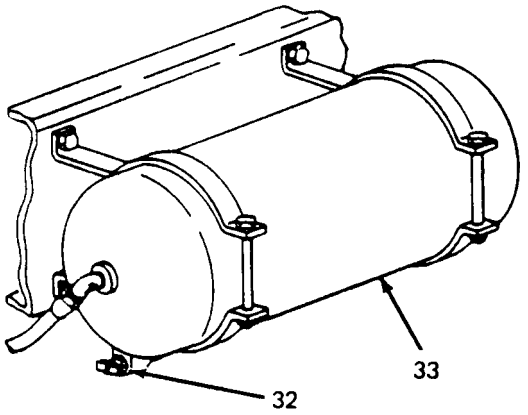
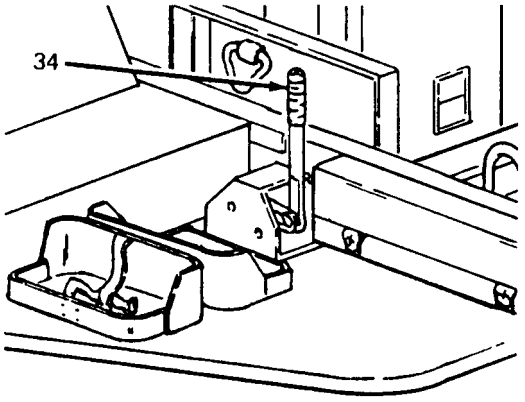
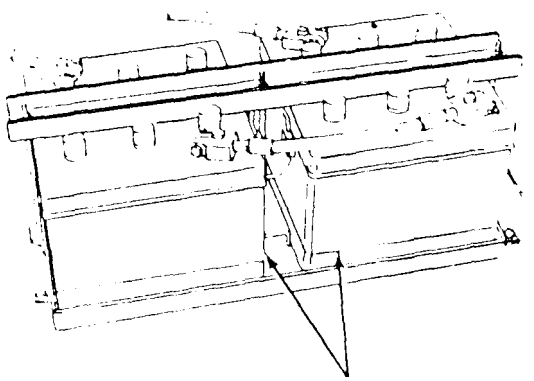
Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed	Equipment is not ready/available if:
24			●			AIR RESERVOIR – CONT 	
25			●			HANDBRAKES With trailer hooked to towing vehicle, set handbrakes (34). Move trailer slightly to see if handbrakes hold wheels. Adjust as required. 	Handbrakes cannot be adjusted.

Table 3.2. Operator/Crew Preventive Maintenance Checks and Services ()MCS) – CONT.

B - Before D - During A – After W – Weekly M – Monthly

Item no.	Interval B	D	A	W	M	Item to be inspected. Procedure: check for and have repaired, filled, or adjusted as needed.	Equipment is not ready/available if:
26				•		REFLECTORS Check for damaged or missing reflectors.	
27				•		BATTERIES Check battery (35) electrolyte level. Level should be about 3/4 inch above top of plates. Add water if level is low. Use clean water (distilled water if available). 	
28				•		FIRE EXTINGUISHER Inspect and weigh fire extinguisher. (See paragraph 3-11.)	
29				•		TRAILER FRAME Inspect entire chassis frame for damage, cracks, and broken welds.	Frame is obviously broken or cracked.
30	•					COOLANT LEVEL Check level of fluid in cooling system. Proper level is 2 inches below overflow pipe. Add coolant as required.	

Section IV. TROUBLESHOOTING

3-10. Power Unit Troubleshooting. There are no troubleshooting procedures authorized at operator level for the power plant end item. Troubleshooting procedures for the individual generator sets and trailers are contained in their respective technical manuals referenced below.

a. Generator Set Troubleshooting. Refer to TM 5-6115-545-12 for troubleshooting procedures applicable to the generator set.

b. Trailer Troubleshooting. Refer to TM 9-2330-205-14&P for troubleshooting procedures applicable to the trailer.

Section V. OPERATOR/CREW MAINTENANCE

3-11. Fire Extinguisher Maintenance. The AN/MJQ-12A Power Plant is equipped with two 5 lb $C0_2$ fire extinguishers. Maintenance is limited to weighing the fire extinguishers monthly to insure that they are sufficiently charged. Fully charged, each fire extinguisher weighs 13 lbs. Send the unit to specialized activity for recharging if it weighs 12.5 lb or less.

CAUTION

Do not attempt to verify readiness of a fire extinguisher by partially discharging unit. Any discharge of contents will require refilling.

CHAPTER 4

UNIT MAINTENANCE

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

4-1. Inspecting and Servicing Equipment. The power plant is unpacked, inspected, and serviced as described in the following paragraphs. Unpacked equipment must be checked against the Equipment Packing List to ensure completeness. Discrepancies must be reported in accordance with instructions in DA Pam 738-750.

a. Unpacking Power Plant. (See figures 4-1 and 4-2.) The two power units that make up the AN/MJQ-12A power plant are identical except for the addition of the switch box installed on the curb-side fender of one of the units. Therefore, the unpacking procedures are typical for both. Each generator set is packed in place on its respective trailer. Before beginning the unpacking procedure, locate and remove Depreservation Guide.

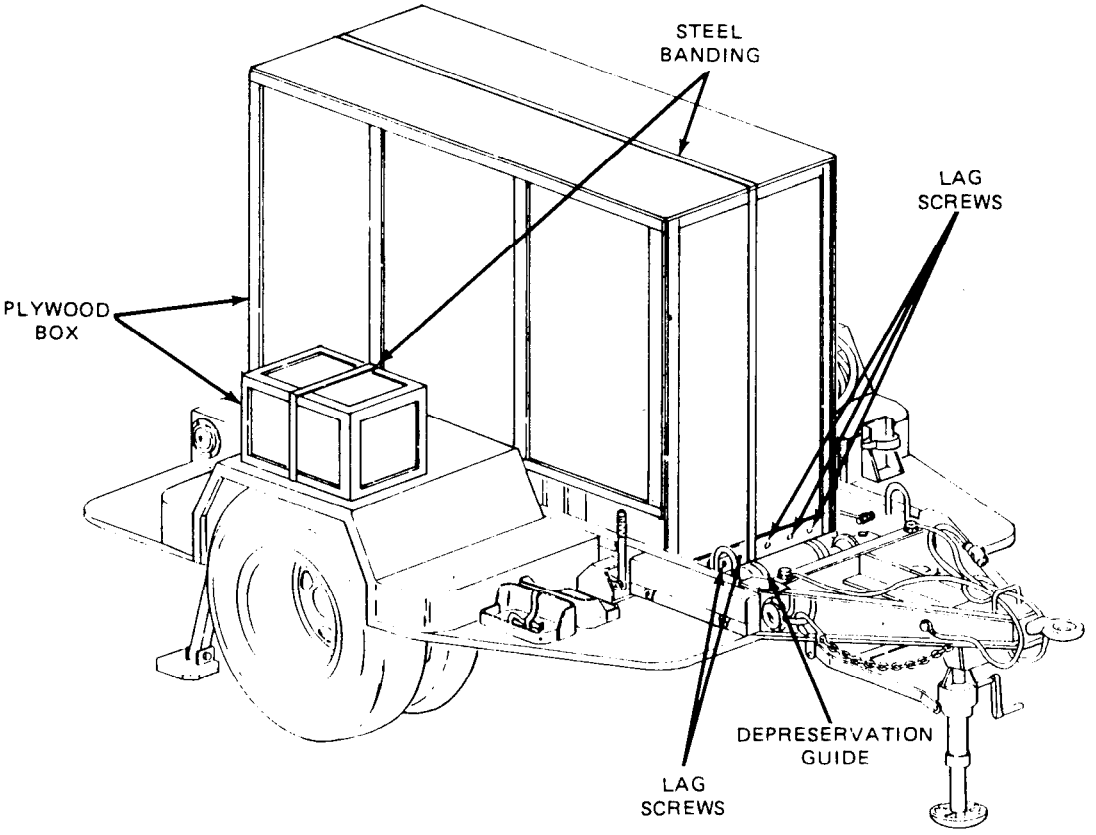


Figure 4-1. *Power Unit B, with Switch Box, Packed for Shipment.*

WARNING

The steel banding used in packaging of power plant has sharp edges. Care should be taken when cutting and handling banding to avoid injury to personnel.

(1) Remove steel banding around plywood box(es) covering generator set and, when unpacking unit B, the switch box.

(2) Remove lag screws securing plywood box cover over generator set and lift off cover.

(3) Remove wooden wedges and spacers from around generator set base. Loosen switch box attaching hardware and remove any steel banding remaining beneath switch box.

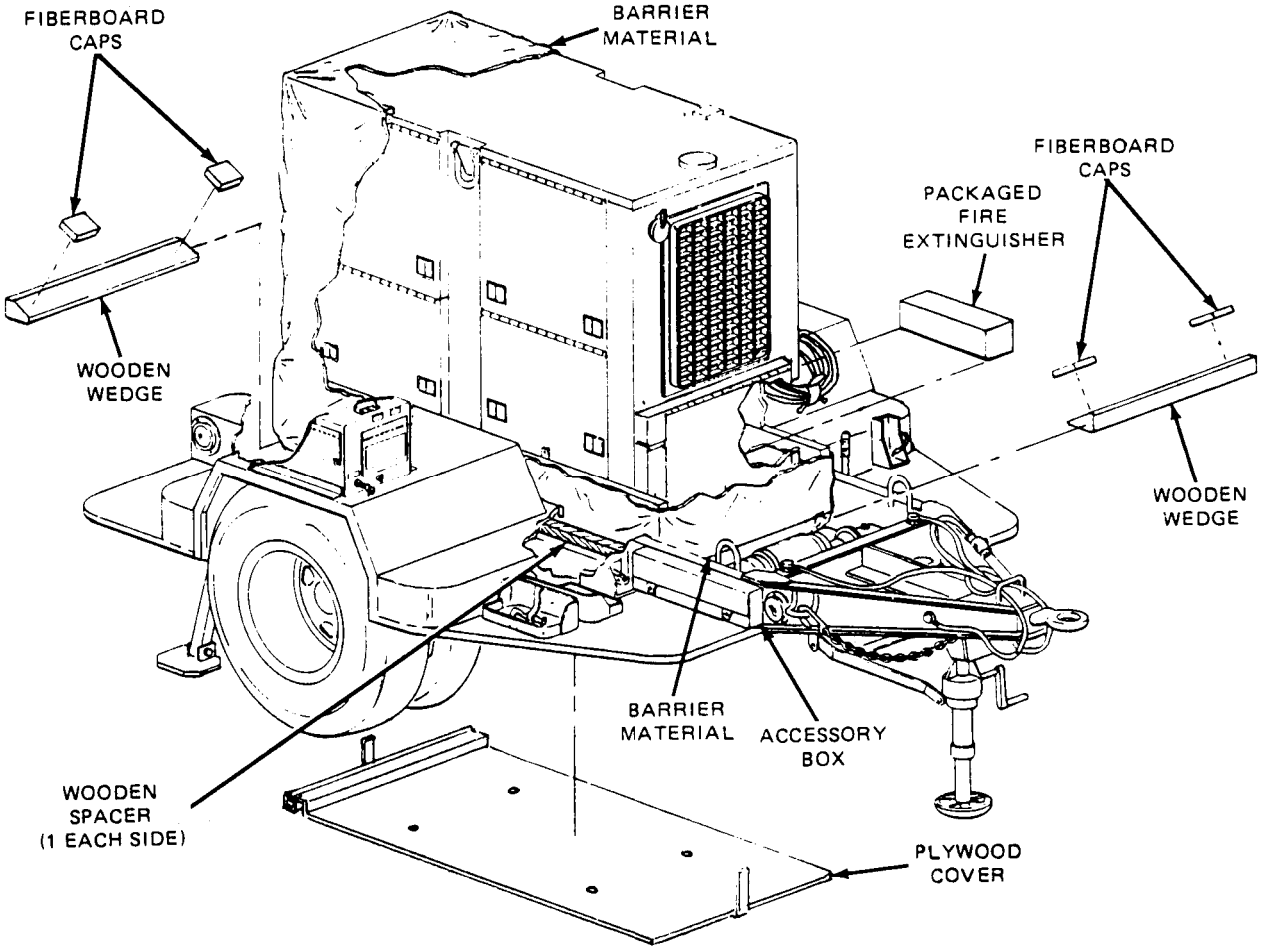


Figure 4-2. Unpacking Power Plant – Power Unit B Shown.

(4) Remove and save package of technical manuals secured to barrier material.

(5) Remove four sets of attaching hardware and drop plywood cover under trailer.

(6) Remove barrier material and fiberboard caps from generator set.

(7) Remove packaged fire extinguisher from within generator set enclosure. Unpack and secure fire extinguisher in bracket on front roadside step.

(8) Remove steel banding around accessory box, unpack and inventory contents.

(9) Refer to DA Form 2258, Depreservation Guide for Vehicles and Equipment, packed with power unit and follow instructions given for putting unit into service.

(10) Stow technical manuals in box on inside of generator set enclosure rear curbside door.

(11) Stow all authorized accessories in the accessory box.

(12) Remove all tape and packing film from trailer air hoses and intervehicular cable.

b. Inspection and Servicing of Generator Set. Refer to Service Upon Receipt of Materiel in TM 5-6115-545-12 for initial inspection and servicing procedures.

c. Inspection and Servicing of Trailers. Refer to Service Upon Receipt of Materiel in TM 9-2330-205-14&P for initial inspection and servicing procedures.

4-2. Installation. (See figure 4-3.) Installation of the power plant at a worksite involves positioning both the power unit trailers and the switch box, and grounding the equipment.

a. *Positioning Power Plant.* Position the power plant on the worksite as follows:

(1) Select an area as level as possible to install power plant and position both power units.

(2) Set handbrakes and lower landing legs on both trailers.

(3) Chock both sets of dual wheels on each trailer.

(4) Lower both rear leveling jacks on each trailer and secure leveling jacks with lockpins. Extend lower tubes on leveling jacks by stepping on hinged pads.

WARNING

Remove fire extinguishers and fuel cans from individual power units when power plant is in operation. This will insure that in the event of fire, extra fuel will not be involved and extinguishers will remain accessible.

(5) Locate fuel cans and fire extinguishers on ground halfway between the two power units.

(6) Remove switch box from fender of power unit B and stow attaching hardware in accessory box.

(7) Position switch box assembly on ground halfway between two power units.

(8) Connect one ground wire to GROUND TERMINAL stud on front, roadside frame of each power unit trailer. Connect opposite end of both ground wires to GROUND TERMINAL lug on switch box.

(9) Unstrap and remove power cables from fenders of both power units.

NOTE

When performing step 10, note that the power cables, the individual wires in the cables, and the generator set load terminals are all marked for identification. Make certain these markings correspond when connecting power cables.

(10) Connect power cable to each generator set load terminal board as follows:

(a) White wire to load terminal L0.

(b) Black wire to load terminal L1.

(c) Red wire to load terminal L2.

(d) Blue wire to load terminal L3.

(11) Connect both power cables to switch box.

WARNING

Do not operate power plant until both power units have been properly grounded (paragraph 4-2, b.) Serious injury or death by electrocution can result from operating an ungrounded power plant.

CAUTION

To avoid damage to equipment, make certain of voltage, frequency, and phase requirements of load being connected to power plant.

(12) Connect power plant switch box to system or equipment to be powered. Refer to TM 5-6115-545-12 and generator set load terminal board data plate. Data plate is located on inside of generator enclosure door nearest load terminals.

(13) Remove quick-release pins securing both power unit personnel platforms and lower platforms.

(14) On both power units, open control panel doors and the two doors immediately below the control panels.

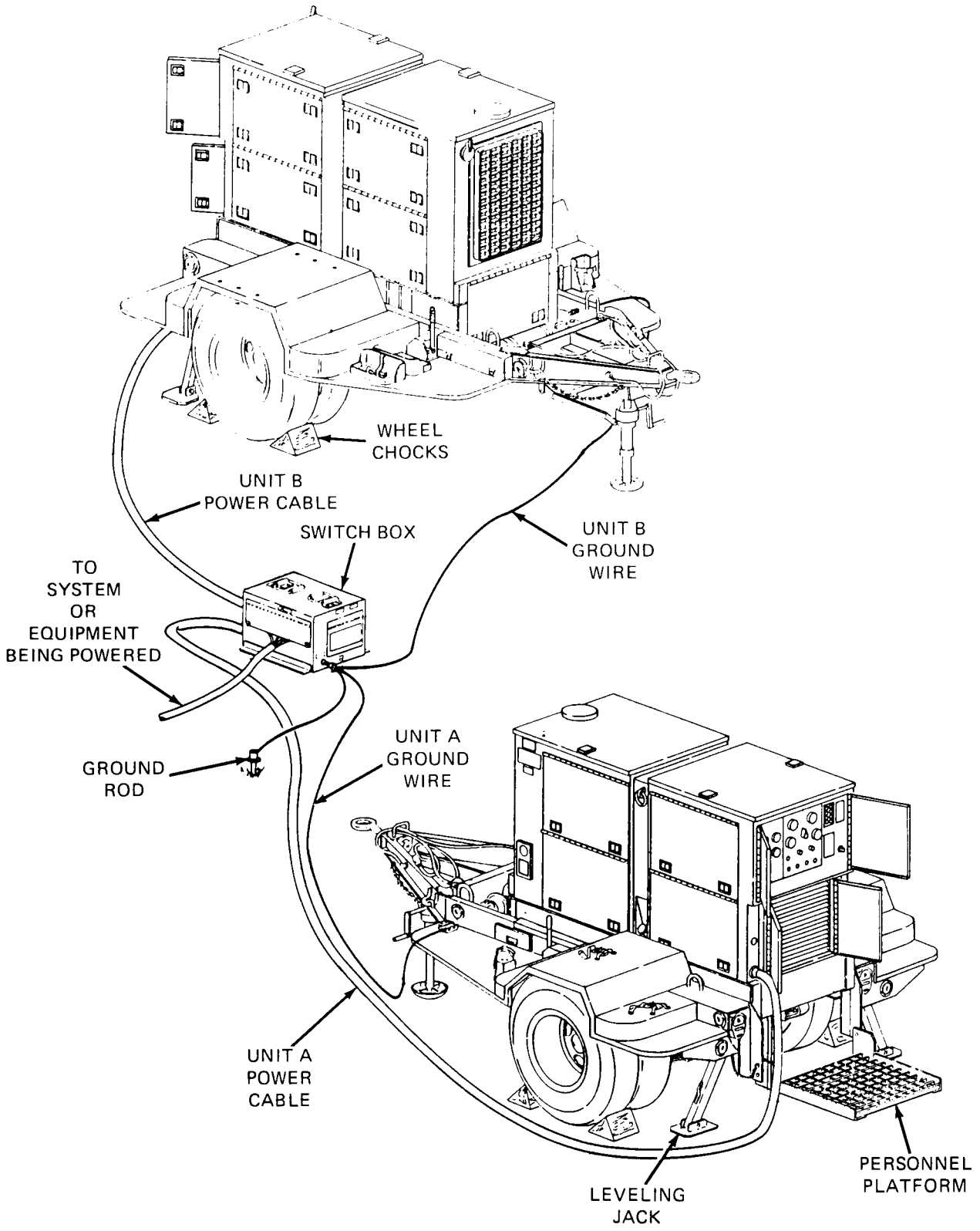


Figure 4-3. Power Plant Installation.

b. Grounding. Check that the individual power unit generator sets are grounded to the GROUND TERMINAL studs on their respective trailer frames. Using ground wire supplied with power plant, connect GROUND TERMINAL lug on switch box to a suitable ground as described below. The following sources of a good ground are listed in order of preference.

NOTE

As a substitute for the supplied ground wire, any copper wire of at least No. 6 AWG may be used.

(1) *Underground water system.* Ground power plant to one of the accessible pipes in an underground water system. Make certain underground pipe is made of metal and there is no insulation, such as a water meter, between ground wire and the earth.

(2) *Ground rod.* Drive grounding rod a minimum of eight feet into earth. A ground rod must have a minimum diameter of 5/8-inch, if solid, or 3/4-inch if pipe.

NOTE

It maybe necessary to saturate the area around ground rod with water if soil conditions are dry.

(3) *Ground plate.* Ground power plant to a metal plate buried four feet deep. Ground plate should cover a minimum area of nine square feet.

c. External Fuel Line Connection. (See figure 4-4). Either or both of the power units that make up the power plant can be fueled from an external source. The external source could be a five-gallon fuel can or a 55-gallon drum. This eliminates the need for frequent refilling of a generator set's fuel tank during long intervals of operation.

(1) Remove fuel can adapter and fuel pickup tube from storage locations on power unit and assemble by threading pickup tube into adapter.

(2) Thread one end of auxiliary fuel line onto fuel can adapter fitting and tighten.

(3) Connect free end of auxiliary fuel line to AUXILIARY FUEL CONNECTION. This connection is located next to the fuel filler above the trailer roadside fender.

(4) Insert fuel can adapter into external fuel source and secure by pressing down on lever.

(5) Set FUEL SELECTOR VALVE beneath fuel filler to AUXILIARY position.

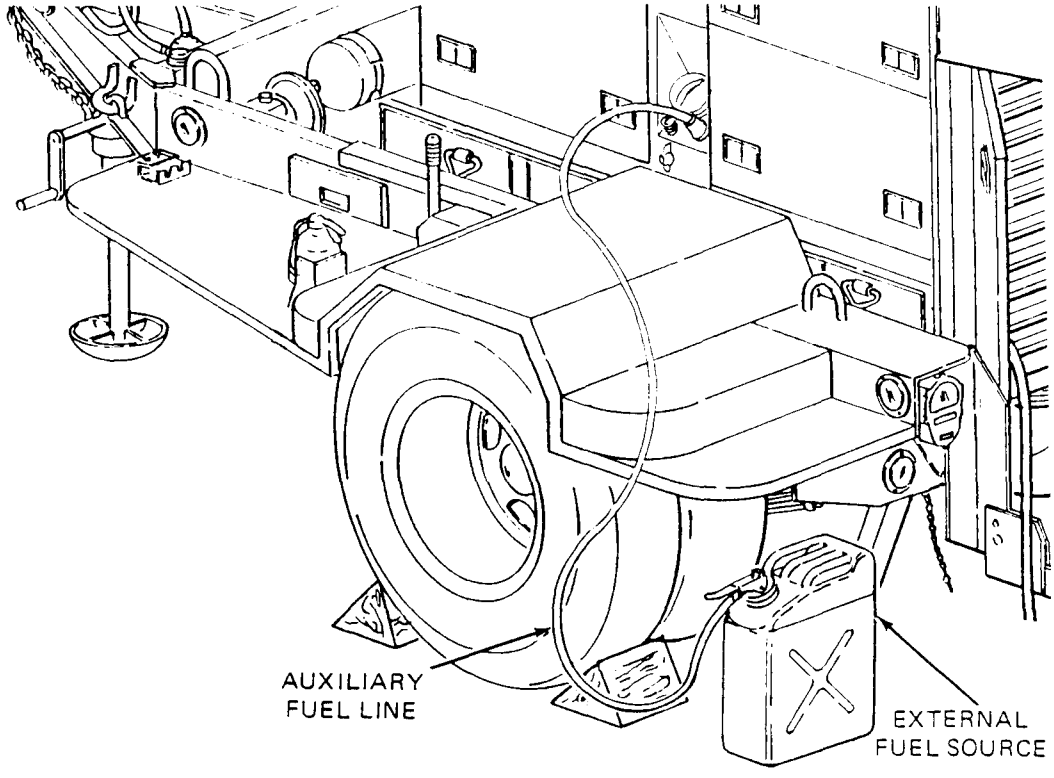


Figure 4-4. External Fuel Line Connection.

Section II. MOVEMENT TO A NEW WORKSITE

4.3. Dismantling for Movement. Because the power plant is designed to be mobile, a minimum amount of effort is required to relocate to a new worksite. Procedures are as follows:

a. Disconnect power plant from system or equipment being powered.

b. Disconnect ground cables from source of ground and GROUND TERMINAL studs on both power units. Roll up cables and store in accessory boxes.

c. Using slide hammer, remove ground rods. Disassemble, clean, and stow ground rods in accessory boxes.

d. Disconnect power plant from external fuel sources, if applicable.

e. Disconnect ground wires between switch box and GROUND TERMINAL studs on power units. Roll up ground wires and store in accessory boxes.

f. Disconnect power cables from both power units and from switch box. Roll up cables and secure each to roadside fender of respective power unit using straps provided.

g. Close switch box access door and cap connectors. Position switch box on curbside fender of power unit B and secure with hardware provided.

h. Stow any remaining authorized equipment in accessory box.

i. Secure fire extinguishers and fuel cans in their respective mounting brackets.

j. Close all doors on the generator set enclosures.

k. On each power unit, swing personnel platform up into traveling position and secure with two platform anchor quick-release pins.

WARNING

Use care when releasing spring-loaded lower tube of leveling jacks. The lower tube will return to retracted position with considerable force and can cause injury.

l. Retract lower tubes of leveling jacks. Swing leveling jacks up into traveling position and secure with Iockpins.

m. Remove wheel chocks.

n. Attach power units to towing vehicles. Refer to TM9-2330-205-14&P.

o. Release trailer handbrakes on both power units.

4-4. Reinstallation After Movement. After movement to a new worksite, install power plant in accordance with paragraph 4-2.

Section Ill. REPAIR PARTS, SPECIAL TOOLS, SPECIAL TEST, MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE)

4-5. Tools and Equipment. There are no special tools or equipment required to maintain the AN/MJQ-12A power plant.

4-6. Maintenance Repair Parts. Repair parts and equipment for maintenance of this power plant are listed and illustrated in the repair parts and special tools list in Appendix D of this manual.

Section IV. LUBRICATION INSTRUCTIONS

4-7. General. Detailed instructions for the lubrication of the major components of the power plant are contained in the applicable Lubrication Orders (LO's). Refer to DA Pam 25-30 to ensure that the latest editions of the L.O.'S are used. This section contains lubrication instructions that are not included in the Lubrication Orders.

4-8. Generator Lubrication. Refer to TM 5-6115-545-12 for generator set Lubrication Order.

4-9. Trailer Assembly Lubrication.

a. *Trailer Lubrication.* Refer to TM 9-2330-205-14&P for trailer Lubrication Order.

b. *Personnel Platform Lubrication.* The personnel platform is a modification to the standard M200A1 trailer and, as such, does not appear in the associated L.O. Lubricate the personnel platform semiannually as follows:

WARNING

Clean parts in a well-ventilated area. Avoid inhalation of solvent fumes and prolonged exposure of skin to cleaning solvent. Wash exposed skin thoroughly. Dry cleaning solvent (P-D-680) used to clean parts is potentially dangerous to personnel and property. Do not smoke or use near open flame or excessive heat. Flash point of solvent is 100°F to 138°F to 59°

(1) Using P-D-680, or equivalent, clean area to be lubricated.

(2) Apply OE lubricating oil to personnel platform pivot points and to platform anchor quick-release pins.

Section V. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

NOTE

The PMCS chart in this section contains all necessary unit preventive maintenance checks and services for this equipment.

4-10. General. The trailer assemblies and generator sets must be inspected and serviced systematically to insure that the power plant is ready for operation at all times. Inspection will allow defects to be discovered and corrected before they result in serious damage or failure. Table 4-1 contains a tabulated list of preventive maintenance checks and services to be performed by unit maintenance personnel. All of the unit PMCS on the trailers is scheduled to be performed semiannually, Unit PMCS on the generator sets is scheduled weekly or on a per-hours-of-operation basis. The running time meters on the control panels are used to determine the operating time of the generator sets. Using the following as a guide, do the checks and services at the intervals shown. Observe all CAUTIONS and WARNINGS.

a. For PMCS performed on an operating time basis, perform your hourly (H) PMCS as close as possible to the time intervals indicated.

NOTE

For units in continuous operation, perform PMCS before starting operation if continuous operation will extend service interval past that which is shown.

b. Perform your weekly (W) PMCS every week or 40 hours of generator set operating time.

c. Perform your monthly (M) PMCS every month or 100 hours of generator set operating time.

d. Do your semiannual (S) PMCS once every six months or 500 hours of generator set operating time.

e. Do your annual (A) PMCS once every year or 1000 hours of generator set operating time.

f. If you discover a problem with the equipment, refer to Section VI, Troubleshooting. If you cannot correct the problem, refer to paragraph 4-12, Reporting Deficiencies.

4-11. Explanation of Columns. The following is a list of the PMCS table column headings with a description of the information found in each column.

a. *Item No.* This column shows the sequence in which to do the checks and services, and is used to identify the equipment area on the Equipment inspection and Maintenance Worksheet, DA Form 2404.

b. *Interval.* This column shows when each check is to be done.

c. *Item to be Inspected.* This column identifies the general area or specific part where the check or service is to be done.

d. *Procedures.* This column lists the checks or service you have to do and explains how to do them.

4-12. Reporting Deficiencies. If you discover any problem with the equipment during PMCS that you are unable to correct, It must be reported. Refer to DA Pam 738-750 and report the deficiency using the proper forms.

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS). –CONT.

H – Hours of operation (As indicated) **W – Weekly (40 hours)** **M – Monthly (100 hours)** **S – Seminally (500 hours)** **A - Annually (1000 hours)**

Item no.	Interval					Item to be Inspected	Procedures
	H	W	M	S	A		
							WARNING Before performing any maintenance that requires climbing on or under trailer, set trailer handbrakes, chock wheels, and lower rear leveling jacks. Injury to personnel could result from trailer suddenly rolling or tipping.

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS). –CONT.

H – Hours of operation (As indicated) **W – Weekly (40 hours)** **M – Monthly (100 hours)** **S – Seminally (500 hours)** **A - Annually (1000 hours)**

Item no.	Interval					Item to be Inspected	Procedures
	H	W	M	S	A		
							NOTE This PMCS table lists the checks and services as performed on a single power unit. These procedures must be duplicated on each of the two power units that make up the AN/MJQ-12A.
1			●			Generator Set	Inspect generator set for fuel and oil leaks, loose or missing components and hardware, and unusual wear or deterioration. Clean generator set.
2			●			Fuel Strainer and Filters	**NOTE** Fuel system must be above freezing temperature when draining water and sediment from strainer, filters, and tank. Open drains on fuel strainer and primary and secondary fuel filters. Drain water and sediment. Allow to drain until fuel runs clean.
3			●			Fuel Tanks	Open drains on main fuel tank and day tank. Drain water and sediment. Allow to drain until fuel runs clean.
4				●		Fuel Pumps	Clean or replace, as necessary, fuel strainer in bottom of fuel pump.
5	100					Batteries	Perform a hydrometer test on batteries every 100 hours. Refer to TM 5-6115-545-12 for test procedures.

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS). –CONT.

H – Hours of operation (As indicated) **W - Weekly (40 hours)** **M – Monthly (100 hours)** **S – Seminally (500 hours)** **A - Annuallv (1000 hoursj**

Item no.	Interval					Item to be Inspected	Procedures
	H	W	M	S	A		
6	100					V-Belts	Inspect for worn, frayed, oil soaked, or cracked belts, Check adjustment. Proper adjustment for fan belt is a deflection of 9/32 inch with application of 12-14 lb pressure midway between fan and accessory drive pulley. For alternator drive belt, a deflection of 9/64 inch with application of 3-5 lb pressure midway between alternator and accessory drive pulley.
7	100					Fuel Filters	Replace filter elements every 100 hours of operation.
8	300					Fuel Strainer	Clean fuel strainer every 300 hours of operation.
9	300					Lubricating Oil and Filters	Change lubricating oil and filters every 300 hours of operation or six months,
10	300					Breather and Breather Tube	Inspect for damage. Clean breather and tube at oil change interval.
11	AR					Air Cleaner	Clean air cleaner element whenever necessary as indicated by air filter condition indicator light.
1 2				●		Taillights	Replace any broken or cracked lenses or defective bulbs,
13				●		Intervehicular Cable	Check for cuts, breaks, frayed wires and damaged plug.
14				●		Lunette	Check security of mounting. Inspect for excessive wear.
15				●		Safety Chains	Inspect for broken links or missing chain(s).
16				●		Reflectors	Replace any cracked, broken or missing reflectors.

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS). –CONT.

H – Hours of operation (As indicated) **W – Weekly (40 hours)** **M – Monthly (100 hours)** **S – Seminally (500 hours)** **A – Annually (1000 hours)**

Item no.	Interval					Item to be Inspected	Procedures
	H	W	M	S	A		
17				●		Data Plates and Markings	Make sure data plates are legible and securely mounted. Replace illegible data plates.
18				●		Landing Leg	Inspect landing leg and brace for bent or broken parts.
19				●		Leveling Jacks	Inspect leveling jacks for bent or broken parts.
20				●		Suspension Assemblies	a. Inspect shackles, bearings, pins, leaf springs and spring eyes for damage and broken parts. b. Inspect mounting brackets for cracks or loose or missing hardware.
21				●		Axle	a. Check for damaged axle tube. b. Check for loose or missing U-bolts or nuts.
22				●		Wheels and Tires	a. Check serviceability of tires as indicated in TM 9-2610-200-24. b. Tighten wheel stud nuts to 450 to 500 ft-lb (611 to 678 N-m).
23				●		Brakes	a. Inspect brake linings for wear. Replace if brake shoe lining is less than 1/8-inch (3.2 mm) thick. b. Inspect brake adjusting screw, retaining pins, springs, and clips for corrosion and wear. c. Inspect hydraulic wheel cylinders for leaks. d. Adjust brakes.
24					●	Wheel Bearings	Clean and repack wheel bearings.

Table 4-7. Unit Preventive Maintenance Checks and Services (PMCS). –CONT.

H - Hours of operation (As indicated) W - Weekly (40 hours) M – Monthly (100 hours) S – Seminally (500 hours) A – Annually (1000 hours)

Item no.	Interval					Item to be Inspected	Procedures
	H	W	M	S	A		
25				●		Hydraulic Brake Hoses and Fittings	Inspect for dents, cracks, loose connections and leaks.
26				●		Air Hoses and Fittings	Inspect for dents, cracks, loose connections and leaks.
27				●		Brake Master	Check fluid level. Fill to 1/2 inch from top.
28				●		Trailer Road Test	Perform road test paying special attention to items that were repaired or adjusted, in accordance with TM 9-2330-205-14&P.

Section VI. TROUBLESHOOTING

4-13. General. Troubleshooting procedures for components unique to the power plant end item are given in paragraph 4-14. Troubleshooting information for the individual generator sets and trailers are contained in their respective manuals referenced below:

a. Generator Set Troubleshooting. Refer to TM 5-6115-545-12 for troubleshooting procedures applicable to the trailers.

b. Trailer Troubleshooting. Refer to TM 9-2330-205-14&P for troubleshooting procedures applicable to the trailers.

4-14. Power Plant Troubleshooting. Table 4-2 contains troubleshooting information for locating the correcting operating troubles which may develop in components unique to the power plant end item. Each malfunction is followed by a list of tests or inspections which will help determine probable cause and corrective actions to take. Perform the tests/inspections and corrective actions in the order listed. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or cannot be corrected by listed corrective actions, notify your supervisor.

* U.S. GOVERNMENT PRINTING OFFICE: 1989-754-029/ 00409

Table 4-2. Troubleshooting.

Malfunction Test or inspection Corrective action
1. POWER IS ABSENT AT SWITCH BOX LOAD TERMINAL(S) WHEN ONE PARTICULAR POWER UNIT IS SELECTED.
Step 1. Check if associated generator set circuit breaker is set to ON position. If circuit breaker is in OFF position, reset to ON position.
Step 2. Verify associated generator set output is as desired. Check generator output at load terminals. If power is absent at generator set load terminals, troubleshoot generator set. (Refer to TM 5-6115-545-12.)
Step 3. Perform continuity check on associated power unit power cable. If cable is defective, notify higher level of maintenance.
Step 4. Perform continuity check on associated switchbox connector. If connector is defective, notify higher level of maintenance.
Step 5. Perform continuity check on associated switch. If switch is defective, notify higher level of maintenance.
2. POWER IS ABSENT AT ONE OR MORE SWITCH BOX LOAD TERMINALS WHEN EITHER POWER UNIT IS SELECTED.
Step 1. Check load terminal(s) for looseness or damage. a. If terminal is loose, tighten. b. If terminal is damaged, notify higher level of maintenance.
Step 2. Inside switchbox, check wires associated with inoperative terminal(s) for looseness or broken wire terminals. Tighten loose connection, repair or replace broken wires.
3. ONE OR MORE INDICATOR LAMPS DO NOT LIGHT WHEN POWER IS APPLIED BY POWER PLANT THROUGH SWITCH BOX.
Step 1. Check bulb(s). Replace bulb(s) if defective.

Table 4-2. Troubleshooting – CONT.

Malfunction Test or inspection Corrective action
Step 2. Inspect wires associated with inoperative indicator. Check wire terminals for looseness. Tighten loose connections. Replace broken wires.
Step 3. Perform continuity check on indicator housing. If indicator housing is defective, replace.

Section VII. RADIO INTERFERENCE SUPPRESSION

4-15. General Methods Used to Attain Proper Suppression. Essentially, suppression is attained by providing a low resistance path to ground for stray currents. The methods used include shielding ignition and high-frequency wires, grounding the frame with bonding straps, and using filtering systems.

4-16. Radio Interference Suppression Components. All component parts of the power plant end item, whose primary or secondary function is radio interference suppression, are on the generator sets. Refer to TM 5-6115-545-12 for location of radio interference suppression components.

Section VIII. MAINTENANCE OF POWER PLANT TRAILERS

4-17. General. This section of the manual contains unit level maintenance procedures for components of the M200A1 trailer added when the trailer is used as part of the AN/MJQ-12A power plant. These components are not covered in the overall trailer maintenance manual. For all other unit maintenance procedures on the trailer, refer to TM 9-2330-205-14&P.

WARNING

Before performing any maintenance that requires climbing on or under trailer, set trailer handbrakes, chock both wheels, and lower rear leveling jacks. Injury to personnel could result from trailer suddenly rolling or tipping.

4-18. Fuel Can Bracket Replacement. (See figure 4-5.) There are four fuel can brackets supplied with the AN/MJQ-12A. Two brackets are mounted on top of the curbside front steps on each power unit. Replacement procedures described below are typical for all.

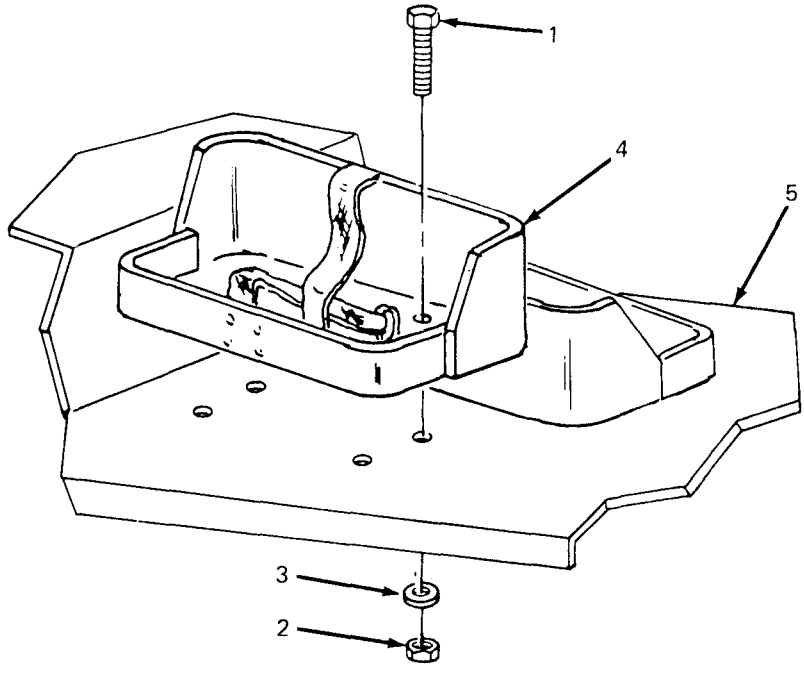


Figure 4-5. Fuel Can Bracket Replacement.

a. Removal.

(1) Remove four screws (1, figure 4-5), four nuts (2) and four flat washers (3) securing bracket (4) to step(5).

(2) Remove bracket (4) on step (5).

b. Installation.

(1) Position fuel can bracket (4) on step (5).

(2) Insert four screws (1) down through bracket (4) and through step (5).

(3) Install one washer (3) and one nut (2) on each screw (1). Tighten hardware to secure bracket (4).

4-19. Accessory Box Replacement. (See figure 4-6.) The accessory boxes are mounted to the trailer frames at the curbside front steps. Replacement procedures are typical.

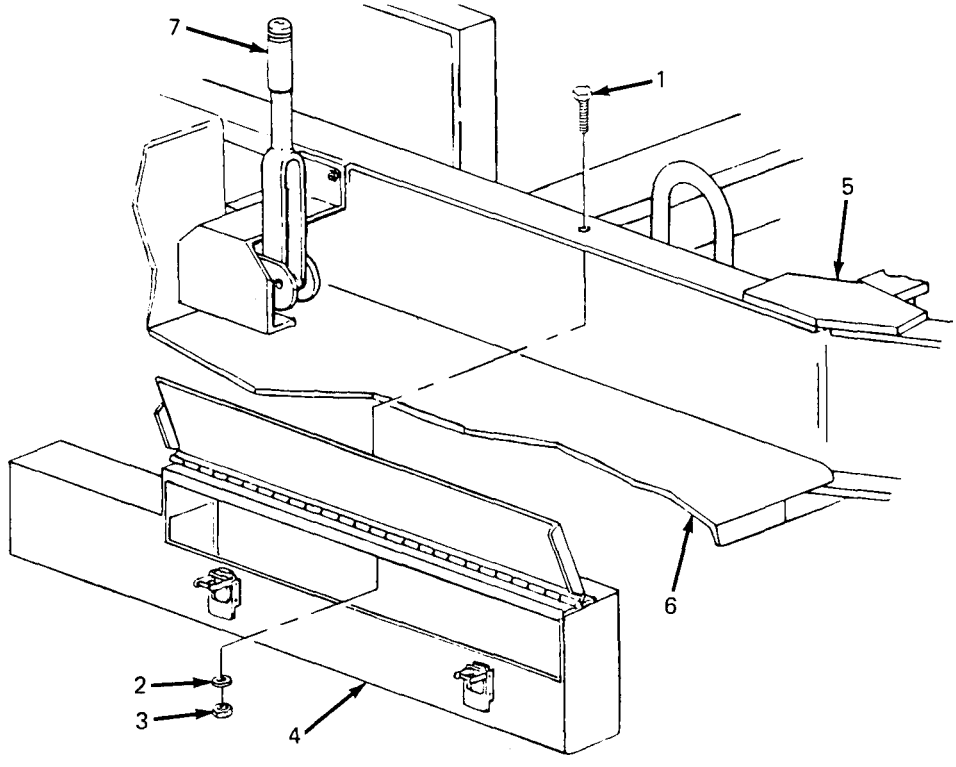


Figure 4-6. Accessory Box Replacement.

a. Removal.

(1) Remove three screws (1, figure 4-6), three flat washers (2), and three nuts (3) securing accessory box (4) to trailer frame (5).

(2) Slide accessory box (4) forward and off of front step (6).

b. Installation.

(1) Position accessory box (4) on front trailer step (6) with narrow end between handbrake lever (7) and trailer frame (5).

(2) Lift accessory box *(4) so* that top of box contacts lip of trailer frame (5).

(3) Insert three screws (1) down through trailer frame (5) into accessory box (4).

(4) Install one nut (3) and one washer (2) on each screw (1) and tighten.

4.20. Fire Extinguisher Bracket Replacement. (See figure 4-7.) The fire extinguishers supplied with the power plant are carried in brackets mounted on the front roadside steps of the trailers.

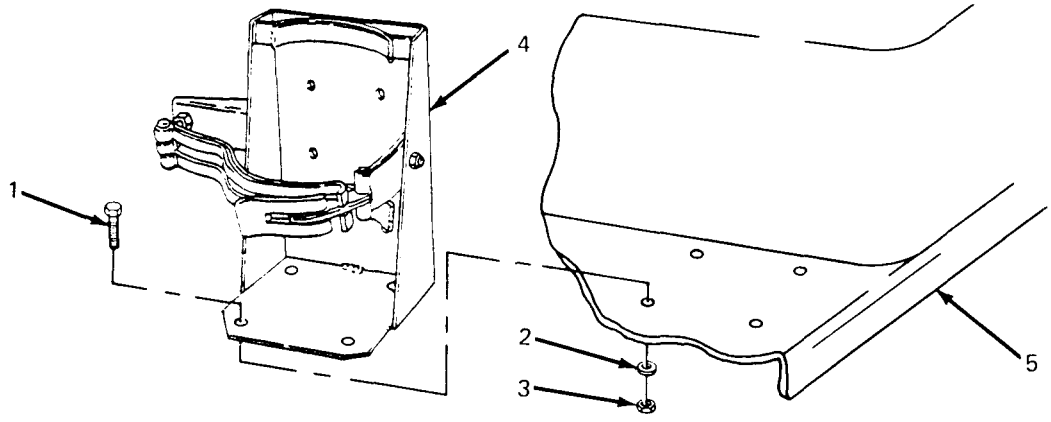


Figure 4-7. Fire Extinguisher Bracket Replacement.

a. Removal.

(1) Remove four screws (1, figure 4-7), four flat washers (2), and four nuts (3) securing bracket (4) to step (5).

(2) Remove bracket (4) from step (5).

b. Installation.

(1) Position fire extinguisher bracket (4) on step (5).

(2) Insert four screws (1) down through bracket (4) and through step (5).

(3) Install one washer (2) and one nut (3) on each screw (1). Tighten hardware to secure bracket (4).

4-21. Front Steps Replacement. (See figure 4-8.) The roadside and curbside front steps on both trailers are symmetrical, and replacement procedures are the same except where noted in the steps below.

a. Removal.

NOTE

When removing roadside front step, omit steps (1) and (2).

(1) Remove fuel can brackets (paragraph 4-18, a).

(2) Remove accessory box (paragraph 4-19, a).

(3) Remove cotter pin (1, figure 4-8) and clevis pin (2) securing handbrake cable (3) to handbrake lever mechanism (4).

(4) Remove two screws (5), two flat washers (6) and two nuts (7) securing handbrake bracket (8) to trailer frame (9).

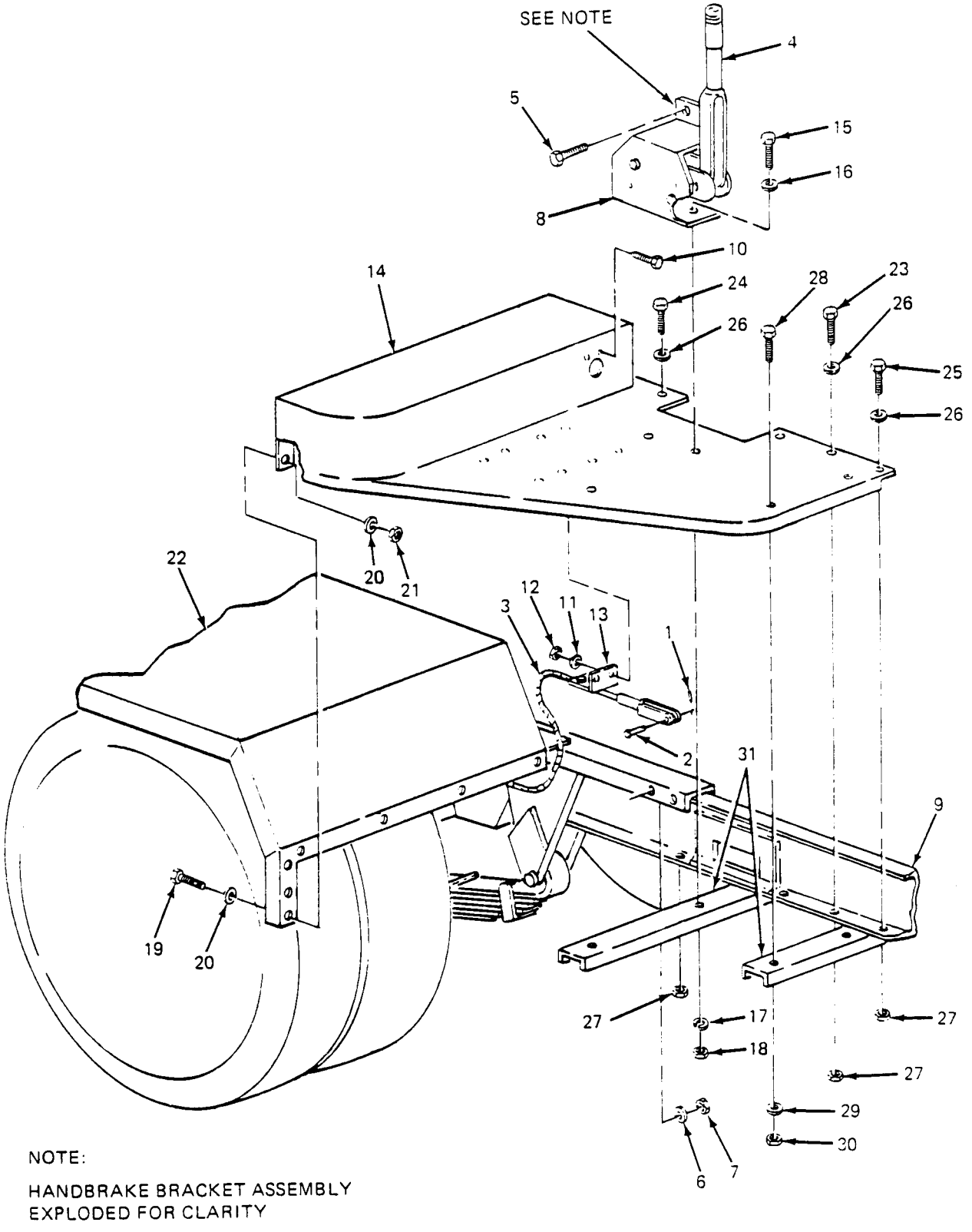


Figure 4-8. Front Steps Replacement.

Remove two screws (10), two flat washers (11) and two nuts (12) securing handbrake cable bracket (13) to front step (14).

NOTE

There are two screws, flat washers, and nuts securing handbrake bracket to front step. It is only necessary to remove one set of attaching hardware to remove front step from trailer frame.

(6) Remove screw (15), flat washer (16), Iockwasher (17) and nut (18) directly beneath pivot point of handbrake lever (4).

(7) Remove seven screws (19), 14 flat washers (20) and seven nuts (21) securing front step (14) to front edge of fender (22).

(8) Remove four screws (23, 24 and 25), eight flat washers (26) and four nuts (27) securing front step (14) to edge of trailer frame (9).

(9) Remove three screws (28), three flat washers (29) and three nuts (30) securing front step (14) to trailer cross braces (31) and remove front step.

b. Installation.

NOTE

Three different length screws are used to mount the front step. Screws with index numbers (5), (10), (18) and (23) in figure 4-8 are one inch long. Screw with index number (24) is 1-1/4 inch long. Screws with index numbers (15), (22) and (27) are 1.3/4 inch long. Observe lengths and locations when installing hardware.

(1) Position front step (14) on cross braces (31) and trailer frame (9). Insert clevis on handbrake cable (3) through hole in front step (14).

(2) Insert four screws (23, 24 and 25) with flat washers (26) through front step (14) and trailer frame (9).

(3) Insert three screws (28) with flat washers (29) through front step (14) and trailer cross braces (31).

(4) Working under step, install one nut (30) on each screw (28) securing front step (14) to cross braces (31), and install one flat washer (26) and one nut (27) on each screw (23, 24 and 25) securing step to trailer frame (9). Tighten seven sets of hardware.

(5) Secure front step (14) to fender (22) with seven screws (19), 14 flat washers (20) and seven nuts (21).

(6) Insert screw (15) with flat washer (16) through handbrake bracket (8), front step (14) and cross brace (31). Install Iockwasher (17) and nut (18) on screw from underneath and tighten.

(7) Insert two screws (5) with flat washers (6) through handbrake bracket (8) and trailer frame (9). Install one nut (7) on each screw and tighten.

(8) Insert two screws (10) through front step (14) and handbrake cable bracket (13). Install one flat washer (11) and one nut (12) on each screw and tighten.

(9) Position clevis on handbrake cable (3) on handbrake lever mechanism (4). Insert clevis pin (2) and secure with cotter pin (1).

NOTE

When installing roadside front step, omit steps (10) and (11).

(10) Install accessory box (paragraph 4-19, b).

(11) Install fuel can brackets (paragraph 4-18, b).

4-22. Rear Steps Replacement. (See figure 4-9.) The roadside and curbside rear steps on both trailers are symmetrical, and replacement procedures are the same for all.

a. Removal.

(1) Remove two screws (1, figure 4-9), two flat washers (2) and two nuts (3) securing rear step bracket (4) and platform anchor (5) to trailer frame (6) under taillight (7).

(2) Remove two screws (8), four flat washers (9) and two nuts (10) securing rear step (11) to trailer frame (6).

(3) Remove five screws (12), ten flat washers (13) and five nuts (14) securing rear step (11) to fender (15). Remove rear step from trailer.

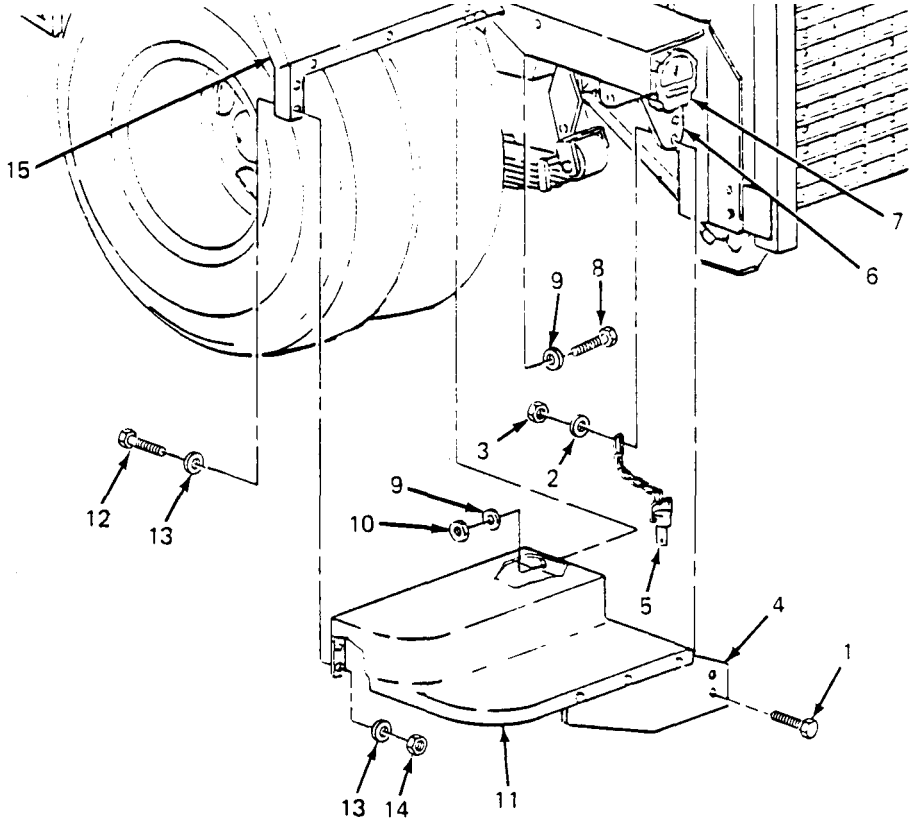


Figure 4-9. Rear Steps Replacement.

b. Installation.

(1) Position rear step (11) on trailer frame (6).

(2) Secure rear step (11) to trailer frame (6) with two screws (8), four flat washers (9) and two nuts (10).

(3) Secure rear step (11) to fender (15) with five screws (12), ten flat washers (13) and five nuts (14).

(4) Aline two mounting holes in rear step bracket (4) with holes in trailer frame (6) under taillight (7) and insert two screws (1).

(5) Slide S-hook at chain end of platform anchor (5) onto threaded end of lower screw (1) inside trailer frame (6).

(6) Install one flat washer (2) and one nut (3) on each screw (1) and tighten.

4-23. Fender Replacement. (See figure 4-10.) The fenders on the trailer assemblies are symmetrical, and replacement procedures are the same for all.

a. Removal.

(1) Remove five screws (1, figure 4-10), ten flat washers (2) and five nuts (3) securing fender (4) to trailer frame (5).

WARNING

There are five sets of hardware securing fender to rear step and seven sets of hardware securing fender to front step. This hardware should be removed in sequence from trailer frame outward. In this way, last two screws on front and rear lower fender edge will support fender until you are out from underneath.

(2) Remove six screws (6), 12 flat washers (7) and six nuts (8) securing fender (4) to front step (9).

(3) Remove fours screws (10), eight flat washers (11) and four nuts (12) securing fender (4) to rear step (13).

WARNING

Support fender while removing remaining two screws. When screws are removed, fender will drop.

(4) Remove one screw (6), two flat washers (7) and one nut (8) securing fender (4) to front step (9).

(5) Remove one screw (10), two flat washers (11) and one nut (12) securing fender (4) to rear step (13).

(6) Remove fender (4).

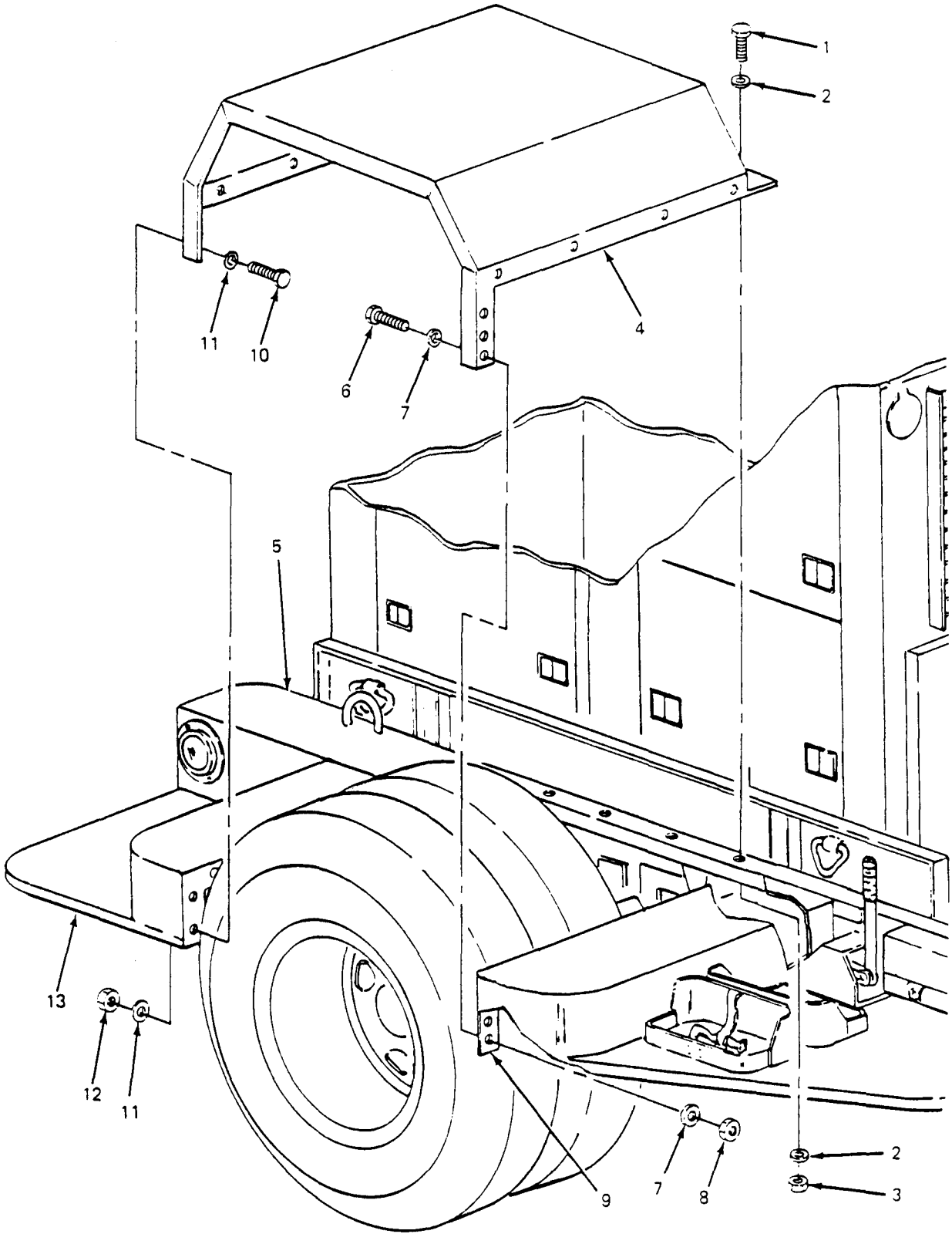


Figure 4-10. Fender Replacement.

b. Installation.

(1) Position fender (4) on trailer.

(2) Insert one screw (10) with flat washer (11) through lower outside edge of fender (4) into rear step (13), and insert one screw (6) with flat washer (7) through lower outside edge of fender (4) into front step (9).

(3) Install one washer (11) and one nut (12) on screw (10), and one washer (7) and one nut (8) on screw (6). Tighten hardware.

(4) Insert five screws (1) with flat washers (2) down through fender (4) into trailer frame (5).

(5) Working under fender, install one flat washer (2) and one nut (3) on each screw (1) and tighten.

(6) Insert six screws (6) with flat washers (7) through fender (4) into front step (9). Install one washer (7) and one nut (8) on each screw (6) and tighten.

(7) Insert four screws (10) with flat washers (11) through fender (4) into rear step (13). Install one washer (11) and one nut (12) on each screw (10) and tighten.

4-24. Personnel Platform Replacement. (See figure 4-11). This platform is mounted on the rear of each trailer to facilitate access to generator set controls and indicators.

a. Removal.

(1) Remove two screws (1, figure 4-11), four flat washers (2) and two nuts (3) securing platform (4) to mounting brackets (5).

WARNING

Support platform while removing anchors. When anchors are removed, platform will drop.

(2) Remove two platform anchors (6) by pushing in on button on head of pin while pulling pin out of mounting hole.

NOTE

Mounting brackets are fastened with lock nuts. Removal may damage locking capability when reinstalled. Do not remove mounting brackets unless they are damaged.

(3) Remove three screws (7), six flat washers (8) and three nuts (9) from each mounting bracket (5) and take mounting brackets off of trailer frame (10).

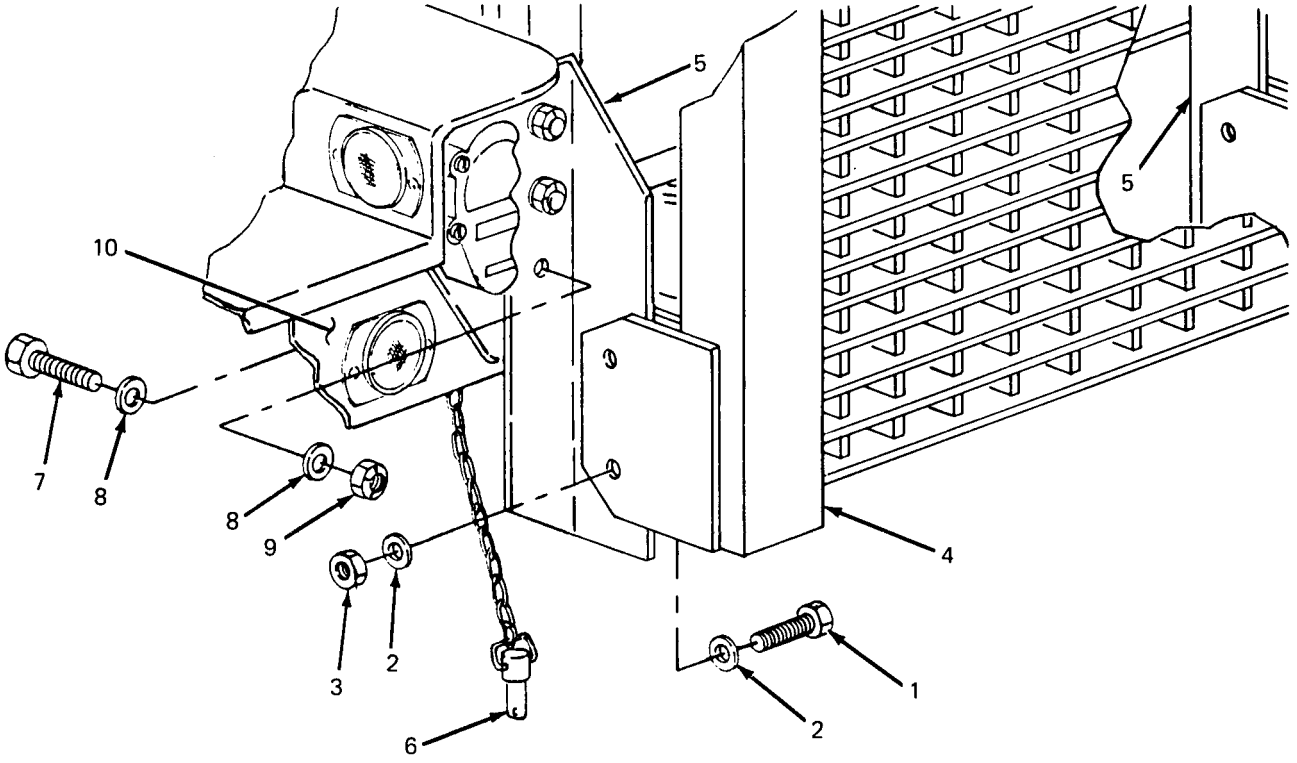


Figure 4-11. Personnel Platform Replacement.

b. Installation.

NOTE

If mounting brackets have not been removed, omit step (1).

(1) Position each mounting bracket (5) on trailer frame (10). Insert three screws (7) with flat washers (8) through frame into each bracket. Install one washer (8) and one nut (9) on each screw and tighten.

(2) Holding platform (4) in vertical position, position platform on mounting brackets (5) so that holes in platform line up with holes in brackets and install platform anchors (6) in upper mounting hole on each side of platform.

(3) Secure platform (4) to brackets (5) with two screws (1), four flat washers (2) and two nuts (3).

4-25. Holddown Strap Replacement. (See figure 4-12.) Three holddown straps are provided on the roadside fender of each power unit. These straps are used to secure the power cables when the power plant is in transit. Replacement procedure is typical.

a. *Removal.*

(1) Remove two screws (1, figure 4-12), two washers (2), and two nuts (3) securing footmans loop (4) to trailer (5).

(2) Slide holddown strap (6) off footmans loop (4).

b. *Installation.*

(1) Slide holddown strap (6) onto footmans loop (4).

(2) Position footmans loop (4) on trailer body (5) and secure with two screws (1), two washers (2), and two nuts (3).

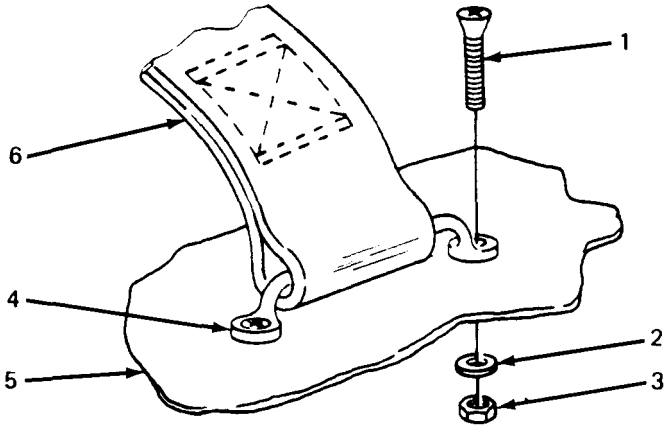


Figure 4-12. Holddown Strap Replacement.

SECTION IX. MAINTENANCE OF ELECTRICAL SYSTEM

4-26. General. This section of the manual contains unit level maintenance procedures for electrical components that are unique to the AN/MJQ-12A power plant. Specifically, this includes the switch box and the power cables.

4-27 Cable Testing. A continuity test is used to detect opens or shorts in the power plant power cables. The two cables differ from each other only in length. The following test procedure is typical for both.

a. Set multimeter controls to prepare unit for continuity testing.

NOTE

The contacts in the connector end of cable are labeled A, B, C, N, and G1 thru G4. The individual colored wires at the other end of cable are labeled L0, L1, L2, L3, and GEN GND.

b. Touch one probe to contact A in connector and touch remaining probe to black wire labeled L1. Multimeter must indicate continuity. If it does not, cable is open.

c. With first probe still in contact A, touch remaining probe to wires labeled L2, L3, L0, and GEN GND. Multimeter must not indicate continuity. If it does, cable is shorted.

d. Refer to figure 4-13, and repeat steps b. and c. at connector contacts B, C, and N. In each case, continuity must exist between corresponding points and only between corresponding points.

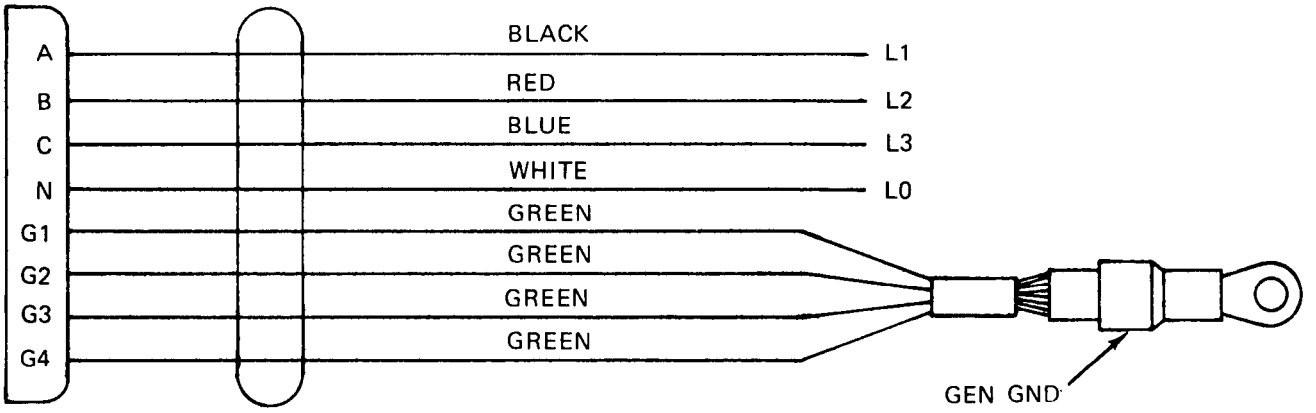


Figure 4-13. Power Cable Wiring Diagram.

e. Connect one multimeter probe to GEN GND lug on cable and touch remaining probe to G1, G2, G3, and G4. Continuity must be indicated on each contact.

f. If continuity test detects any opens or shorts in cable, refer cable to higher level of maintenance.

4-28. Switch Box Testing. The power plant switch box assembly is tested by performing a series of continuity checks on the component parts and internal wiring.

NOTE

All internal switch box wiring is labeled for identification with reference designations of its points of connection. If labeling has been removed, or is illegible, tag wires for identification before removing them.

a. Switch Testing. The switch box contains two three-pole, single-throw switches. Testing procedures are typical for both.

WARNING

To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to switch box.

(1) Remove 14 screws, 14 lockwashers, and 14 flat washers securing access cover to switch box and remove cover.

(2) Set multimeter controls to prepare unit for continuity testing.

(3) Set switch being tested to ON position.

NOTE

Observe that the switch terminals are arranged in two rows of three terminals each. Each terminal is paired with the one directly above or below it. There is one pair of terminals for each pole of the switch.

(4) Select any pair of terminals associated with same pole of switch. Touch one multimeter test probe to each terminal. Multimeter must indicate continuity.

(5) Repeat step (4) on both remaining poles of switch.

(6) If multimeter does not indicate continuity across all three poles of switch, switch is defective. Refer switch to higher level of maintenance.

b. Connector Testing. The switch box has four male cable connectors. The larger connectors, J1 and J2, are the power input connectors. Together with their associated wiring, they comprise the switch box cable assemblies. This procedure tests the entire cable assembly. The connectors will have either four or eight pins depending upon whether the power plant is equipped with a 4-wire or 5-wire switch box. The procedure is as follows:

WARNING

To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to switch box.

NOTE

Observe that pins on power input connectors are labeled A, B, C, and N. On 5-wire switch boxes, the four additional pins are labeled G1, G2, G3, and G4.

(1) Remove 14 screws, 14 lockwashers, and 14 flat washers securing access cover to switch box and remove cover.

(2) Set multimeter controls to prepare unit for continuity testing.

(3) Touch one multimeter test probe to pin A in connector being tested and touch remaining probe to terminal A1 on associated switch. Multimeter must indicate continuity. If it does not, there is an open in connector or associated wire.

(4) With first probe still in contact with pin A, touch remaining probe to all other pins in connector. Multimeter must not indicate continuity. If it does, connector is shorted.

(5) Repeat steps (3) and (4) for pins B, C, and N. Multimeter must indicate continuity only between these pins and switch terminals B1, C1, and TB1 L0 terminal, respectively.

NOTE

Step (6) is applicable only to 5-wire switch box.

(6) Touch one multimeter test probe to terminal 1 on TB2. Touch remaining probe to pins G1, G2, G3, and G4, in turn. Multimeter must indicate continuity on each pin.

(7) If continuity test detects any opens or shorts, connector cable assembly is defective.

c. Wiring Test. (Refer to wiring diagrams, Figure 4-14 and 4-15.) The internal switch box wiring is tested by performing a continuity check(s) on suspect wires or connections.

WARNING

To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to switch box.

NOTE

All internal switch box wiring is labeled for identification with reference designations of its points of connection. If labeling has been removed, or is illegible, tag wires for identification before removing them.

(1) Remove 14 screws, 14 Iockwashers, and 14 flat washers securing access cover to switch box and remove cover.

(2) Before testing wires, make sure there are no loose connections or broken terminals. Tighten any loose connections and refer broken terminals to higher level of maintenance,

(3) Set multimeter controls to prepare unit for continuity testing.

(4) Refer to applicable wiring diagram in Figure 4-14 or 4-15, and test continuity of suspect wires between origin and destination specified in diagram.

4-29. Switch Box Repair. The power plant switch box assembly is repaired by replacing defective components. Components authorized for replacement at unit level of maintenance include connector cable assemblies, load terminals, and individual wires.

NOTE

All internal switch box wiring is labeled for identification with reference designations of its points of connection. If labeling has been removed, or is illegible, tag wires for identification before removing them.

a. Connector Replacernent. (See figure 4-16.) A damaged or defective connector is replaced by replacing the entire connector cable assembly,

WARNING

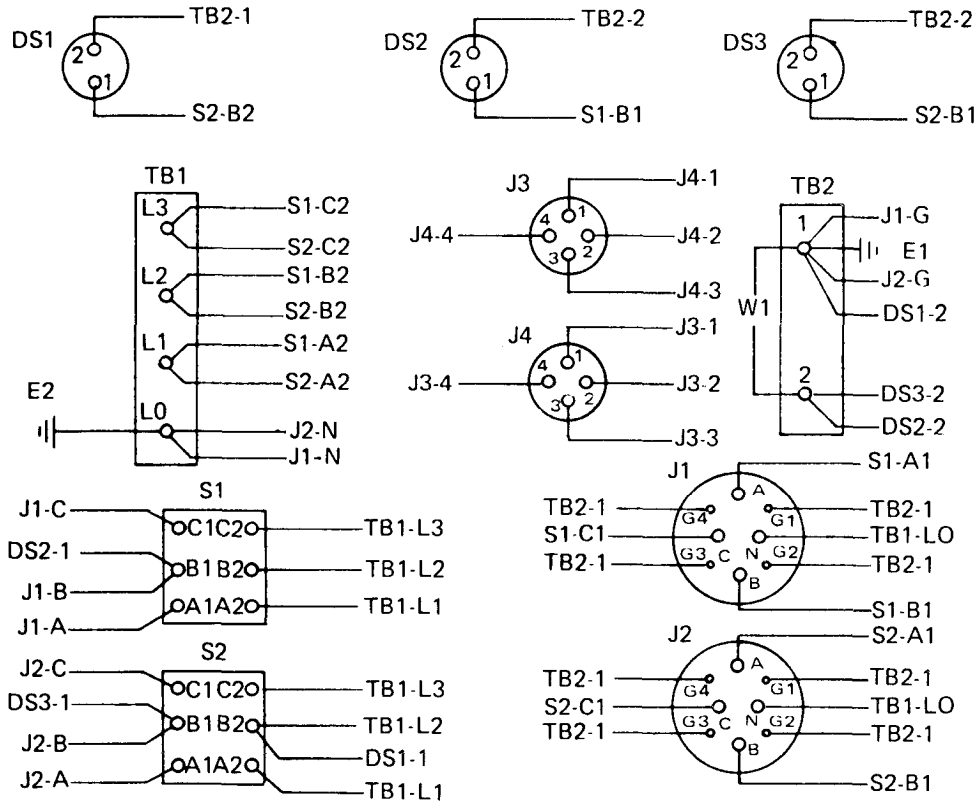
To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to switch box.

(1) *Removal.*

(a) Remove 14 screws (1, figure 4-16), 14 Iockwashers (2), and 14 flat washers (3) securing access cover (4) to switch box (5) and remove cover.

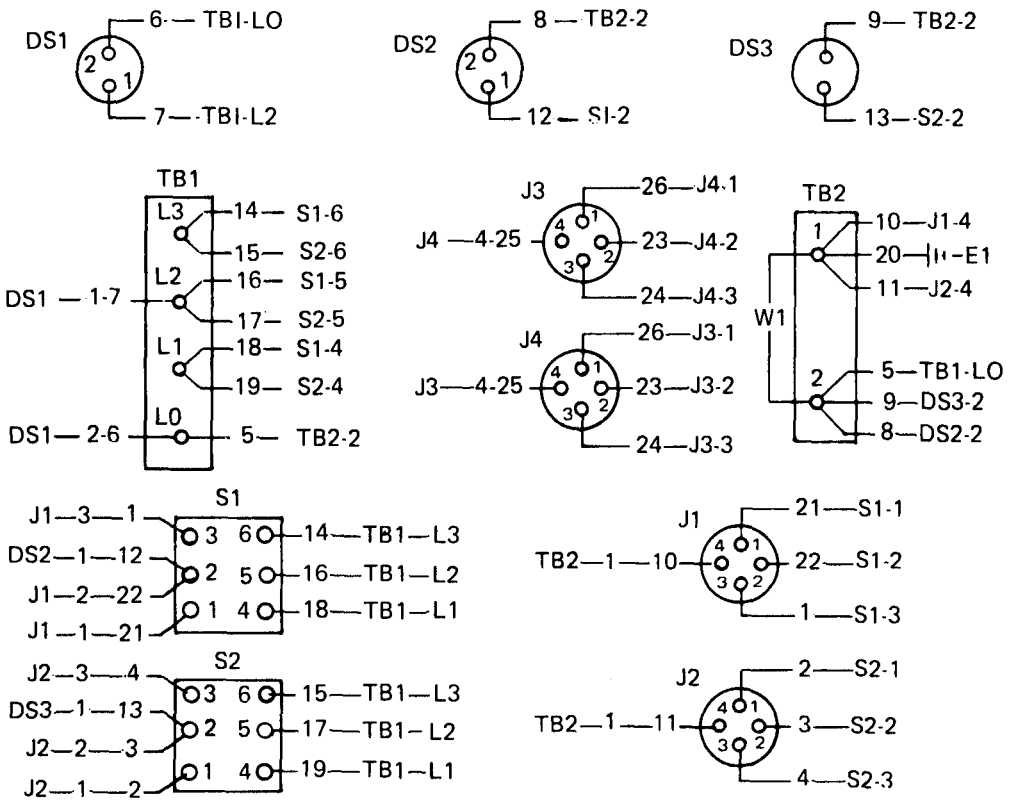
(b) Disconnect connector cable assembly wire (6) from insulator TB2 (7) by removing nut (8), Iockwasher (9), flat washer (10), two electrical leads (11), ground wire (12) and, if necessary, flat washer (13) from terminal stud numer one (14).

(c) Disconnect each of three connector cable assembly wires (15) from terminals of associated switch (16) by removing one nut (17) and one Iockwasher (18).



COMPONENTS REFERENCE LIST		
REF DES	PART NO.	DESCRIPTION
DS1, 2, 3	13214E1391	LIGHT, INDICATOR, WATERTIGHT
E1	13214E1223	STUD
J1	13226E7627-1	CABLE ASSEMBLY
J2	13221E7627-2	CABLE ASSEMBLY
J3, J4	MS3102R18-4P	CONNECTOR, RECEPTACLE, ELECTRICAL
S1, S2	13226E6301	SWITCH
TB1	13208E5820-8	TERMINAL LOAD (4)
TB2	13218E5111	INSULATOR
W1	13218E5113	LINK, TERMINAL CONNECTING
E2	13208E5820-8	GND TERMINAL

Figure 4-14. 5-Wire Switch Box Wiring Diagram.



COMPONENTS REFERENCE LIST		
REF DES	PART NO.	DESCRIPTION
DS1, 2, 3	13214E1391	LIGHT, INDICATOR, WATERTIGHT
E1	13214E1223	STUD
J1, J2	13216E7548-1	CONNECTOR, RECEPTACLE, ELECTRICAL
J3, J4	MS3102R18-4P	CONNECTOR, RECEPTACLE, ELECTRICAL
S1, S2	13216E7554	SWITCH
TB1	13218E5109	PANEL, INSULATOR
	13218E5108	FILLER
	13218E5107	PANEL, INSULATOR, INSIDE
TB2	13218E5111	INSULATOR
W1	13218E5113	LINK, TERMINAL, CONNECTING

Figure 4-15. 4-Wire Switch Box Wiring Diagram.

(d) In five-wire switch boxes, disconnect connector cable assembly ground wire (19) from load terminal L0 (20) on insulator TB1 (21) by removing nut (22), lockwasher (23) and flat washer (24).

(e) Remove four screws (25) and four nuts (26) securing connector flange (27) to switch box (5). Carefully remove connector and associated wiring from switch box.

(2) *Installation.*

(a) Feed connector cable assembly wires through mounting hole in switch box (5).

(b) Position connector body in mounting hole and secure with four screws (25) and four nuts (26). Use screw in lower right-hand corner of flange (27) to secure connector cap retaining chain (28).

NOTE

When reconnecting wires, refer to figure 4-14 or 4-15, as applicable.

(c) Connect each of three connector cable assembly wires (15) to terminals of associated switch (16) with one nut (17) and one lockwasher (18).

(d) Connect cable assembly wire (6) to terminal stud number one (14) of insulator TB2 with nut (8), lockwasher (9), flat washer (10) and, if necessary, flat washer (13). Make sure electrical leads (11) and ground wire (12) are reinstalled and positioned as shown in figure 4-16.

(e) In five-wire switch boxes, connect cable assembly ground wire (19) to load terminal L0 (20) with flat washer (24), lockwasher (23) and nut (22).

(f) Position access cover (4) on switch box (5) and secure with 14 screws (1), 14 lockwashers (2), and 14 flat washers. (3).

b. Load Terminal Replacement. (See figure 4-17.) The switch box load terminals provide electromechanical connection points between the system or equipment being powered and the power plant. In addition to the four output terminals, the 5-wire switch box utilizes a fifth load terminal as AC GROUND.

WARNING

To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to switch box.

(1) *Removal.*

(a) Remove 14 screws (1, figure 4-17), 14 lockwashers (2), and 14 flat washers (3) securing access cover (4) to switch box (5) and remove cover.

(b) Remove one nut (6) one lockwasher (7), one flat washer (8), and remove associated wires (9) from load terminal (10).

(c) Remove one nut (11), one lockwasher (12), and one flat washer (13) and remove load terminal (10) from terminal board (14).

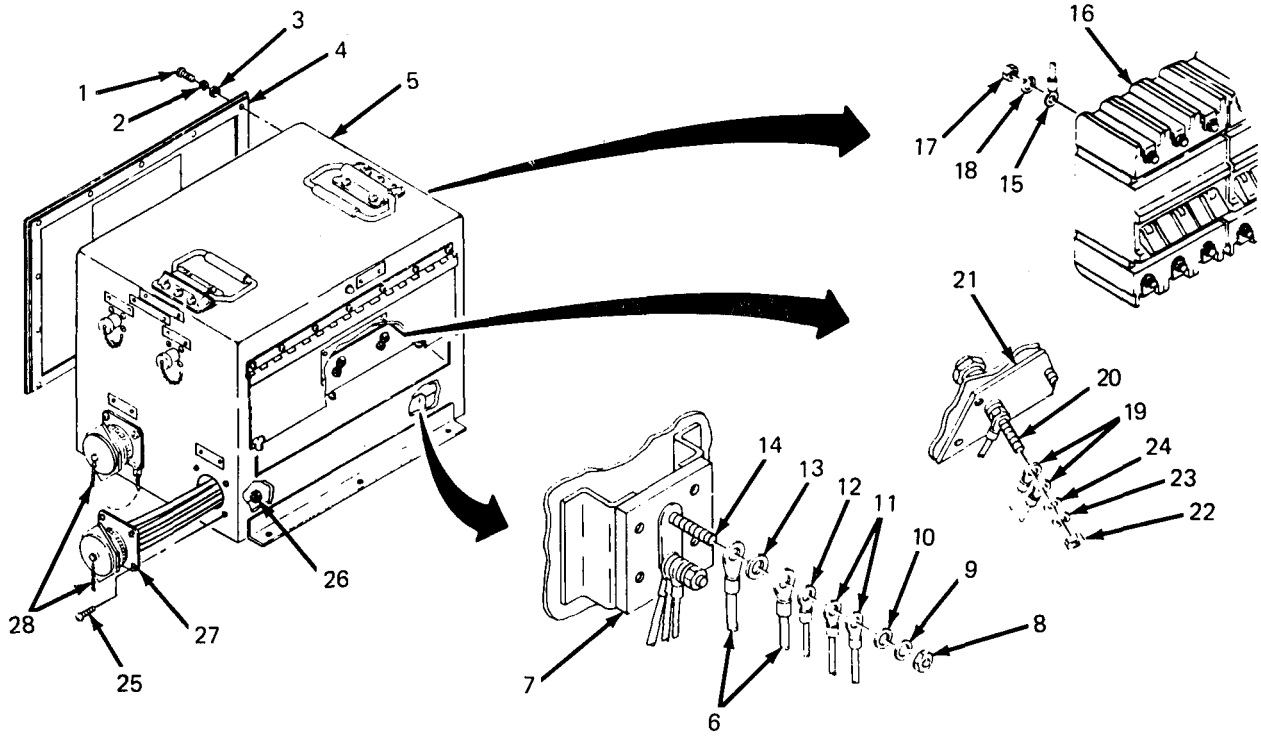


Figure 4-16. Connector Replacement.

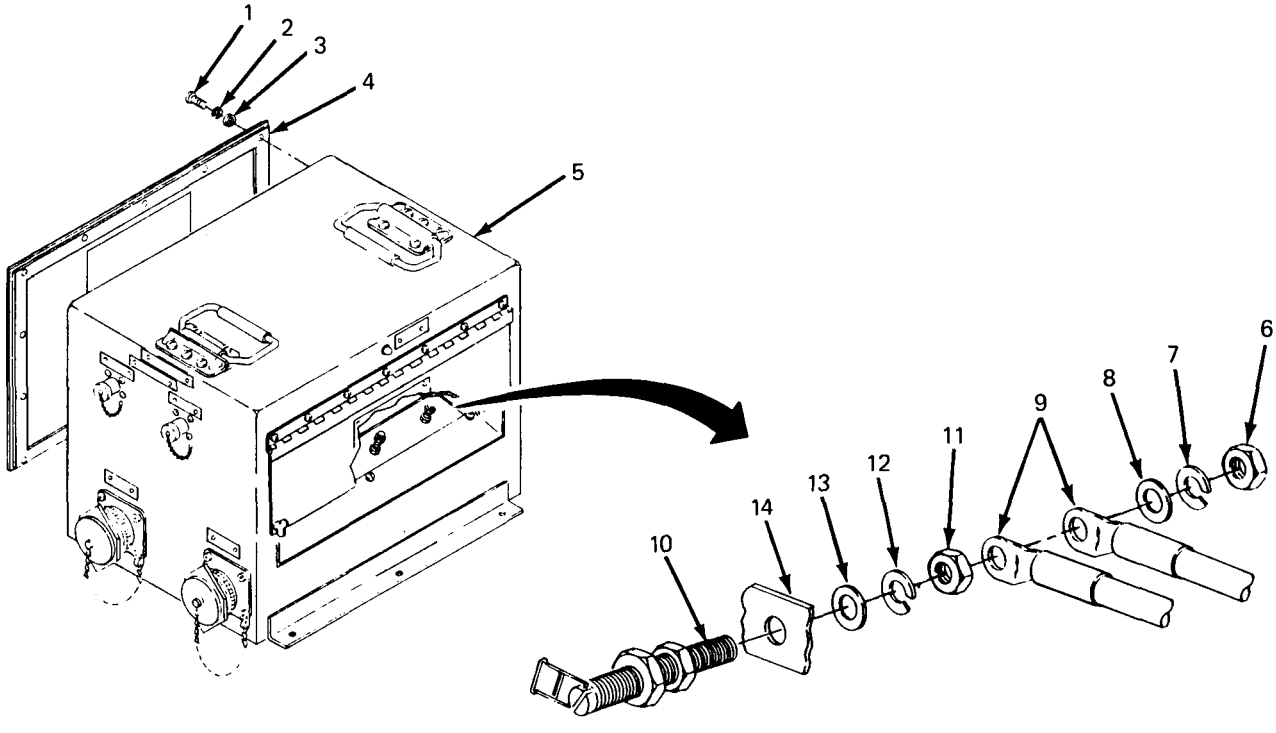


Figure 4-17. Load Terminal Replacement.

(2) *Installation.*

(a) Install load terminal (10) in terminal board (14) and secure with flat washer (13), lockwasher (12) and nut (11).

(b) Install associated wires (9) on load terminal (10) and secure with flat washer (8), lockwasher (7), and nut (6).

(c) Position access cover (4) on switch box (5) and secure with 14 screws (1), 14 lockwashers (2), and 14 flat washers (3).

CHAPTER 5

INTERMEDIATE (FIELD) DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS

Section I. INTRODUCTION

5-1. General. This chapter contains Intermediate Direct Support and General Support level maintenance procedures for components of the M200A1 trailer added when the trailer is used as part of the AN/MJQ-12A power plant. These components are not covered in the overall trailer maintenance manual. For all other intermediate direct and general support maintenance procedures on the trailer, refer to TM 9-2330-205-14&P. For intermediate direct and general support maintenance procedures on the generator sets, refer to TM 5-6115-545-34.

WARNING

Before performing any maintenance that requires climbing on or under trailer, set trailer handbrakes, chock wheels, and lower rear leveling jacks. Injury to personnel could result from trailer suddenly rolling or tipping.

Section II. MAINTENANCE OF POWER PLANT TRAILERS

5-2. Step and Fender Repair. Repair of the front and rear steps and the fenders is limited to straightening, welding and repainting. If required, repaint in accordance with MIL-T-704, Type F, Color Green, No. 383 of MIL-C-46168.

5-3. Accessory Box Repair. (See figure 5-1.) The accessory boxes are repaired by replacing the latch and strike assemblies. The boxes themselves may be straightened, welded and repainted. If required, repaint in accordance with MIL-T-704, Type F, Color Green, No. 383 of MIL-C-46168. Replace latch and strike assemblies as follows:

a. Grind off or drill out solid rivets (1, figure 5-1) securing latch and strike assembly (2) to accessory box (3).

b. Position new latch and strike assembly (2) on accessory box (3) and secure with solid rivets (1).

c. Touch up with paint as required.

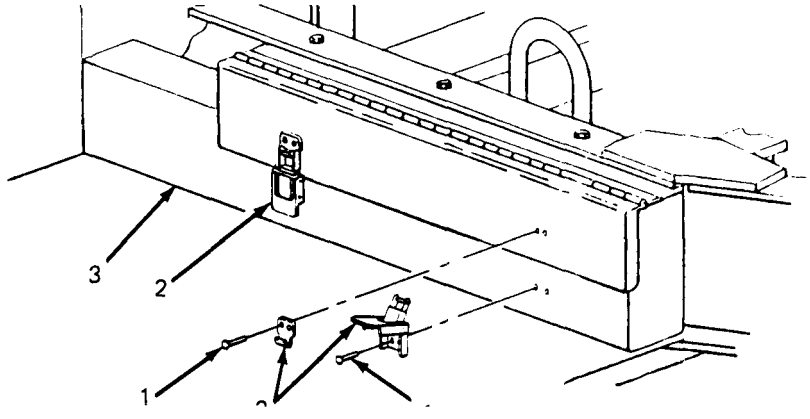


Figure 5-1. Accessory Box Repair.

5-4. Marking. (See figure 5-2.) The power unit four-digit registration number, preceded by the prefix "VA" and the words "U.S. ARMY", is marked in three places on each power unit trailer. Marking is done in accordance with MIL-STD-642. On the fender, over each wheel, "T.P. 35 PSI" is marked in 1.00 ± .12 inch high characters in accordance with MIL-STD-130. Figure 5-2 shows the approximate location of markings on one power unit of the power plant. Markings are typical of both power units. If required, touch-up painting of the base color shall be done in accordance with MIL-T-704, Type F, Color Green, No. 383 of MIL-C-46168.

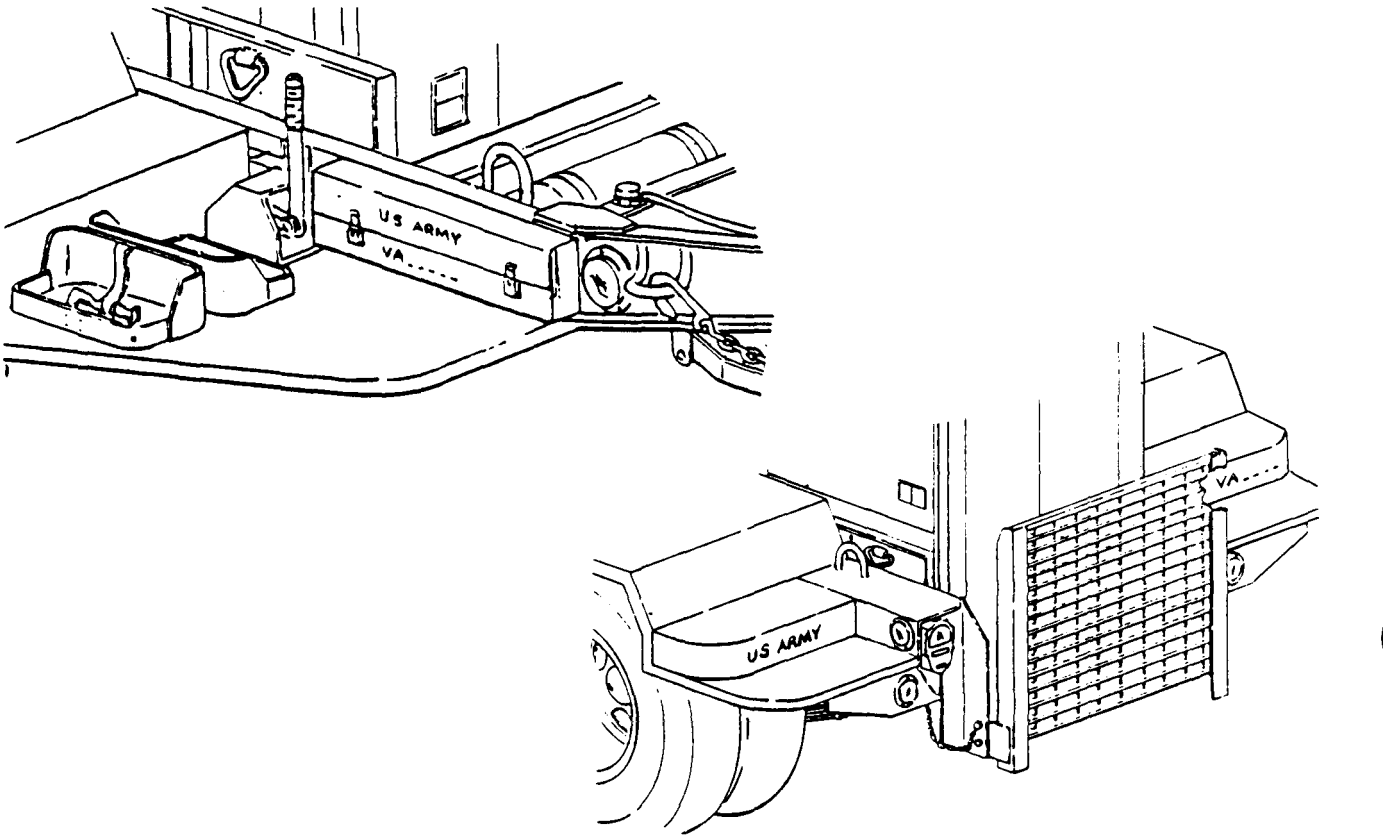


Figure 5-2. Power Plant Markings.

Section III. GENERATOR SET

5-5. Generator Set Replacement. (See figures 5-3 and 5-4.)

a. Removal.

(1) Disconnect ground wire (1, figure 5-3) from generator set (2) to GROUND TERMINAL stud (3) on trailer.

NOTE

Two center mounting screws on each side can be reached through cutouts in trailer frame under each fender. Observe that two mounting screws (5) at front corners of generator set are shorter than remaining six mounting screws (4). The beveled washers (6) may have been welded in place.

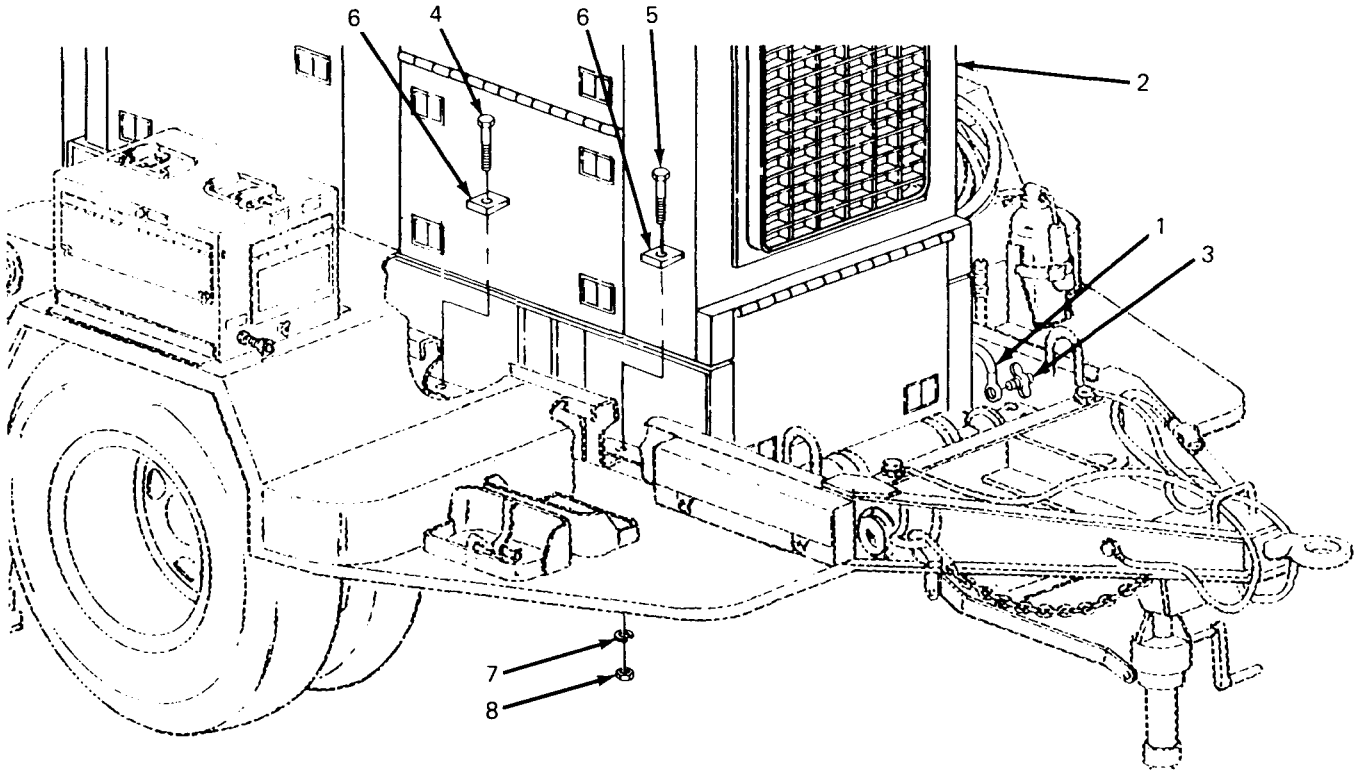


Figure 5-3. Detaching Generator Set from Trailer.

(2) Remove six screws (4), two screws (5), eight beveled washers (6), eight flat washers (7) and eight nuts (8) securing generator set (2) to trailer.

WARNING

When lifting generator set, use lifting equipment with a minimum lifting capacity of 5000 lb. Do not stand under generator while it is being lifted. Do not permit generator set to swing. Failure to observe these precautions can cause injury to personnel or damage to equipment.

(3) Attach lifting equipment with a minimum lifting capacity of 5000 lb (1, figure 5-4) to both lifting eyes (2) on top edges of generator set (3). Insert a rope (4) through each of four tiedown rings (5) on generator set.

(4) With one person at each rope to steady and guide generator set (3), lift generator set off of trailer.

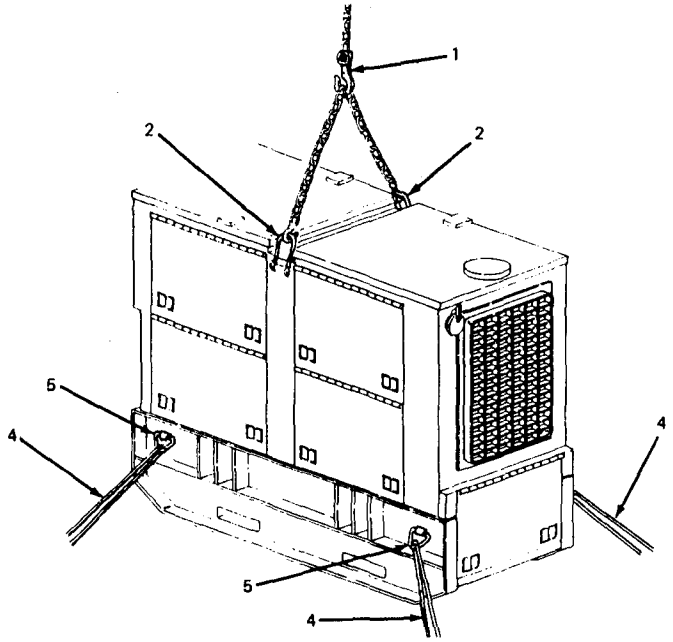


Figure 5-4. Lifting Generator Set.

b. Installation.

WARNING

When lifting generator set, use lifting equipment with a minimum lifting capacity of 5000 lb. Do not stand under generator while it is being lifted. Do not permit generator set to swing. Failure to observe these precautions can cause injury to personnel or damage to equipment.

(1) Attach lifting equipment with a minimum lifting capacity of 5000 lb (1, figure *5-4)* to lifting eyes (2) on top edges of generator set (3). Insert a rope (4) through each of four tiedown rings (5) on generator set.

(2) With one person at each rope to steady and guide generator set (3), lift generator set and carefully lower it onto trailer.

NOTE

Two center mounting screws on each side can be reached through cutouts in trailer frame under each fender. The two shorter mounting screws (5, figure 5-3) are installed at the front corner positions.

(3) Insert six screws (4, figure 5-3) and two screws (5) with beveled washers (6) down through generator set skids into trailer.

(4) Working under trailer install one Iockwasher (7) and one nut (8) on each screw (4) and (5).

(5) Position beveled washers (6) so that screw heads are parallel to tops of washers. While holding beveled washers in position, tighten hardware.

(6) Connect generator set ground wire (1) to trailer GROUND TERMINAL stud (3).

Section IV. MAINTENANCE OF ELECTRICAL SYSTEM

5-6. Power Cable Repair. The power plant cables are repaired by resoldering or replacing loose or damaged contacts inside the connector. A soldered contact can be unsoldered and a new one installed in its place. If, however, the damaged contact is crimped onto the wire, or if the wire is broken, the contact must be cut off. When one wire in the cable has been cut or broken, all wires must be cut to the same length and new contacts soldered on each. Refer to TB SIG 222 (TO 31-3-64) and TM 55-1500-323-25 (TO 1-1A -14).

a. Removal.

NOTE

Cable grip nut is left hand threaded. Turn clockwise to loosen.

(1) Unscrew cable grip nut (1, figure 5-5) from housing (2).

(2) Slide cable grip nut (1), packing gland (3) and collar (4) up cable (5) away from housing (2).

(3) Remove three screws (6) and three washers (7) and separate housing (2) from plug shell (8).

(4) Remove spacer (9) and insert (10) from plug shell (8).

(5) Remove contact(s) (11) being repaired or replaced from spacer (9) and insert (10). Unsolder contact(s) (11) from wire(s) (12).

NOTE

If contact is crimped onto wire, or if wire is broken, do steps (6) through (8).

(6) Cut contacts (11) off wires (12).

(7) Strip back cable jacket to expose more of individual wires.

(8) Cut wires to equal length. Strip and tin wires in accordance with procedures given in technical manuals referenced above.

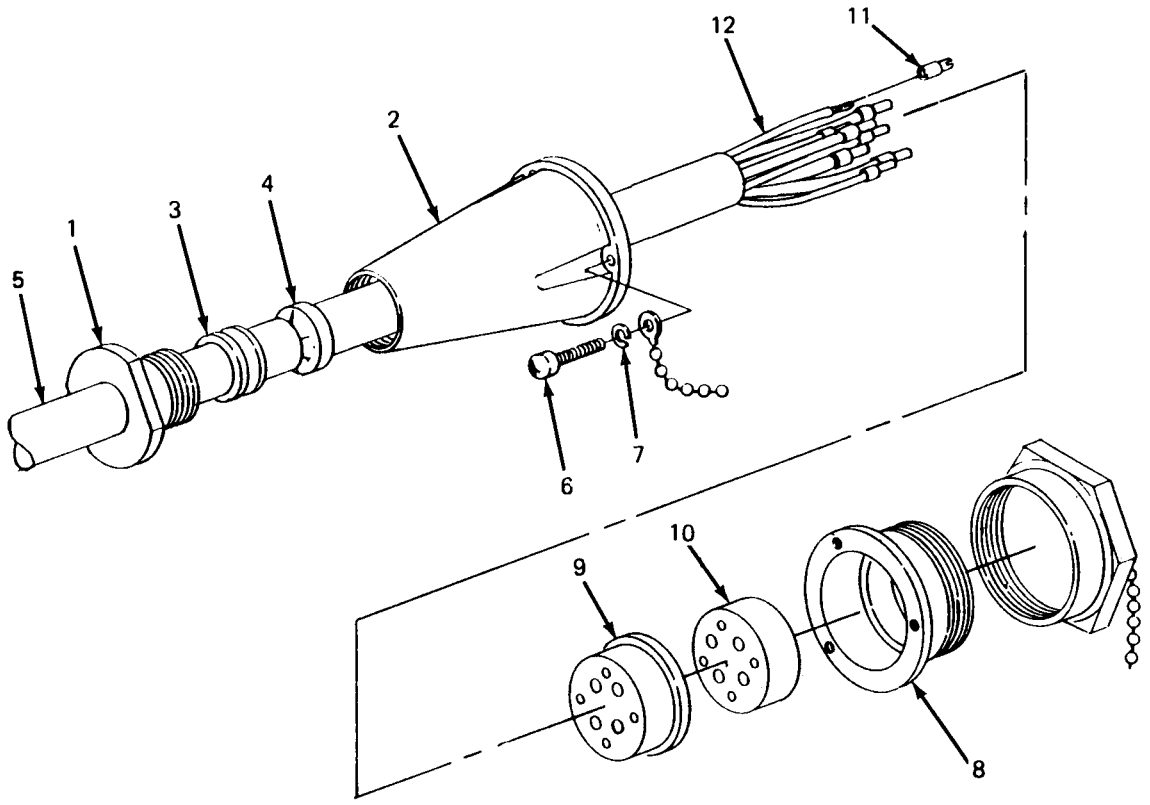


Figure 5-5. Power Cable Repair.

b. Installation.

(1) Solder replacement contact(s) (11) on wire(s) (12).

(2) Aline and insert contact(s)(11) into spacer (9) until contacts are fully seated.

(3) Aline insert (10) with plug shell (8) so key on insert matches keyway in plug shell and push insert into shell until it seats.

(4) Aline contacts(11) with corresponding holes in insert (10) and slide contacts into insert until spacer (9) is flush against insert (10).

(5) Slide housing (2) up against plug shell (8) and secure with three screws (6) and three washers (7).

(6) Slide collar (4) and packing gland (3) up cable (5) into housing (2).

(7) Tighten cable grip nut (1) against housing (2).

(8) Test cable for continuity (paragraph 4-27).

5-7. Switch Box Repair. The power plant switch box assembly is repaired by replacing defective components or by repairing individual wires within the switch box. Replacement of the switches is authorized only at the Intermediate Direct Support and General Support levels of maintenance.

NOTE

All internal switch box wiring is labeled for identification with reference designations of its points of connection. If labeling has been removed, or is illegible, tag wires for identification before removing them.

a. Switch Replacement. (See figure 5-6.)

(1) *Removal.*

WARNING

To avoid risk of injury or death by electrocution, do not remove switch box access cover while either power unit is still connected to swtich box.

(a) Remove 14 screws (1 figure 5-6), 14 lockwashers (2), and 14 flat washers (3) securing access cover (4) to switch box (5) and remove cover.

(b) Remove six nuts (6) and six lockwashers (7) securing wires (8) to switch (9) and slide wire terminals off threaded posts on switch.

(c) Remove four screws (10), four flat washers (11) and four nuts 12) securing switch (9) to switch box (5) and remove switch.

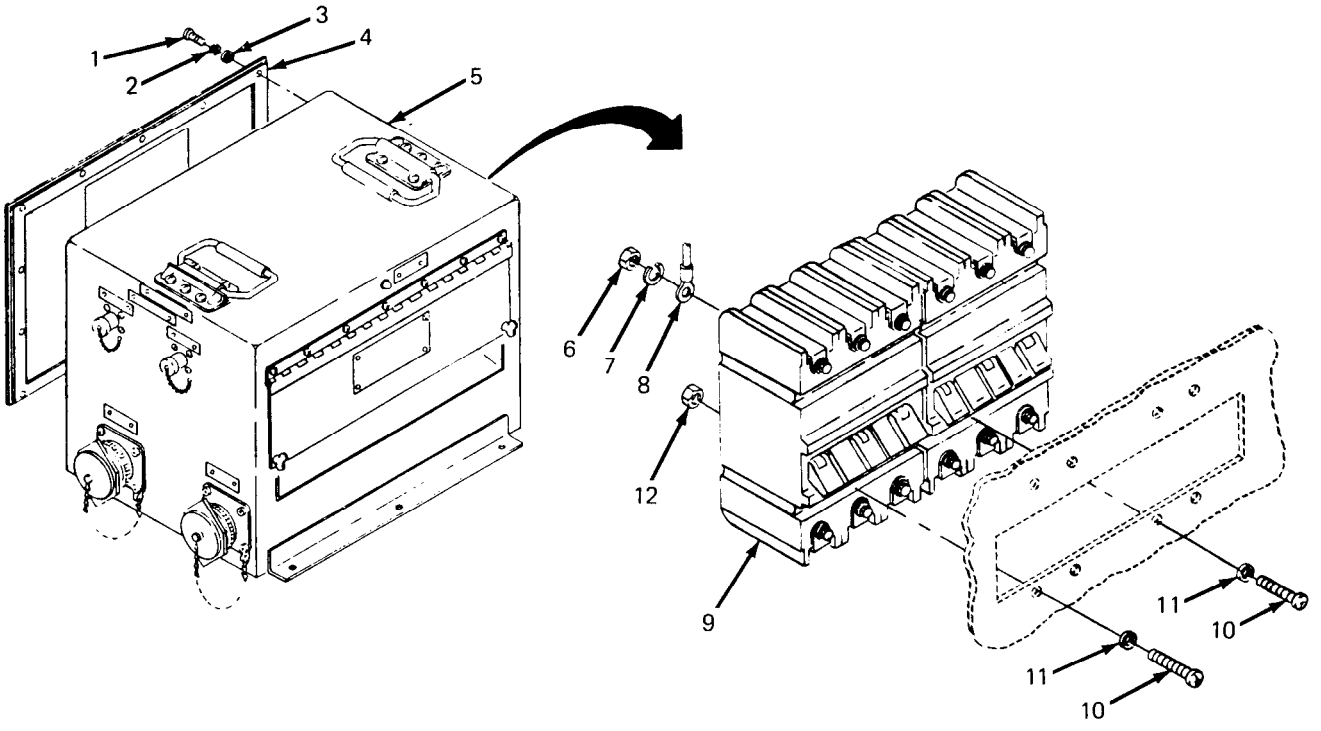


Figure 5-6. Switch Replacement.

(2) *Installation.*

(a) Position switch (9) in switch box (5), making certain it is right side up, and secure with four screws (10), four washers (11), and four nuts (12).

(b) Install six wires (8) on switch (9) and secure each with one nut (6) and one lockwasher (7).

(c) Position access cover (4) on switch box (5) and secure with 14 screws (1), 14 lockwashers (2), and 14 flat washers (3).

b. Wiring Repair. The switch box wiring is repaired by tightening or replacing loose or damaged terminals. The repair parts and special tools list in this manual lists part numbers for the terminals. The replacement terminals are soldered onto the wires in accordance with procedures given in TB SIG 222 (TO 31-3-64) and TM 55-1500-323-25 (TO 1-1A-14).

CHAPTER 6

TEST AND INSPECTION AFTER REPAIR

Section I. GENERAL REQUIREMENTS

6-1. General Requirements. The activity performing the repair is responsible for the performance of all applicable tests and inspections specified in the technical manuals referenced below. Activities performing maintenance on any component of the power plant must perform those tests and inspections required by the applicable component or system repair instruction.

Section II. INSPECTION

6-2. Generator Set Inspections. Refer to TM 5-6115-545-12 and –34 for inspections required following repair of the generator sets.

6-3. Trailer Inspections. Refer to TM 9-2330-205-14&P for inspections required following repair of the trailers.

Section III. OPERATIONAL TESTS

6-4. Generator Set Operational Tests. Refer to TM 5-6115-545-12 and –34 for operational tests required to verify satisfactory performance of the generator sets.

6-5. Trailer Operational Tests. Refer to TM 9-2330-205-14&P for operational tests required to verify satisfactory performance of the trailers.

APPENDIX A

REFERENCES

A-1. Scope. This appendix lists all pamphlets, forms, technical manuals, specifications and miscellaneous publications referenced in this manual.

A-2. Forms and Records.

Air Force Maintenance Management Program . . . . . AFM 66-1
Technical Order System Publication Improvement Report and Reply . . . . . AFTO Form 22
Recommended Changes to Publications and Blank Forms . . . . . DA Form 2028
Depreservation Guide for Vehicles and Equipment . . . . . DA Form 2258
Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Maintenance Request . . . . . DA Form 2407
Consolidated Index of Army Publications . . . . . DA PAM 25-30
The Army Maintenance Management System (TAMMS) . . . . . DA PAM 738-750
Product Quality Deficiency Report . . . . . SF 368

A-3. Military Specifications.

Chemical Agent Resistant Aliphatic Polyurethane Coating MIL-C-46168
Identification Marking of U.S. Military Property MIL-STD-130
Identification Marking of Combat and Tactical Transport . . . . . MI L-STD-642
Treatment and Painting of Materiel MIL-T-704

A-4. Technical Manuals.

Operator's and Organizational Maintenance Manual: Generator Set, Diesel Engine Driven, Tactical Skid Mtd., 60 KW, 3 Phase 4, Wire, 120/208 and 240/416V (DOD Models MEP-006A) Utility Class 50/60 Hz (NSN 6115-00-118-1243), (Model MEP-105A) Precise Class, 50/60 Hz (6115-00-118-1252) and (Model MEP-115A) Precise Class, 400 Hz(6115-00-118-1253) . . . . . TM 5-6115-545-12
Organizational, Intermediate (Field), (Direct and General Support) and Depot Maintenance Repair Parts and Special Tools List for Generator Set, Diesel Engine Driven, Tactical Skid Mtd., 60 KW, 3 Phase, 4 Wire, 120/208 and 240/416 Volts, DOD Models MEP-006A, Utility Class, 50/60 Hz, (NSN 6615-00-118-1243), MEP-105A, Precise Class, 50/60 Hz (6115-00-118-1252), MEP-115A, Precise Class, 400 Hz(6115-00-1 18-1253) . . . . . TM 5-6115-545-24P
Intermediate (Field) Direct and General Support) and Depot Maintenance Manual: Generator Set, Diesel Engine Driven, Tactical Skid Mtd., 60 KW, 3 Phase, 4 Wire, 120/208 and 240/416V; DOD Models MEP-006A, Utility Class, 50/60 Hz (FSN 6115-118-1243), MEP-105A, Precise Class, 50/60 Hz (6115-118-1252) and MEP-115A, Precise Class, 400 Hz(6115-118-1253) . . . . . TM 5-6115-545-34
Installation Practices for Aircraft Electric and Electronic Wiring [T0 1-1A-14] . . . . . TM 55-1500-323-25
Procedures for Destruction of Equipment to Prevent Enemy Use(Mobility Equipment Command). . . . . .TM 750-244-3

Operator's, Organizational, Direct Support and General Support Maintenance Manual Including Repair Parts and Special Tools List for Chassis, Trailer, Generator, 2-1/2 Ton, 2-Wheel M200A1 (NSN 2330-00-331-2307) . . . . . TM 9-2330-205-14&P
Organizational, Direct Support, and General Support Care Maintenance and Repair of Pneumatic Tires and Inner Tubes . . . . . TM 9-2610-200-24
Air Force Technical Order System TO-00-5-1
Painting and Marking of USAF Aerospace Ground Equipment . . . . . TO 35-1-3
Processing and Inspection of Aerospace Ground Equipment for Storage and Shipment . . . . . TO 35-1-4
Processing and Inspection of Non-Mounted, Non-Aircraft Gasoline and Diesel Engines for Storage and Shipment. . . . . TO 38-1-5

A-5. Technical Bulletins.

Solder and Soldering [TO 31-3-64]. . . . . TB SIG 222
Preservation of USAMECOM Mechanical Equipment for Shipment and Storage . . . . . TB 740-97-2

APPENDIX B

COMPONENTS OF END ITEM LIST AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

B-1. Scope. This appendix lists components of end item and basic issue items for the power plant to help you inventory items required for safe and efficient operation.

B-2. General. The Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. Section ll. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the power plant in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, Bll must be with the power plant during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement Bll, based on TOE/MTOE authorization of the end item.

B-3. Explanation of Columns. The following provides an explanation of columns found in the tabular listings:

a. Column (1), Illustration Number (Illus No.). This column indicates the number assigned to the item.

b. Column (2), National Stock Number. Indicates the National stock number assigned to the item.

c. Column (3), Description. Indicates the federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

If item needed differed for different models of this equipment, the model would be shown under the "Usable on Code" heading in this column. The Usable On Code is not applicable for this equipment.

d. Column (4), Unit of Measure (U/M) Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (eg, ea, in, pr).

e. Column (5), Quantity Required (Qty Req'd). Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

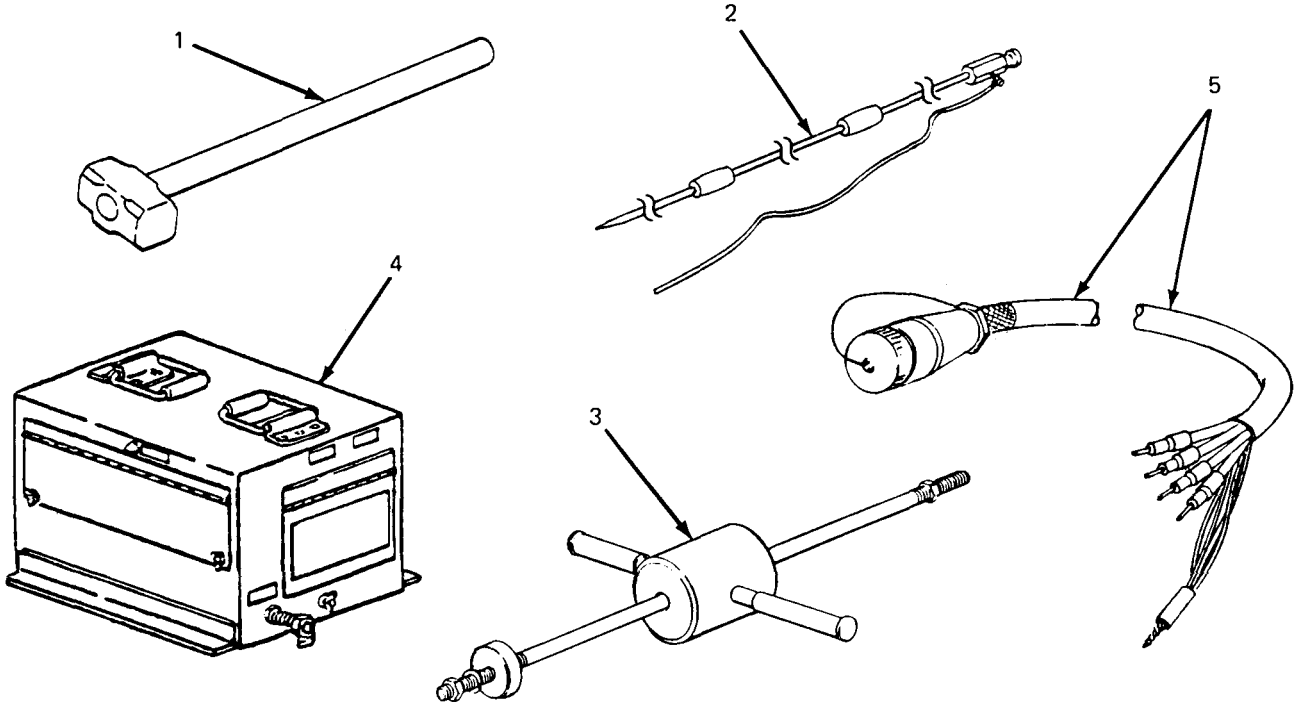


Figure B-1. Components of End Items

(1) Illus no.	(2) National stock number	(3) Description FSCM and part number	Usable on code	(4) U/M	(5) Qty'd req'd
1	5120-00-243-2957	Hammer, Hand, Engineers 8 lb. (3.6 kg) (81348) GGG-H-86		EA	2
2	5975-00-878-3791	Rod, Ground, Driven, Sectional, 9 ft (2.7 m) (81348) MIL-R-11461		EA	4
3	5120-01-013-1676	Hammer, Slide (97403) 13226E7741		EA	2
4	–	Switch Box (97403) 13226E6296		EA	1
	–	Switch Box (97403) 13221E7360		EA	1
5	–	Cable Assembly (97403) 13218E5110		EA	2
	–	Cable Assembly (97403) 13226E7626-1 and		EA	1
	–	Cable Assembly (97403) 13226E7626-2		EA	1

Section III. BASIC ISSUE ITEMS

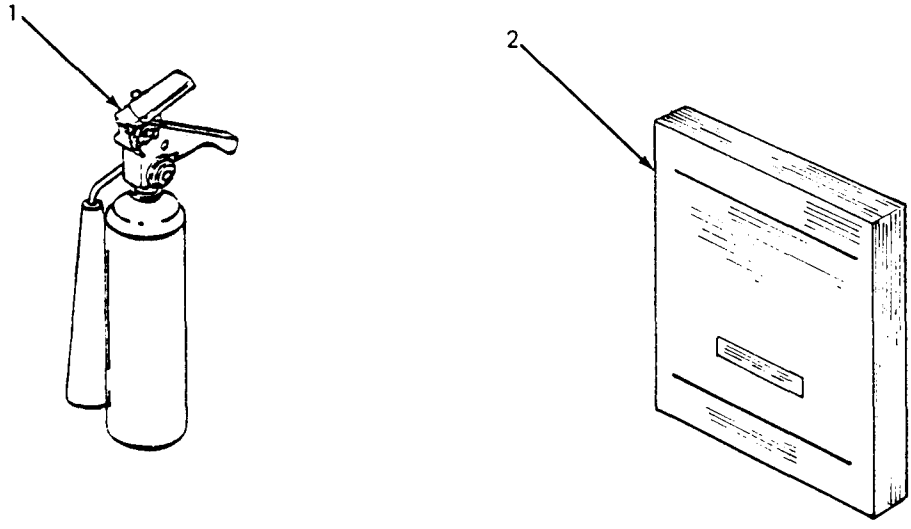


Figure B-2. Basic Issue Items

(1) Illus no.	(2) National stock number	(3) Description FSCM and part number	Usable on code	(4) U/M	(5) Qty'd req'd
1	4210-00-270-4512	Extinguisher, Fire, Hand, (2.3 kg) (81348) O-E-910		EA	2
2		Manual, Technical TM 5-6115-629-14&P/		EA	1

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General.

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

b. Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section Ill lists the tools and test equipment required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions, explanatory notes and/or illustrations required for a particular maintenance functions.

C-2. Explanation of Columns in Section II.

a. Group Number. Column 7. The assembly group is a numerical group assigned to each assembly in a top down breakdown sequence. The applicable assembly groups are listed on the MAC in disassembly sequence beginning with the first assembly removed in a top down disassembly sequence.

b. Assembly Group. Column 2. This column contains a brief description of the components of each assembly group.

c. Maintenance Functions. Column 3. This column lists the various maintenance functions (A through K) and indicates the lowest maintenance category authorized to perform these functions. The symbol designations for the various maintenance categories are as follows:

C - Operator or crew
O - Unit maintenance
F - Intermediate direct support maintenance
H - Intermediate general support maintenance
D - Depot maintenance

The maintenance functions are defined as follows:

A – Inspect. To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

B – Test. To verify serviceability and to detect electrical or mechanical failure by use of test equipment.

C – Service. To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents, and air. If it is desired that elements, such as painting and lubricating, be defined separately, they may be so listed.

D - Adjust. To rectify to the extent necessary to bring into proper operating range.

E - Aline. To adjust specified variable elements of an item to bring to optimum performance.

F – Calibrate. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison 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 with the certified standard.

G - Install. To set up for use in an operational environment such as an emplacement, site, or vehicle.

H – Replace. To replace unserviceable items with serviceable like items.

I - Repair. Those maintenance operations necessary to restore an item to serviceable condition through correction of material damage or a specific failure. Repair may be accomplished at each category of maintenance.

J - Overhaul. Normally, the highest degree of maintenance performed by the Army in order to minimize time work in process is consistent with quality and economy of operation. It consists of that maintenance necessary to restore an item to completely serviceable condition as prescribed by maintenance standard in technical publications for each item of equipment. Overhaul normally does not return an item to like new, zero mileage, or zero hour condition.

K - Rebuild. The highest degree of material maintenance. It consists of restoring equipment as nearly as possible to new conditions in accordance with original manufacturing standards. Rebuild is performed only when required by operational considerations or other paramount factors and then only at the depot maintenance category. Rebuild reduces to zero the hours or miles the equipment, or component thereof, has been in use.

d. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

e. Tools and Equipment. Column 4. This column is provided for referencing by code, the special tools and test equipment, (Section Ill) required to perform the maintenance functions (Section II).

f. Remarks. Column 5. This column is provided for referencing by code, the remarks (Section IV) pertinent to the maintenance functions.

C-3. Explanation of Columns in Section Ill. Section Ill, Tools, Test, and Support Equipment Requirements, is not applicable.

C-4. Explanation of Columns in Section IV. Section IV, Remarks, is not applicable.

Section II. MAINTENANCE ALLOCATION CHART

(1) Group no.	(2) Assembly group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Align	F Calibrate	G Install	H Replace	I Repair	J Overhaul	K Rebuild	(4) Tools and equipment	(5) Remarks
01	GENERATOR SET	0 0.2		C 2.0					F 3.0					See TM 5-6115-545-12, –34for generator set maintenance.
02	ELECTRICAL SYSTEM													
0201	Power Cables	C 0.1	O 0.3						C 0.1	F 1.0				
0202	Switch Box	C 0.1	O 0.5						O 0.5	F 2.0				
	Circuit Breaker		O 0.3						F 1.0					
	Connector	C 0.1							O 0.5					
	Load Terminals								O 0.5					
	Wiring	O 0.2	O 0.5						O 1.0	F 1.0				
03	ACCESSORIES													
	Sledge Hammer	C 0.1							C 0.1					
	Fire Extinguisher	C 0.1							C 0.1					
	Slide Hammer	C 0.1							C 0.1					
	Ground Rods	C 0.1							C 0.1					

(1) Group no.	(2) Assembly group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Align	F Calibrate	G Install	H Repair	Repair	J Overhaul	K Rebuild	(4) Tools and equipment	(5) Remarks
04	TRAILER ASSEMBLY	C 0.5	O 1.0	C 0.5										See TM 9-2330-205-14&P for trailer assembly maintenance
	Accessory Box								O 0.5	F 2.0				
	Fuel Can/Fire Extinguisher Brackets	C 0.1							O 0.5					
	Steps/Platforms	C 0.1							O 1.0	F 2.0				
	Fenders								O 1.0	F 2.0				
	Reflectors	C 0.1							O 0.5					
	Data Plates								O 0.2					
	Leveling Jack	C 0.1												
	Lighting	C 0.1	O 0.3						O 1.0	O 0.5				
	Handbrake	C 0.1												

APPENDIX D

UNIT, INTERMEDIATE (FIELD) (DIRECT SUPPORT AND GENERAL SUPPORT) AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LIST

Section I. INTRODUCTION

D-1. Scope. This joint Army and Air Force manual lists repair parts and special tools required for the performance of unit, intermediate (field) (direct and general support) and depot maintenance of the power plant. The following paragraphs are keyed to applicable users. All users should read paragraph 4, Special Information, prior to using this manual.

D-2. General. Repair Parts and Special Tools List is divided into the following sections:

a. (ALL) Repair Parts - Section II. A list of repair parts authorized for the performance of maintenance at the unit, intermediate (field) (direct and general support) and depot level in figure and item number sequence.

b. (ALL) Special Tools, Test and Support Equipment - Section III. A list of special tools, test and support equipment authorized for the performance of maintenance at the unit, intermediate (field) (direct and general support), and depot level.

c. National Stock Number and Reference Number Index -Section IV. A list of National stock numbers in numerical sequence, followed by a list of reference numbers appearing in all the listings, in alphanumeric sequence, cross-referenced to the illustration figure number and item number.

d. Reference Designator Index – Section V. The reference Designator Column includes all assigned reference designators arranged first in alphabetical order, second in numeric order. Opposite each symbol is listed the figure and item number of the part in Section II and the reference number.

D-3. Explanation of columns. The following provides an explanation of columns in the tabular lists in Sections II and Ill.

a. (ALL) Illustrations, (Column 1). This column is divided as follows:

(1) Figure Number. Indicates the figure number of the illustration on which the item is shown.

(2) *Item Number.* Indicates the number used to identify the item on the illustration.

b. (ALL) Source, Maintenance, and Recoverability Codes (SMR), (Column 2).

(1) *Uniform Source Codes applicable to all Military Services,*

GENERAL: Source Codes are assigned to support items to indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second positions of the Uniform SMR Code format as follows:

Code	Definition
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply systems.
PC	Item procured and stocked and which otherwise would be coded PA except that it is deteriorative in nature.
PD	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings. Not subject to automatic replenishment.
PE	Support equipment procured and stocked for initial issue or outfittings to specified maintenance repair activities.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.
PG	Item procured and stocked to provide for sustained support for the life of the equipment. It is applied to an item peculiar to the equipment which because of probable discontinuance or shutdown of production facilities would prove uneconomical to reproduce at a later time.
KD	An item of depot overhaul/repair kit and not purchased separately. Depot kit defined as a kit that provides items required at the time of overhaul or repair.
KF	An item of maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at unit or intermediate levels of maintenance.
KB	Item included in both a depot overhaul/repair kit and a maintenance kit.
MO	Item to be manufactured or fabricated at unit level.
MF	Item to be manufactured or fabricated at intermediate maintenance levels. Air Force - Intermediate (*) Army – General Support (*)

Code	Definition
MD	Item to be manufactured or fabricated at depot maintenance level.
AO	Item to be assembled at unit level.
AF	Item to be assembled at intermediate maintenance levels. Air Force – Intermediate (*) Army – Direct Support (*)
AH	Item to be assembled at intermediate maintenance levels. Air Force – Intermediate (*) Army – General Support (*)
AD	Item to be assembled at depot maintenance level.
XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.
XC	Installation drawings, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	A support item that is not stocked. When required, item will be procured through normal supply channels.

(*) NOTE

For USAF and the USA Safeguard Program, only Code "F" will be used to denote intermediate maintenance. On joint programs, use of either code F or H by the jointing service will denote intermediate maintenance to USAF and USA Safeguard Program.

(2) *Uniform Maintenance Codes applicable to all Military Services:* GENERAL: Maintenance Codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The Maintenance Codes are in the third and fourth position of the Uniform SMR Code Format.

(a) Use (Third Position): The Maintenance Code entered in the third position indicates the lowest level maintenance level authorized to remove, replace, and use the support item. The Maintenance Code entered in the third position indicates one of the following levels of maintenance.

Code	Application/Explanation
O	Support item is removed, replaced, used at the unit level of maintenance.
F	Support item is removed, replaced, used at the following intermediate levels: USAF – Intermediate (*) USA - Direct Support (*)
H	Support item is removed, replaced, used at the following intermediate levels: USAF - Intermediate (*) USA - General Support (*)

Code	Definition
D	Support items that are removed, replaced, used at Depot only: USAF – Depot, Mobile Depot and Specialized Repair Activity. USA - Depot, Mobile Depot and Specialized Repair Activity

(b) Repair (Fourth Position): The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions).

O	The lowest maintenance level capable of complete repair of the support item is the unit level.
F	The lowest maintenance level capable of complete repair of the support item is the following intermediate level: USAF - Intermediate (*) USA - General Support (*)
H	The lowest maintenance level capable of complete repair of the support item is the following intermediate level: USAF - Intermediate (*) USA - General Support (*)

(*) NOTE

For USAF programs and the USA Safeguard Program, Code F will be used to denote intermediate maintenance. On joint programs, use of either Code F or H by the joining Service will denote intermediate maintenance to USAF and the USA Safeguard Program.

Code	Definition
D	The lowest maintenance level capable of complete repair of the support item is the depot level. USAF - Depot, Mobile Depot, and Specialized Repair Activity. USA – Depot, Mobile Depot, and Specialized Repair Activity.

Code	Application/Explanation
L	Repair restricted to designated Specialized Repair Activity.
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. The item may be reconditioned by adjusting, lubricating, etc., at the user level. No parts or special tools are procured for the maintenance of this item.

(3) *Uniform Recoverability Codes applicable to all Military Services:*

GENERAL: Recoverability Codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the uniform SMR Code Format as follows:

Recoverability Codes	Definition
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in column 3.
O	Reparable item. When uneconomically reparable, condemn and dispose at unit level.
F	Reparable item. When uneconomically reparable, condemn and dispose at the following intermediate levels: USAF - Intermediate (*) USA – Direct Support (*)
H	Reparable item. When uneconomically reparable, condemn and dispose at the following levels: USAF – Intermediate (*) USA – General Support (*)

(*) NOTE

For USAF programs and the USA Safeguard Program, Code F will be used to denote intermediate maintenance. On joint programs, use of either Code F or H by the joining Service will denote intermediate level of USAF and the USA Safeguard Program.

Recoverability Codes	Definition
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal not authorized below depot level.
L	Reparable item. Repair, condemnation and disposal not authorized below depot/Specialized Repair Activity level.
A	Item requires special handling or condemnation procedure because of specific reasons (i.e., precious metal content, high-dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. *(ALL) National Stock Number (Column 4).* Indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.

d. (ALL) Description (Column 5). Indicates the Federal item name and any additional descriptions of the item required. The abbreviation "w/e" when used as part of the nomenclature, indicates that the National Stock Number includes all armament, equipment, accessories and repair parts issued with the item. A part number or other reference number is followed by the applicable five digit Federal Supply Code for manufacturer in parentheses. If two reference numbers and Federal Supply Codes for manufacturer are listed, the first listing refers to the Department of Defense Drawing Number, the second listing refers to the actual part manufacturer. Items that are included in kits and sets are listed below the name of the kit or set with the quantity of each item in the kit or set indicated in the quantity incorporated in unit column.

e. (ALL) Unit of Measure (U/M) (Column 6). Indicates the standard of the basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr, etc.). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

f. (ALL) Quantity Incorporated in Unit (Column 7). Indicates the quantity of the item used in the assembly group. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc.).

D-4. Special Information.

a. (ALL) Identification of Usable On Codes for this Manual is not applicable.

b. Army unit maintenance personnel will extract the items which they require from Section II, 3rd or 4th position of column 2 of the intermediate direct and general support RPSTL. Parts which are manufactured or assembled at a higher level than that authorized to install the part are indicated by the use of higher level code in the source column.

c. Stockage Information.

(1) Air Force stockage information is contained in Initial Supply Support Lists issued separately from this publication by Sacramento Air Logistics Center in accordance with AFM 67-1, part 1, chapter 12.

(2) Army stockage is demand based in accordance with AR 710-2. Repair parts listed in this publication represent those authorized for use at indicated maintenance levels and will be requisitioned on an as-required basis until stockage is justified in accordance with AR 710-2.

d. In the parts list, some items are indented to show that they are a component of the item under which they are indented.

D-5. How to Locate Repair Parts.

a. (ALL) When National Stock Number or reference number is unknown:

(1) Using the table of contents, determine the functional group; i.e., batteries and related parts, exhaust and breather pipes, within which the repair part belongs. This is necessary since illustrations are prepared for functional groups.

(2) Find the illustration covering the functional group to which the repair part belongs.

(3) Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Using the Repair Parts Listing, find the figure and item number noted on the illustration.

b. (ALL) When national stock number or reference number is known:

(1) Using the Index of National Stock Numbers and Reference Numbers, find the pertinent national stock number or reference number. This index is in ascending NSN sequence followed by a list of reference numbers in alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(2) After finding the figure and item number, locate the figure and item number in the repair parts list.

D-6. (F) Use of the Reference Designator Index Section. This Section (Section V) is used when the reference designator is known or identified by other technical manuals supporting this equipment. The reference number is given in this section. If description or location is desired, note the figure and item number. Turn to Section II to the noted figure and item number. The location of the part and description is given in this listing.

D-7. Abbreviations.

Abbreviations	Explanation
Not Applicable	

D-8. Federal Supply Codes for Manufacturers.

Code	Manufacturer
Not Applicable	

D-9. **Recommendation for Maintenance Publication Improvements**. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted as follows:

a. Air Force AFTO Form 22 in accordance with T.O. 005-1, directly to: Commander, Sacramento Air Logistics Center, ATTN: SM-ALC-MMEDTA, McClellan AFB, CA 95652-5609.
b. Army DA Form 2028, directly to Commander, US Army Aviation and Troop Command, ATTN: AMSAT-I-MT, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798.

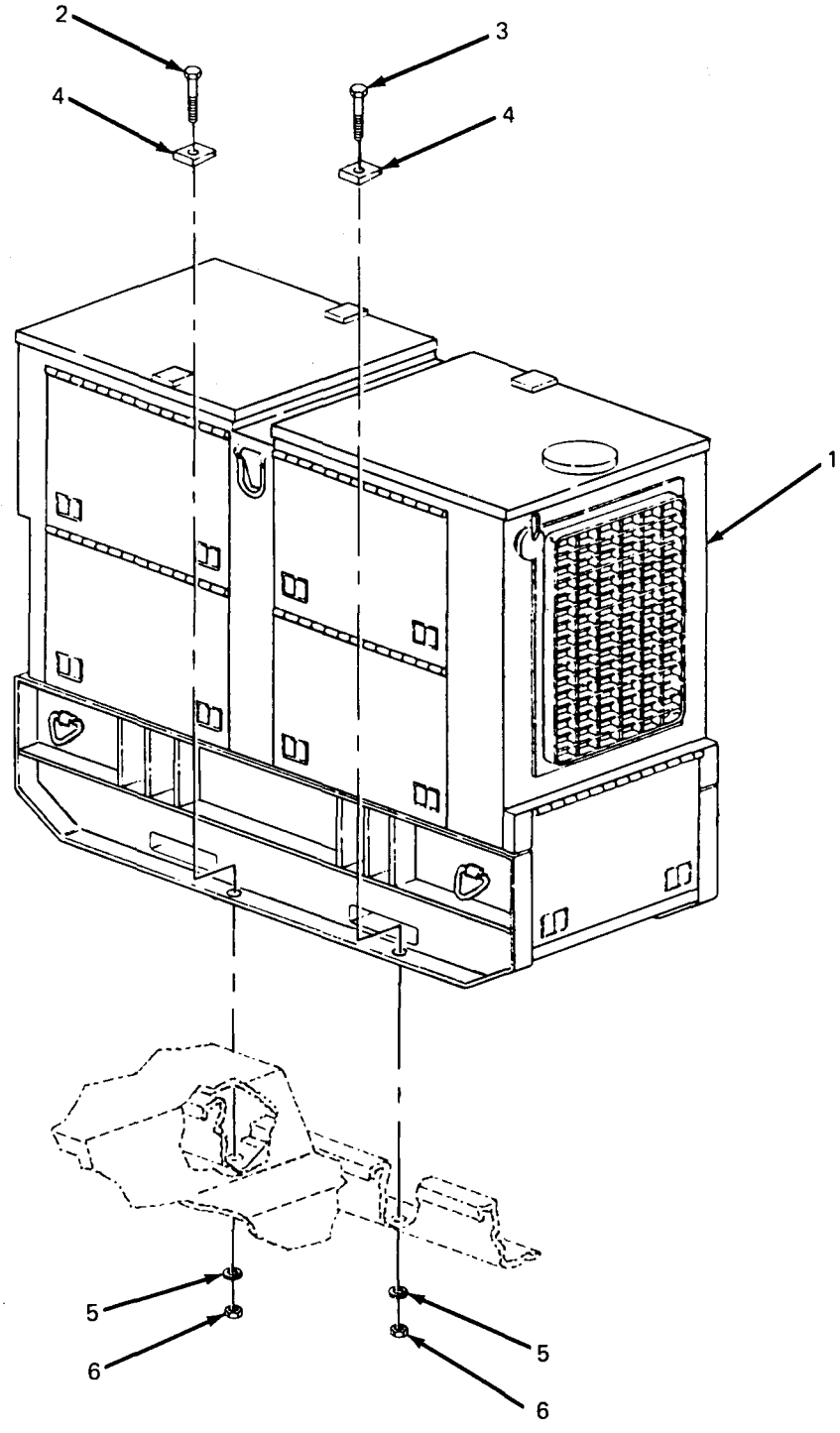


Figure D-1. Generator Set.

(1) ILLUSTRATION A FIG NO.	B ITEM NO.	(2) SMR CODE A ARMY	B AIR FORCE	C NAVY	D USMC	(3) USMC A SSI	B REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									GROUP 01 - GENERATOR				
D-1	1	PDOFH						6115-00-258-1622	GENERATOR SET, DIESEL 13220E4454 97403		EA	2	
D-1	2	PAOZZ						5305-00-724-7224	SCREW, CAP, HEX MS90728-166 96906		EA	12	
D-1	3	PAOZZ						5305-00-724-7222	SCREW, CAP, HEX MS90728-164 96906		EA	4	
D-1	4	PAOZZ						5310-01-185-0586	WASHER, BEVELED 13206E4482-3 97403		EA	8	
D-1	5	PAOZZ						5310-00-823-8803	WASHER, FLAT MS27183-21 96906		EA	16	
D-1	6	PAOZZ						5310-00-269-4040	NUT, SELF-LOCKING MS51922-49 96906		EA	16	

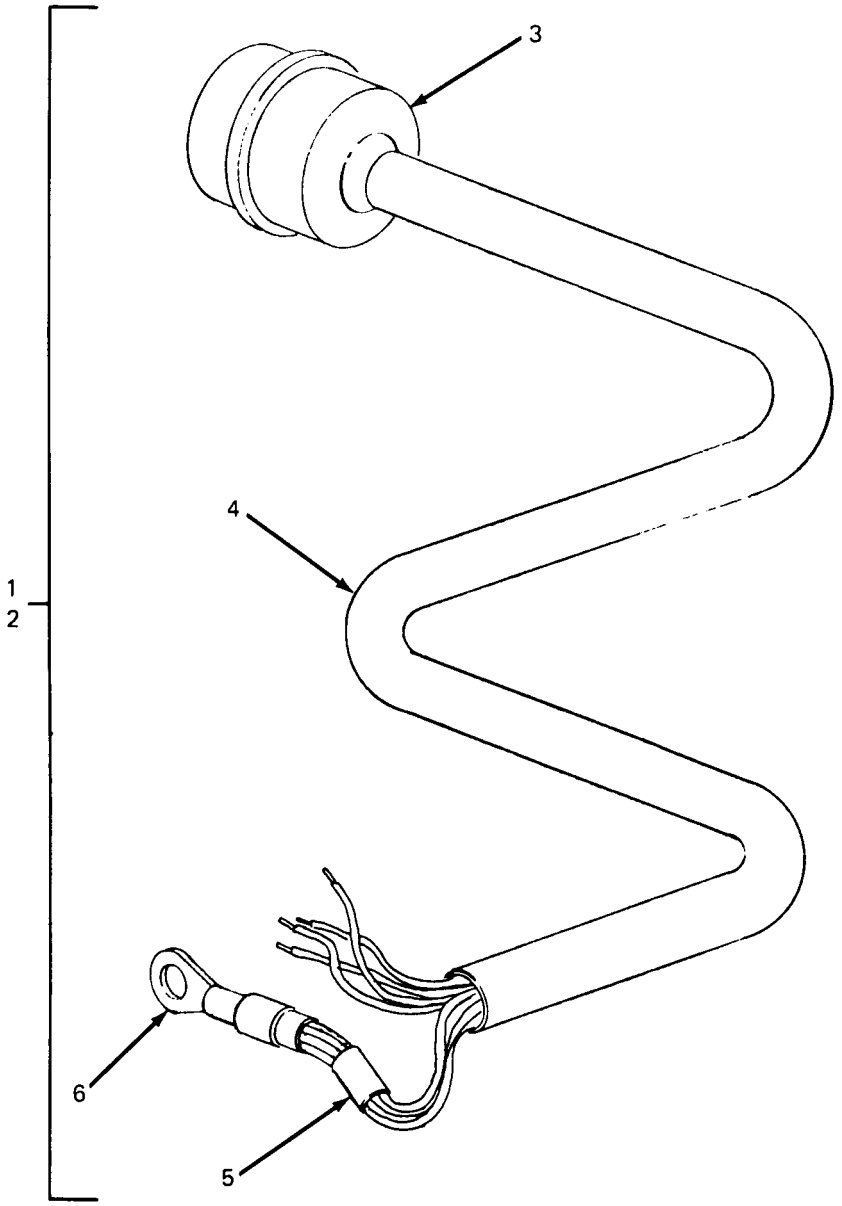


Figure D-2. Five-Wire Cable Assembly.

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									Group 02 - ELECTRICAL SYSTEM 0201 - Power Cable				
D-2	1	MDOFF							CABLE ASSY (FIVE-WIRE) 13226E7626-1	97403	EA	1	
D-2	2	PAOFF							CABLE ASSY (FIVE-WIRE) 13226E7626-2	97403	EA	1	
D-2	3	PAOZZ						5935-01-106-4513	.CONNECTOR, PLUG MS90557-C52413S	96906	EA	2	
D-2	4	PAOZZ						6145-01-038-5963	.CABLE CO-04HDF(4/O(0-4/4R)	81349	FT	AR	
D-2	5	PAOZZ							.SLEEVING, INSULATION M2305315-110-5	81349	EA	AR	
D-2	6	PAOZZ							.TERMINAL, LUG MS25036-140	96906	EA	2	

SECTION II

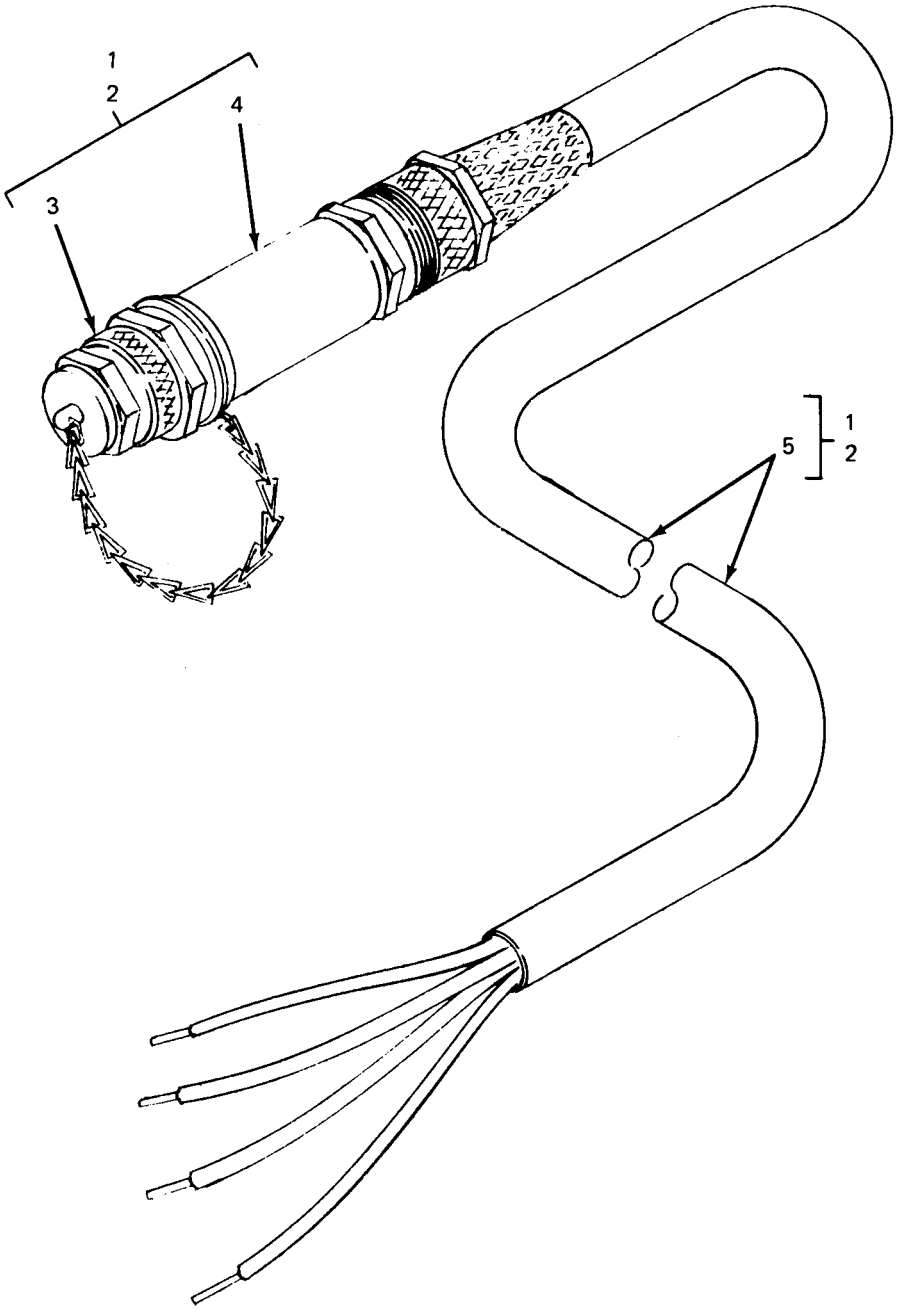


Figure D-3. Four-Wire Cable Assembly.

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									Group 02 - ELECTRICAL SYSTEM 0201 - Power Cables				
D-3	1	MDOFF							CABLE ASSY (FOUR-WIRE) 13218E110-1	97403	EA	1	
D-3	2	MDOFF							CABLE ASSEMBLY (FOUR-WIRE) 13218E510-2	97403	EA	1	
D-3	3	PAFZZ							.CONNECTOR, PLUG 13216E7547-1	97403	EA	2	
D-3	4	PAOZZ							.ADAPTER 13214E1409-1	97403	EA	2	
D-3	5	PAOZZ							.CABLE CO-4HDF(4/0000)	81349	FT	AR	

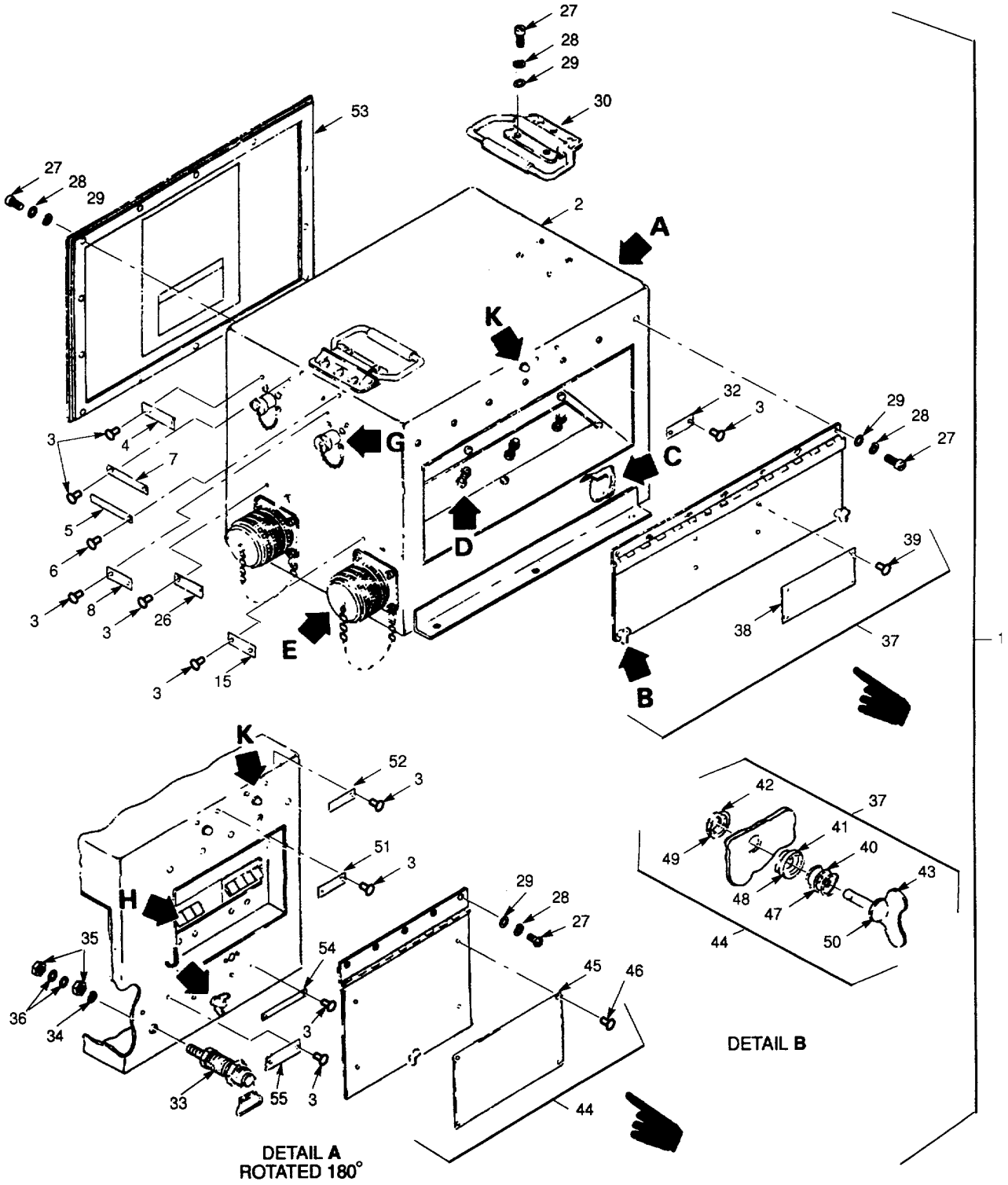


Figure D-4. Five-Wire Switch Box Assembly (Sheet 1 of 3).

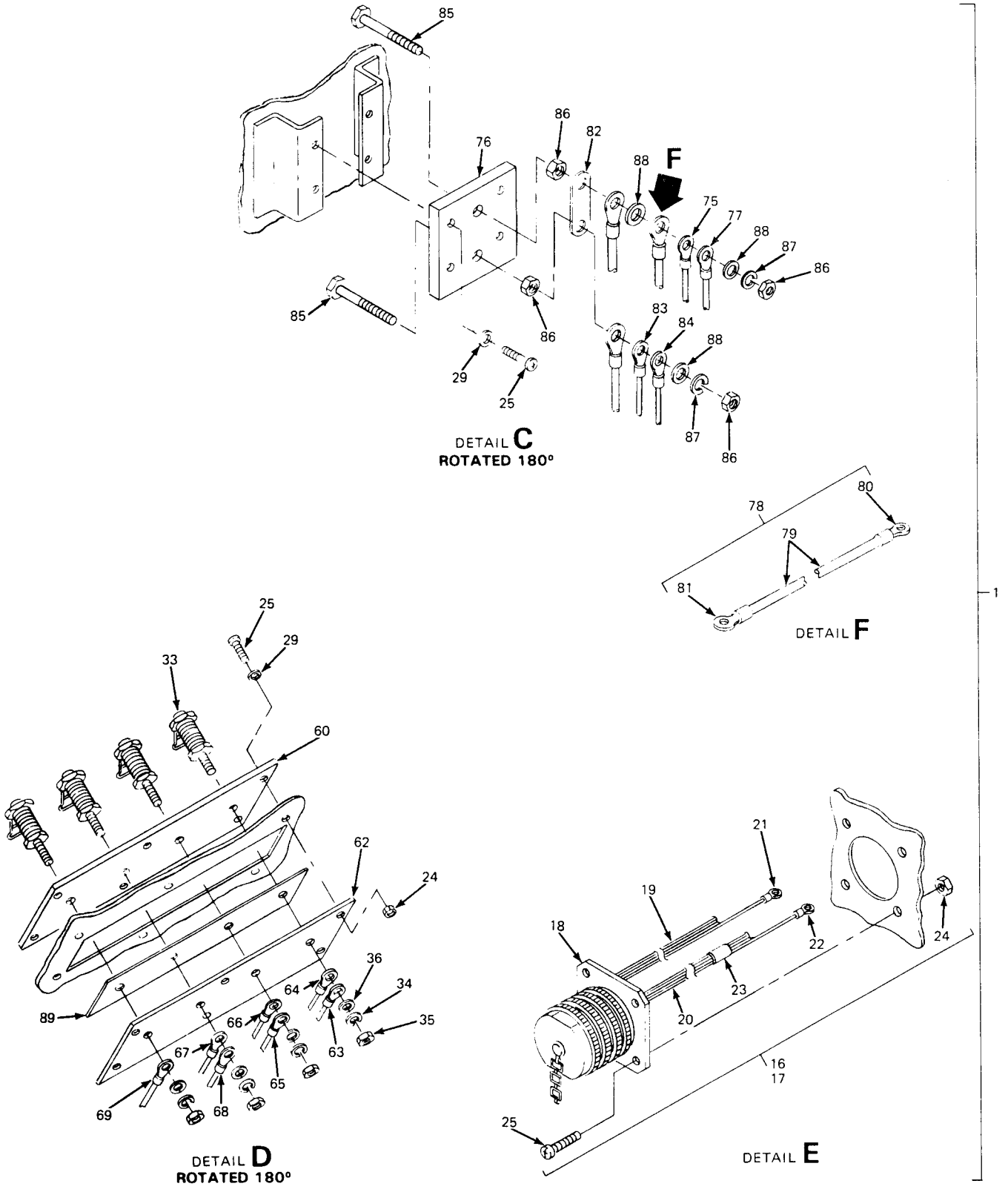


Figure D-4. Five-Wire Switch Box Assembly (Sheet 2 of 3).

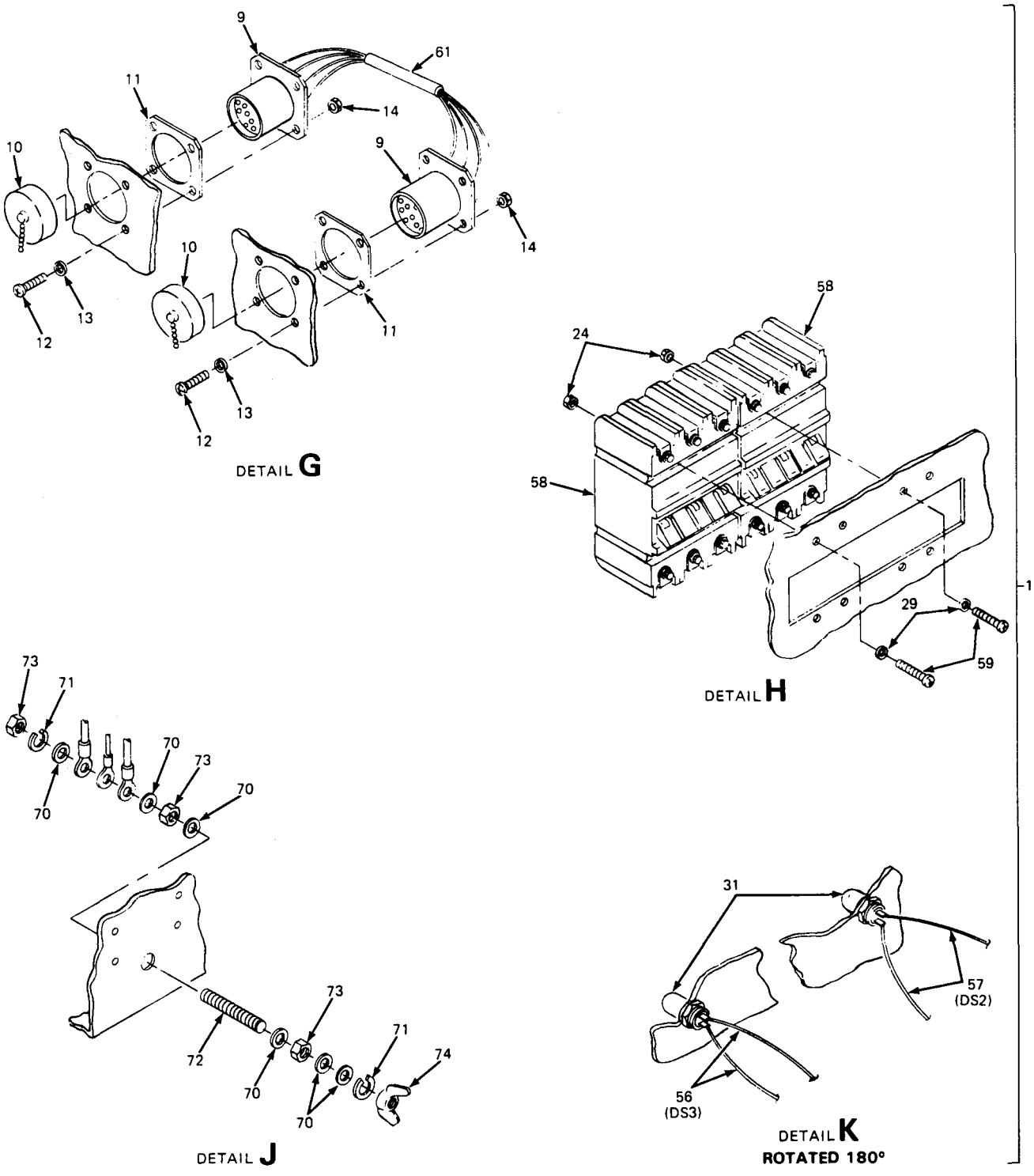


Figure D-4. Five-Wire Switch Box Assembly (Sheet 3 0f 3).

SECTION II

(1) ILLUSTRATION a FIG NO.	(1) ILLUSTRATION b ITEM NO.	(2) SMR CODE a ARMY	(2) SMR CODE b AIR FORCE	(2) SMR CODE c NAVY	(2) SMR CODE d USMC	(3) USMC a SSI	(3) USMC b REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - Switch Box Assy				
D-4	1	PBOFF							SWITCH BOX ASSY (FIVE-WIRE) 13226E6296	97403	EA	1	
D-4	2	XBOFF							.BOX, SWITCH 13226E6297	96906	EA	1	
D-4	3	PAOZZ						5305-00-253-5612	.SCREW DRIVE MS21318-15	96906	EA	22	
D-4	4	MDFZZ							.PLATE, DESIGNATION 13214E1364	97403	EA	1	
D-4	5	MDFZZ							.PLATE, IDENTIFICATION 13221E7357	97403	EA	1	
D-4	6	PAOZZ						5305-00-253-5615	.SCREW, DRIVE MS21318-21	96906	EA	1	
D-4	7	MDFZZ							.PLATE, INSTRUCTION 13221E7371	97403	EA	1	
D-4	8	MDFZZ							.PLATE, DESIGNATION 13214E1363	97403	EA	1	
D-4	9	PAOZZ						5935-00-801-6617	.CONNECTOR, RECEPTACLE MS3102R18-4P	96906	EA	2	
D-4	10	PAFZZ						5935-00-175-8419	.COVER, CONNECTOR MS25043-18DA	96906	EA	2	
D-4	11	PAFZZ						5330-00-508-0753	.GASKET, RUBBER MS25000-6	96906	EA	2	
D-4	12	PAOZZ						5305-00-984-4976	.SCREW, MACHINE MS35206-219	96906	EA	8	
D-4	13	PAOZZ						5310-00-951-4679	.WASHER, FLAT MS27183-3	96906	EA	8	
D-4	14	PAOZZ						5310-00-088-0551	.NUT, SELF-LOCKING MS21044ND4	96906	EA	8	
D-4	15	MDFZZ							.PLATE, DESIGNATION 13214E1361	97403	EA	1	
D-4	16	MFOFF							.CABLE ASSEMBLY 13226E7627-1	97403	EA	1	
D-4	17	AFFFF							.CABLE ASSEMBLY 13226E7627-2	97403	EA	1	
D-4	18	PAOZZ						5935-01-087-0780	..CONNECTOR, RECEPTACLE MS90558C-52413P	96906	EA	22	
D-4	19	PAFZZ						6145-00-195-5602	..WIRE, SIZE4/0 M50862-04-9	96906	FT	AR	
D-4	20	PAFZZ						6145-00-578-6595	..WIRE, SIZE 4 M5086/24-9	96906	FT	AR	

(1) ILLUS-TRATION a FIG NO.	(1) ILLUS-TRATION b ITEM NO.	(2) SMR CODE a ARMY	(2) SMR CODE b AIR FORCE	(2) SMR CODE c NAVY	(2) SMR CODE d USMC	(3) USMC a SSI	(3) USMC b REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-4	21	PAOZZ						540-00-115-5025	..TERMNAL, LUG MS20659-160	96906	EA	2	
D-4	22	PAOZZ							..TERMINAL, LUG MS20659-124	96906	EA	2	
D-4	23	PAOZZ							..SLEEVE, INBLATION MS23053/5-110-5	81349	EA	AR	
D-4	24	PAOZZ						5310-00-877-5797	.NUT, SELF-LOCKING MS21044N3	96909	EA	22	
D-4	25	PAFZZ						5305-00-993-3851	.SCREW, MACHNE MS35207-267	96909	EA	18	
D-4	26	MDFZZ							.PLATE, DESIGNATION 13214E1362	97403	EA	1	
D-4	27	PAFZZ						5305-00-993-1848	.SCREW, MACHINE MS35207-265	96906	EA	36	
D-4	28	PAFZZ						5310-00-045-3296	.LOCKWASHER MS35338-43	96909	EA	38	
D-4	29	PAOZZ						5310-00-014-5850	.WASHER, FLAT MS2718342	96909	EA	54	
D-4	30	XDFZZ						5340-00-801-2957	.HANDLE MS18012-5	96909	EA	2	
D-4	31	PAOZZ						6210-01-160-8026	.LIGHT, INDICATOR 13214E1391	97403	EA	3	
D-4	32	XBOZZ							.PLATE, DESIGNATION 13214E1357	97403	EA	1	
D-4	33	PBFZZ						5940-00-237-2704	.TERMINAL, LOAD 13208E5820-8	97403	EA	5	
D-4	34	PAOZZ						5310-00-680-6823	.LOCKWASHER MS35338-108	96906	EA	5	
D-4	35	PAOZZ						5310-00-584-7999	.NUT, PLAIN, HEX MS16203-1	96906	EA	6	
D-4	36	PAOZZ						5310-00-045-222	.WASHER, FLAT MS15795-922	96906	EA	6	
D-4	37	XBFZZ						6115-01-B76-1261	.COVER, LOAD TERIMINAL 13221E7352	97403	EA	1	
D-4	38	XBOZZ							..PLATE, INSTRUCTION 13218E5125	97403	EA	1	
D-4	39	PAOZZ						5305-00-840-4938	..SCREW, DRIVE MS21318-19	96906	EA	4	
D-4	40	PAOZZ							..SPRING 13213E5161-2	97403	EA	2	
D-4	41	PAOZZ							..WASHER 13213E5160-2	97403	EA	2	

SECTION II

(1) ILLUSTRATION a FIG NO.	(1) ILLUSTRATION b ITEM NO.	(2) SMR CODE a ARMY	(2) SMR CODE b AIR FORCE	(2) SMR CODE c NAVY	(2) SMR CODE d USMC	(3) USMC a SSI	(3) USMC b REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-4	42	PAFZZ						5310-00-845-5472	..RETAINER 13211E4773	97403	EA	2	
D-4	43	PAFZZ							..STUD, FASTNER 13211E4162-16	97403	EA	2	
D-4	44	XBFZZ							..DOOR, ACCESS 13218E5121	97403	EA	1	
D-4	45	MDOZZ							..PLATE, INSTRUCTION 13218E5124	97403	EA	1	
D-4	46	PAFZZ						5320-00-117-6815	..RIVET MS20470AD3-4		EA	4	
D-4	47	PAOZZ							..SPRING 13213E5161-2	97403	EA	1	
D-4	48	PAOZZ							..WASHER 13213E5160-2	97403	EA	1	
D-4	49	PAFZZ						5310-0845-5472	RETAINER 13211E4773	97403	EA	1	
D-4	50	PAFZZ							..STUD, FASTENER 13211E4162-16	97403	EA	1	
D-4	51	MDFZZ							.PLATE, DESIGNATION 13214E1359	97403	EA	1	
D-4	52	MDFZZ							.PLATE, DESIGNATION 13214E1360	97403	EA	1	
D-4	53	XBOZZ							.COVER, ACCESS 13221E7353	97403	EA	1	
D-4	54	PAFZZ						9905-01-179-7336	.PLATE, IDENTIFICATION 13217E2005	97403	EA	1	
D-4	55	PAFZZ							.PLATE, INFORMATION 13266E5689-1	97403	EA	1	
D-4	56	PBFZZ						6145-40-578-7518	.WIRE, ELECTRIC M5086/1-18-9	81349	FT	AR	
D-4	57	PAOZZ							.SLEEVING, INSULATION MIL-I-23053/2		FT	AR	
D-4	58	PBOZZ							.SWITCH 13226E6301	97403	EA	2	
D-4	59	PAOZZ						5302-00-958-0586	.SCREW, MACHINE MS35207-273	96906	EA	8	
D-4	60	PAFZZ						5970-1-B76-2093	.PANEL, INSULATOR 13218E5109	97403	EA	1	
D-4	61	PAFZZ						6145-01-038-5963	.CABLE AND WIRE CO-4HDF(4/16)	81349	EA	1	
D-4	62	PAFZZ						5970-01-B76-2094	.PANEL, INSULATOR 13218E5107	97403	EA	1	

(1) ILLUS-TRATION a FIG NO.	(1) ILLUS-TRATION b ITEM NO.	(2) SMR CODE a ARMY	(2) SMR CODE b AIR FORCE	(2) SMR CODE c NAVY	(2) SMR CODE d USMC	(3) USMC a SSI	(3) USMC b REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - Switch Box Amy - CONT				
D-4	63	MFFFF							.LEAD, ELECTRICAL 13221E73510	97403	EA	1	
D-4	64	MFFFF							.LEAD, ELECTRICAL 13221E735-11	97403	EA	1	
D-4	65	MFFFF							.LEAD, ELECTRICAL 13221E73-8	97403	EA	1	
D-4	66	MFFFF							.LEAD, ELECTRICAL 13221E739	97403	EA	1	
D-4	67	MFFFF							.LEAD, ELECTCAL 13221E7366	97403	EA	1	
D-4	68	MFFFF							.LEAD, ELECTRICAL 13221E7356-7	97403	EA	1	
D-4	69	MFFFF							.LEAD, ELECTRICAL 13221E73885	97403	EA	1	
D-4	70	PAOZA						5310-00-187-2413	.WASHER, FLAT AN61-616T	81352	EA	6	
D-4	71	PAOZZ						5310-00-184-8971	.LOCKWASHER M35338-103	96106	EA	2	
D-4	72	PAOZZ						5307-00-227-1741	.STUD 13214E1223	97403	EA	1	
D-4	73	PAOZZ						5310-01-026-5824	.NUT, PLAIN, HEX 13214E1223	96906	EA	3	
D-4	74	PAOZZ						5310-00-543-4717	.NUT, PLAIN, WING *M35425-28	96906	EA	1	
D-4	75	PBFFF							.LEAD, ELECTRICAL 13221E7356-1	97403	EA	1	
D-4	76	PBFZZ						5970-01-B76-2096	.INSULATOR 13218E5111	97403	EA	1	
D-4	77	MFFFF							.LEAD, ELECTRICAL 13221E7356-2	97403	EA	1	
D-4	78	MFFFF							.WIRE ASSY, GROUND 13216E7660-3	97403	EA	1	
D-4	79	PAFZZ						6145-00-578-6594	..WIRE, SIZE 6 M1s2-6-9	81349	FT	AR	
D-4	80	PAFZZ						5940-00-113-8190	..TERMINAL, .38 STUD SIZE MS25036-122	96906	EA	1	
D-4	81	PAFZZ						5940-40-115-2676	..TERMINAL, .5 STUD SIZE M120658-143	96906	EA	AR	
D-4	82	PBFZZ						5940-00-B76-2124	..UNK, TERMINAL CONNECTOR 13218E5113	97403	EA	1	
D-4	83	MFFFF							.LEAD, ELECTRICAL 13221E7356-3	97403	EA	1	

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-4	84	MFFFF							LEAD, ELECTRICAL 13221E73564	 97403	EA	1	
D-4	85	PAOZZ						5300-00-498-6781	.SCREW, CAP, HEX MS35309-416	 96906	EA	2	
D-4	86	PAOZZ						5310-00-006-8286	.NUT, PLAIN, HEX MS16203-41	 96906	EA	4	
D-4	87	PAOZZ						5310-00-948-9708	.LOCKWASHER MS35335-93	 96906	EA	2	
D-4	88	PAFZZ						5310-00-465-2719	.WASHER, FLAT AN961-816T	 81352	EA	3	
D-4	80	PAOZZ							.FILLER 13218E5108	 97403	EA	1	

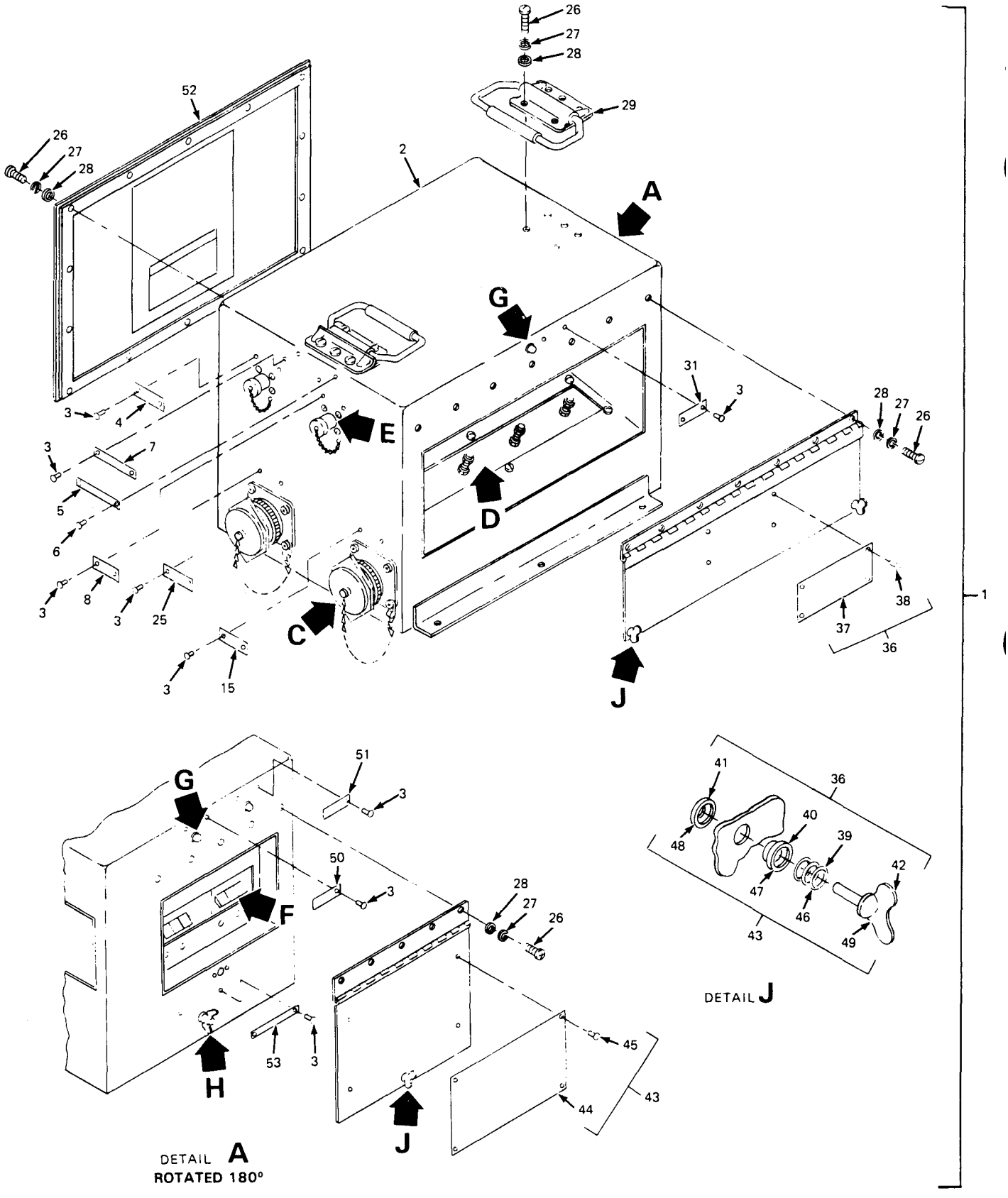


Figure D-5. Four-Wire Switch Box Assembly (Sheet 1 of 3).

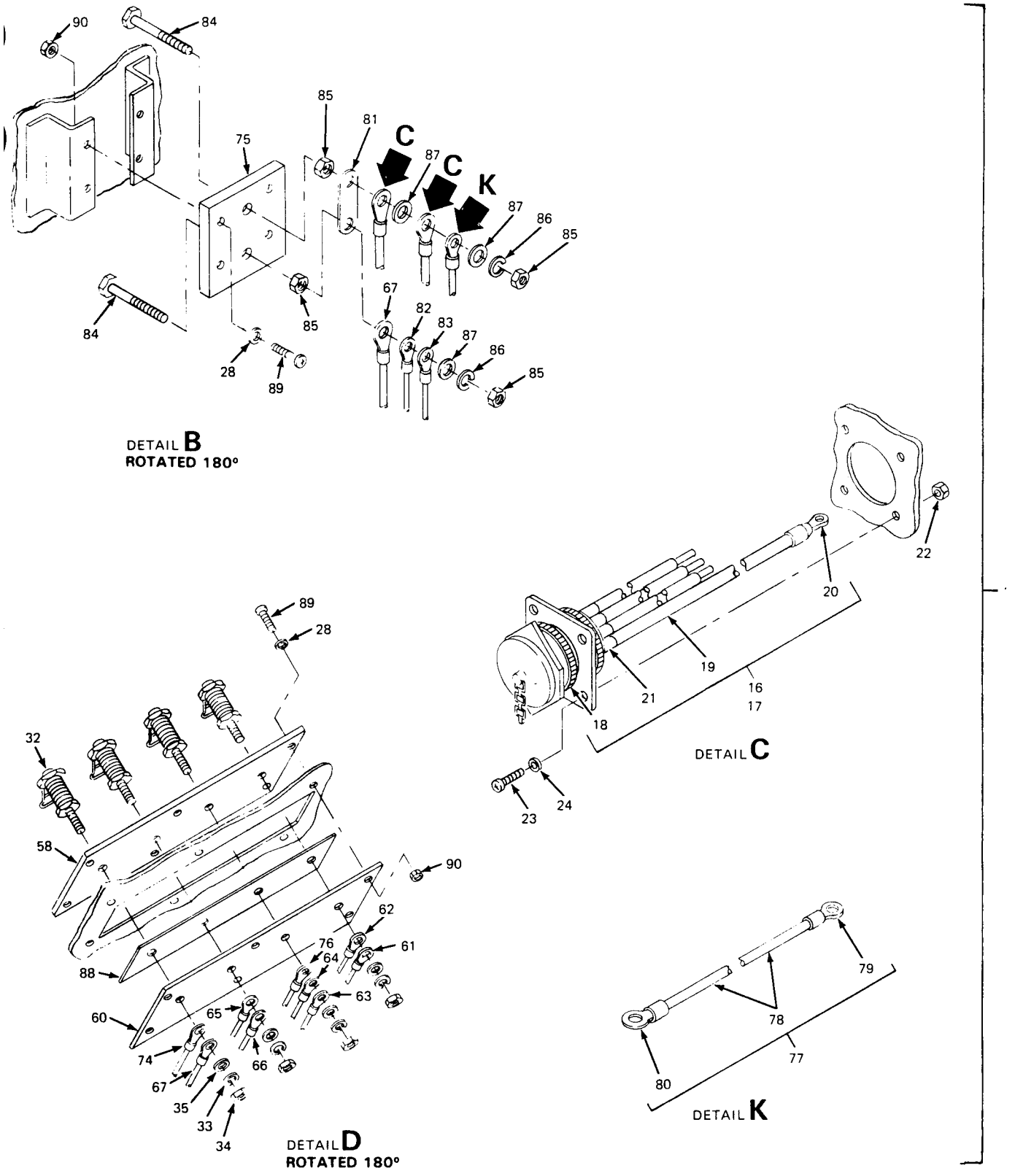


Figure D-5. Four-Wire Switch Box Assembly (Sheet 2 0f 3).

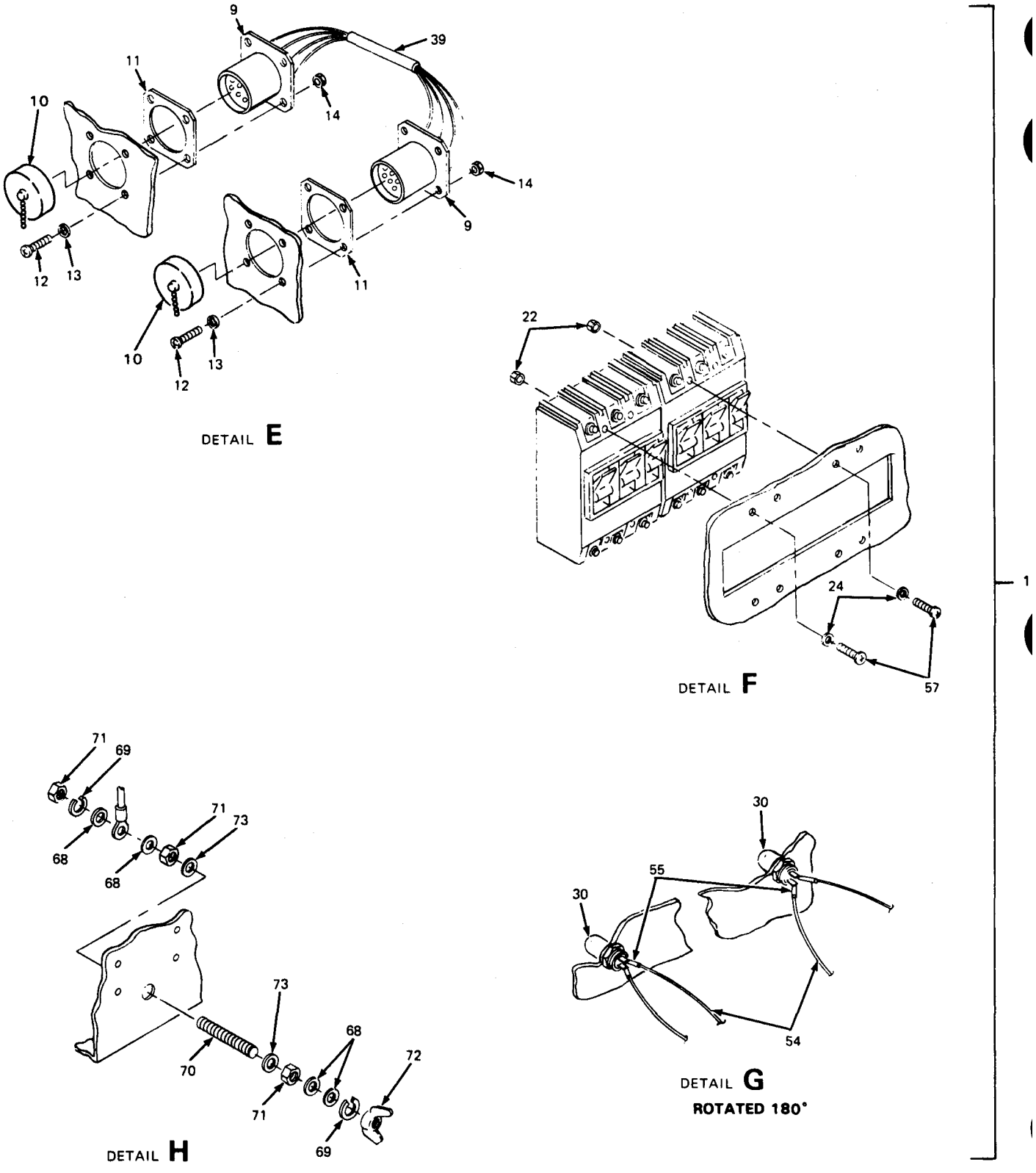


Figure D-5. Four-Wire Switch Box Assembly (Sheet 3 of 3).

(1) ILLUSTRATION A FIG NO.	B ITEM NO.	(2) SMR CODE A ARMY	B AIR FORCE	C NAVY	D USMC	(3) USMC A SSI	B REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - SWITCH BOX ASSY				
D-5	1	PAFFF							SWITCH BOX ASSY (FOUR-WIRE) 13221E7360 97403		EA	1	
D-5	2	PAFFF							BOX, SWITCH 13221E7351 97403		EA	1	
D-5	3	PAOZZ						5305-00-253-5612	SCREW, DRIVE MS21318-15 96906		EA	18	
D-5	4	MDFZZ							PLATE, DESIGNATION 13214E1364 97403		EA	1	
D-5	5	MDFZZ							PLATE, IDENTIFICATION 13221E7357 97403		EA	1	
D-5	6	PAOZZ						5305-00-253-5615	SCREW, DRIVE MS21318-21 96906		EA	2	
D-5	7	MDFZZ							PLATE, INSTRUCTION 13221E7371 97403		EA	1	
D-5	8	MDFZZ							PLATE, DESIGNATION 13214E1363 97403		EA	1	
D-5	9							5935-00-801-6617	CONNECTOR, RECEPTACLE MS3102R18-4P 96906		EA	2	
D-5	10	PAFZZ						5935-00-175-8419	COVER, CONNECTOR MS20543-18DA 96906		EA	2	
D-5	11							5330-00-508-0753	GASKET, RUBBER MS25000-6 96906		EA	2	
D-5	12	PAOZZ						5305-00-984-4976	SCREW, MACHINE MS35206-219 96906		EA	8	
D-5	13	PAOZZ						5310-00-951-4679	WASHER, FLAT MS27183-3 96906		EA	8	
D-5	14	PAOZZ						5310-00-088-0551	NUT, SELF-LOCKING MS21044N04 96906		EA	8	
D-5	15	MDFZZ							PLATE, DESIGNATION 13214E1361 97403		EA	1	
D-5	16	MFOFF							CABLE ASSEMBLY 13221E7354-1 97403		EA	1	
D-5	17	AFFFF							CABLE ASSEMBLY 13221E7354-2 97403		EA	1	
D-5	18								CONNECTOR, RECEPTACLE 13216E7548-1 96906		EA	2	
D-5	19	PAFZZ						6145-00-195-5602	WIRE, SIZE 4/0 M5086/2-04-9 96906		FT	AR	
D-5	20	PAOZZ						5940-00-114-1321	TERMINAL, LUG MS25036-141 96906		EA	2	
D-5	21								SLEEVE, INSULATION M23053/2 81349		EA	AR	

(1) ILLUS-TRATION A FIG NO.	B ITEM NO.	(2) SMR CODE A ARMY	B AIR FORCE	C NAVY	D USMC	(3) USMC A SSI	B REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									0202 - SWITCH BOX ASSY - CONT				
D-5	22	PAOZZ						5310-00-088-1251	NUT, SELF-LOCKING MS51922-1 96906		EA	8	
D-5	23	PAFZZ							SCREW, MACHINE MS35206-281 96906		EA	8	
D-5	24	PAOZZ						5310-00-809-4058	WASHER, FLAT MS27183-10 96906		EA	8	
D-5	25	MDFZZ							PLATE, DESIGNATION 13214E1362 97403		EA	1	
D-5	26	PAFZZ						5305-00-993-1848	SCREW, MACHINE MS35207-265 96906		EA	36	
D-5	27	PAFZZ						5310-00-045-3296	LOCKWASHER MS35338-43 96906		EA	36	
D-5	28	PAOZZ						5310-00-014-5850	WASHER, FLAT MS27183-42 96906		EA	54	
D-5	29	XDFZZ						5340-00-801-2957	HANDLE MS18012-5 96906		EA	2	
D-5	30	PAOZZ						6210-01-160-8026	LIGHT, INDICATOR 13214E1391 97403		EA	3	
D-5	31	XBOZZ							PLATE, DESIGNATION 13214E1357 97403		EA	1	
D-5	32	PBFZZ						5940-00-237-2704	TERMINAL, LOAD 13208E5820-8 97403		EA	4	
D-5	33	PAOZZ						5310-00-680-6823	LOCKWASHER MS35338-108 96906		EA	4	
D-5	34	PAOZZ						5310-00-584-7999	NUT, PLAIN, HEX MS16203-31 96906		EA	4	
D-5	35	PAOZZ						5310-00-045-5222	WASHER, FLAT MS15795-922 96906		EA	4	
D-5	36	PAFFF						6115-01-B76-1261	COVER, LOAD TERMINAL 13221E7352 97403		EA	1	
D-5	37	XBOZZ							PLATE, INSTRUCTION 13218E5125 97403		EA	1	
D-5	38	PAOZZ						5305-00-840-5938	SCREW, DRIVE MS21318-19 96906		EA	4	
D-5	39	PAOZZ							SPRING 13213E5161-2 97403		EA	2	
D-5	40								WASHER 13213E5160-2 97403		EA	2	
D-5	41	PAFZZ						5310-00-845-5472	RETAINER 13211E4773 97403		EA	2	
D-5	42	PAFZZ							STUD, FASTENER 13211E4162-16 97403		EA	2	

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-5	43	XBFZZ							.DOOR, ACCESS 13218E5121	97403	EA	1	
D-5	44	MDOZZ							..PLATE, INSTRUCTION 13218E5124	97403	EA	1	
D-5	45	PAFZZ						5320-00-117-6815	..RIVET MS20470 AD3-4		EA	4	
D-5	46	PAOZZ							..SPRING 13213E5161-2	97403	EA	1	
D-5	47	PAOZZ							..WASHER 13213E5160-2	97403	EA	1	
D-5	48	PAFZZ						5310-00-845-5472	..RETAINER 13211E4773	97403	EA	1	
D-5	49	PAFZZ							..STUD, FASTENER 13211E4162-16	97403	EA	1	
D-5	50	PAFZZ							.PLATE, DESIGNATION 13214E1359	97403	EA	1	
D-5	51	PAFZZ							.PLATE, DESIGNATION 13214E1360	97403	EA	1	
D-5	52	XBOZZ							.COVER, ACCESS 13221E7353	97403	EA	1	
D-5	53	PAFZZ						9905-01-179-7336	.PLATE, IDENTIFICATION 13217E2005	97403	EA	1	
D-5	54	PBFZZ						6145-00-578-7518	.WIRE, ELECTRIC M5086/1-18-9	81349	FT	AR	
D-5	55	PAOZZ							.SLEEVING, INSULATION M23053/2	81349	FT	AR	
D-5	56	PBOZZ							.SWITCH 13216E7554	97403	EA	2	
D-5	57	PAOZZ							..SCREW, MACHINE MS90725-16	96906	EA	8	
D-5	58	PAFZZ						5970-01-B76-2093	.PANEL, INSULATOR 13218E5109	97403	EA	1	
D-5	59	PAFZZ						6145-01-038-5963	.CABLE AND WIRE . CO04HDF(4116)	81349	EA	1	
D-5	60	PAFZZ						5970-01-B76-2094	.PANEL, INSULATOR 13218E5107	97403	EA	1	
D-5	61	MFFFF							.LEAD, ELECTRICAL (TB1-L3 TO S2-6) 13221E7356-10	97403	EA	1	
D-5	62	MFFFF							.LEAD, ELECTRICAL (TB1-L3 TO S1-6) 13221E7356-11	97403	EA	1	

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-5	63	MFFFF							.LEAD, ELECTRICAL (TB1-L2 TO S2-5) 13221E7356-8	97403	EA	1	
D-5	64	MFFFF							.LEAD, ELECTRICAL (TB1-L2 TO S1-5) 13221E7356-9	97403	EA	1	
D-5	65	MFFFF							.LEAD, ELECTRICAL (TB1-L1 TO S2-4) 13221E7356-6	97403	EA	1	
D-5	66	MFFFF							.LEAD, ELECTRICAL (TB1-L1 TO S1-4) 13221E7356-7	97403	EA	1	
D-5	67	MFFFF							.LEAD, ELECTRICAL (TB1-LO TO T82-2) 13221E7356-5	97403	EA	1	
D-5	68	PAOZA						5310-00-187-2413	.WASHER, FLAT AN961-16ST	81352	EA	4	
D-5	68	PAOZZ						5310-00-184-8971	.LOCKWASHER MS35338-103	96909	EA	2	
D-5	70	PAOZZ						53074-00-227-1741	.STUD 13214E1223	97403	EA	1	
D-5	71	PAOZZ						5310-01-026-5824	.NUT, PLAIN, HEX MS16203-39	96908	EA	1	
D-5	72	PAOZZ						5310-00-043-4717	.NUT, PLAIN, WING MS35425-28	86906	EA	1	
D-5	73	PAOZZ						5110-00-913-9776	.WASHER, FLAT MS35335-91	96906	EA	2	
D-5	74	PBFFF							.LEAD, ELECTRICAL (DS1-2 TO TB1-LO) 13221E7356-1	97403	EA	1	
D-5	75	PBFZZ						5970-01-876-2096	.INSULATOR 132218E5111	97403	EA	1	
D-5	76	MFFFF							.LEAD, ELECTRICAL (DS1-1 TO TB1-L2) 13221E7356-2	97403	EA	1	
D-5	77	MFFFF							.WIRE ASSY, GROUND 13216E7660-3	97403	EA	1	
D-5	78	PAFZZ						6145-00-578-6594	..WIRE, SIZE 6 MS5086/2-6-9	81349	FT	AR	
D-5	79	PAFZZ						5940-00-113-8190	..TERMINAL, .38 STUD SIZE MS25036-122	96906	EA	1	
D-5	80	PAFZZ						5940-00-115-2676	..TERMINAL, .5 STUD SIZE MS20659-143	96906	EA	AR	
D-5	81	PBFZZ						5940-01-B76-2124	..UNK, TERMINAL, CONNECTOR 1321SES113	97403	EA	1	

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									0202 - Switch Box Assy - CONT				
D-5	82	MFFFF							.LEAD, ELECTRICAL (DS2-2 TO TB2-2) 13221E7356-3	97403	EA	1	
D-5	83	MFFFF							.LEAD, ELECTRICAL (DS3-2 TO TB2-2) 13221E735W4	97403	EA	1	
D-5	84	PAOZZ						5305-00-498-6781	.SCREW, CAP, HEX MS35309-416	96906	EA	2	
D-5	85	PAOZZ						5310-00-006-8286	.NUT, PLAIN, HEX MS16203-41	96906	EA	4	
D-5	86	PAOZZ						5310-00-948-9708	.LOCKWASHER MS35335-93	96906	EA	2	
D-5	87	PAFZZ						5310-00-465-2719	.WASHER, FLAT AN961-816T	81352	EA	3	
D-5	88	PAOZZ							.FILLER 13218E5108	97403	EA	1	
D-5	89	PAOZZ						5305-00-993-1851	.SCREW, MACHINE MS35207-267	96906	EA	10	
D-5	90	PAOZZ						5310-00-877-5797	.NUT, SELF-LOCKING MS21044N3	96906	EA	10	

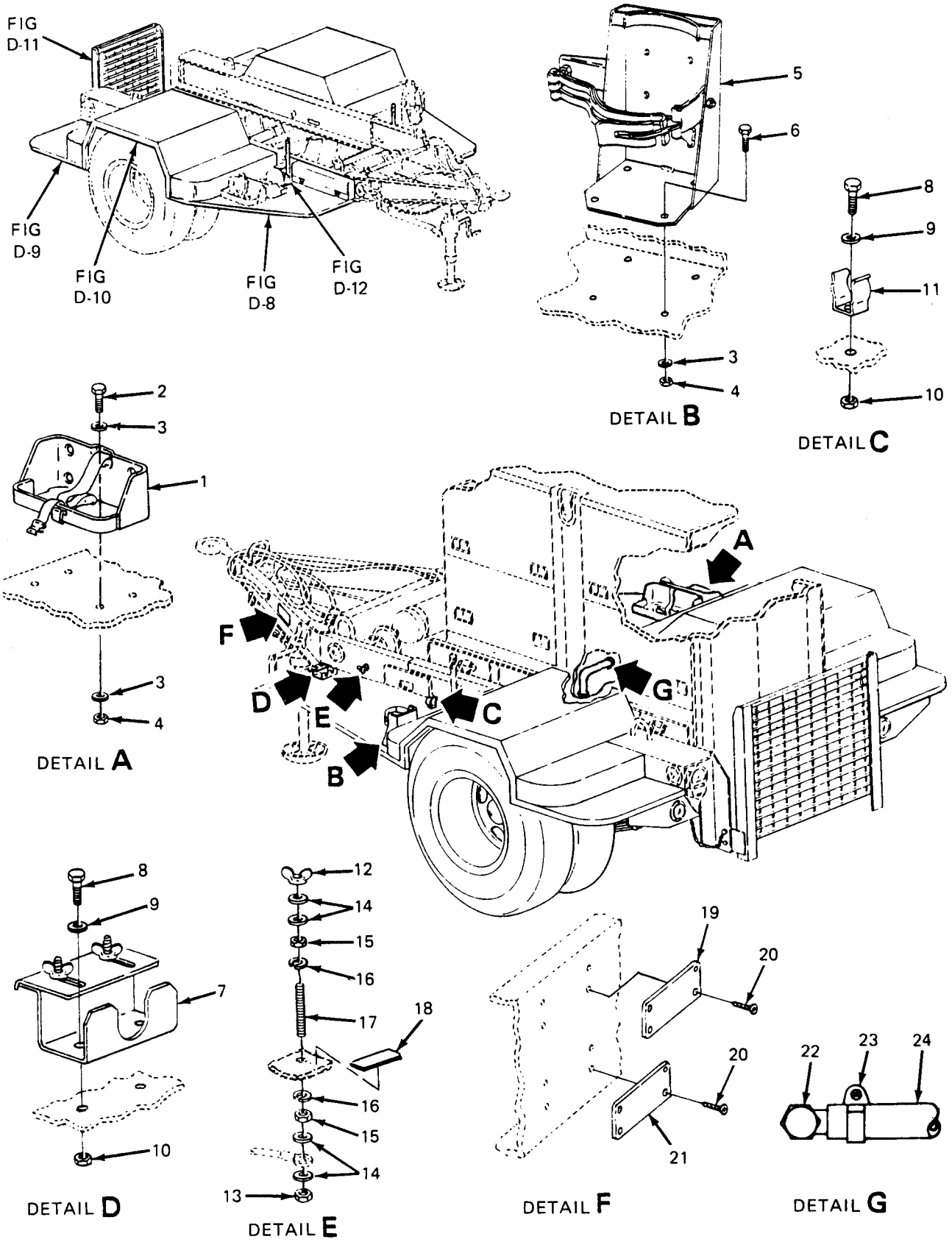


Figure D-6. Trailer Body.

(1) ILLUSTRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
A FIG NO.	B ITEM NO.	A ARMY	B AIR FORCE	C NAVY	D USMC	A SSI	B REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									GROUP 04 - TRAILER 04 - BODY				
D-6	1	PAOZZ							BRACKET ASSEMBLY, LIQUID CONTAINER MS53052-1 96906		EA	4	
D-6	2	PAOZZ						5305-00-269-3213	SCREW, CAP, HEX MS90725-62 96906		EA	16	
D-6	3	PAOZZ						5310-00-080-6004	WASHER, FLAT MS27183-14 96906		EA	40	
D-6	4	PAOZZ						5310-00-087-4652	NUT, SELF-LOCKING MS51922-17 96906		EA	24	
D-6	5	PAOZZ						4210-00-223-4857	BRACKET, FIRE EXTINGUISHER 13214E1235 97403		EA	2	
D-6	6	PAOZZ						5305-00-984-5691	SCREW, MACHINE MS35206-311 96906		EA	8	
D-6	7	PAOZZ						5340-00-999-6277	BRACKET ASSEMBLY 13214E1214 97403		EA	2	
D-6	8	PAOZZ						5305-00-068-0502	SCREW, CAP, HEX MS90725-6 96906		EA	6	
D-6	9	PAOZZ						5310-00-809-4058	WASHER, FLAT MS27183-10 96906		EA	6	
D-6	10	PAOZZ						5310-00-088-1251	NUT, SELF-LOCKING MS51922-1 96906		EA	6	
D-6	11	PAOZZ						5304-00-914-2578	CLIP, SPRING 13214E1213-1 97403		EA	2	
D-6	12	PAOZZ						5310-00-543-4717	NUT, PLAIN, WING MS35425-28 96906		EA	2	
D-6	13	PAOZZ						5310-00-584-7995	NUT, PLAIN, HEX MS16203-27 96906		EA	2	
D-6	14	PAOZZ						5310-01-004-9129	WASHER, FLAT AN961-616S 81352		EA	8	
D-6	15	PAOZZ						5310-00-026-5824	NUT, PLAIN, HEX MS16203-39 96906		EA	4	
D-6	16	PAOZZ						5310-00-022-8847	LOCKWASHER MS35333-110 96906		EA	4	
D-6	17	PAOZZ						5307-00-227-1741	STUD 13214E1223 97403		EA	2	
D-6	18	PAOZZ						9905-01-085-7703	PLATE, IDENTIFICATION 13205E4918 97403		EA	2	
D-6	19	MDOZZ							PLATE, IDENTIFICATION 13216E7604-36 97403		EA	2	
D-6	20	PAOZZ						5305-00-253-5615	SCREW, DRIVE MS21318-21 96906		EA	16	

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									04 - Body - CONT				
D-6	21	PAOZZ							PLATE, IDENTIFICATION MODIFICATION 13218E5119-7	 97403	EA	2	
D-6	22	PAOZZ							ELBOW, PIPE TO HOSE MS24519-9	 96909	EA	2	
D-6	23	PAOZZ							CLAMP MS35842-1	 96909	EA	2	
D-6	24	MFOZZ							HOBE MIL-H-6000	 81349	EA	2	

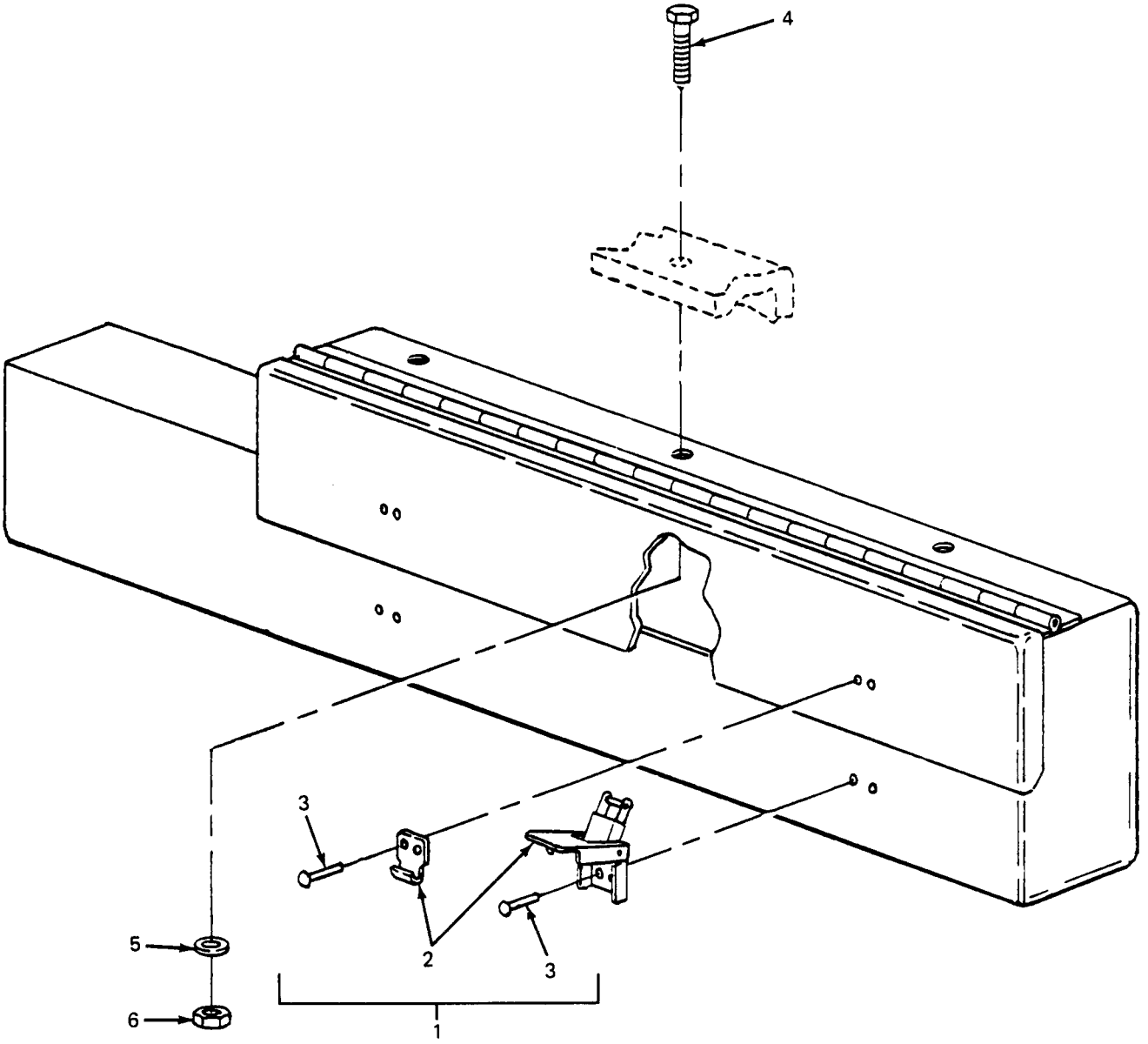


Figure D-7. Accessory Box.

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									04 - Accessory Box				
D-7	1							2450-00-903-3503	ACCESSORY BOX 13214E1256	97403	EA	2	
D-7	2	PAFZZ						5340-00-975-2126	.LATCH AND STRIKE ASSEMBLY MS1015-1	96906	EA	4	
D-7	3	PAFZZ						5320-00-753-3830	.RIVET MS20613-4PS		EA	16	
D-7	4	PAOZZ						5306-00-225-8498	.SCREW, CAR HEX MS90725-33	96906	EA	6	
D-7	5	PAOZZ						5310-00-087-7403	.WASHER, FLAT MS271S3-13	96906	EA	6	
D-7	6	PAOZZ						5310-00-984-3906	.NUT, SELF-LOCKING MS51922-9	96906	EA	6	

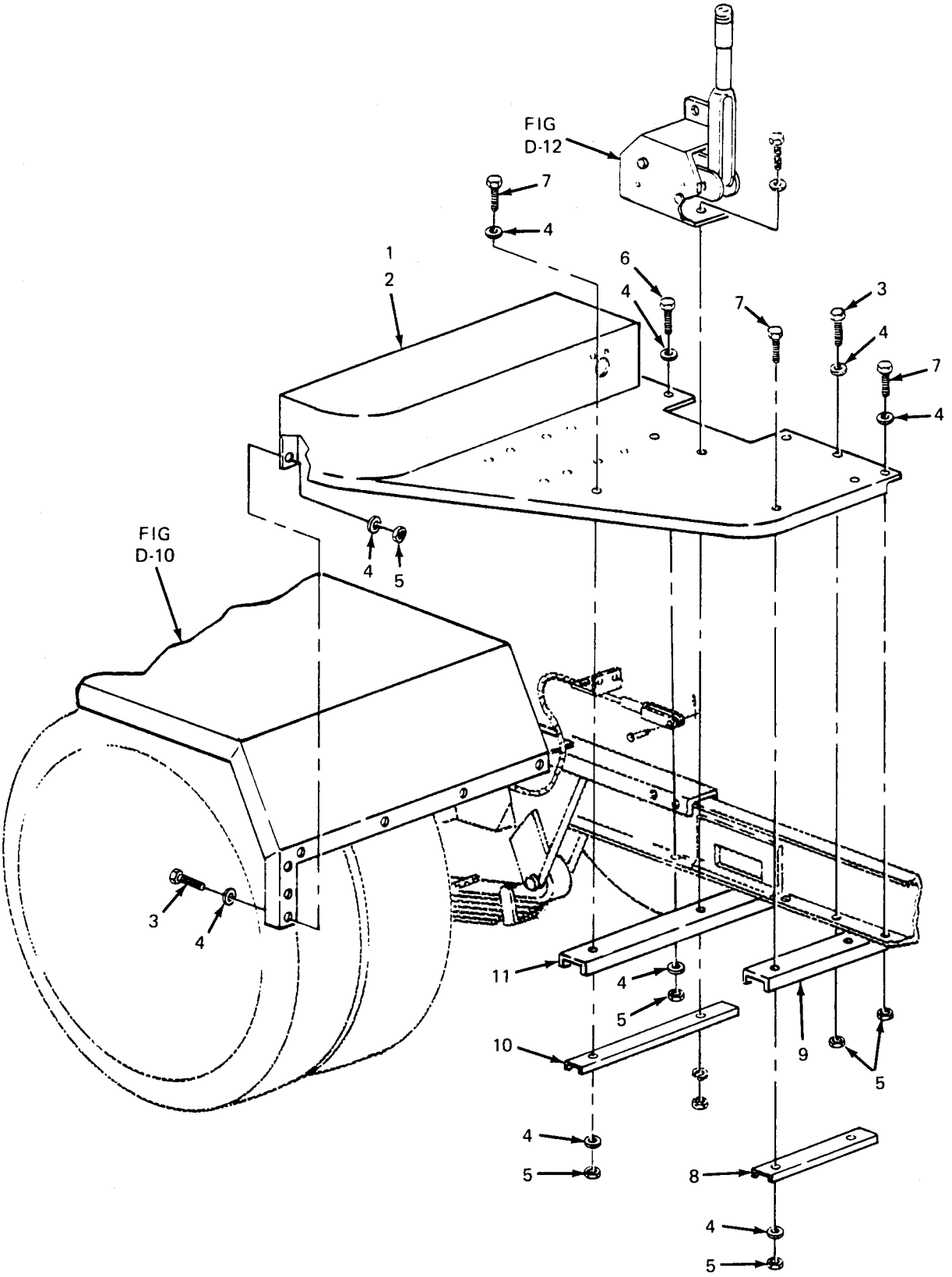


Figure D-8. Front Steps.

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									04 - Front St1ps				
D-8	1	PBFFZ						2330-01-150-9864	STEP, FRONT, CURBSIDE 13214E1461	97403	EA	2	
D-8	2	PBFFZ						2510-01-196-4682	STEP, FRONT, ROADSIDE 13214E1462	97403	EA	2	
D-8	3	PAOZZ						5306-00-225-8499	SCREW, CAP, HEX MS90725-34	96906	EA	36	
D-8	4	PAOZZ						5310-00-081-4219	WASHER, FLAT MS27183-12	96906	EA	120	
D-8	5	PAOZZ						5310-00-984-3806	NUT, SELF-LOCKING MS51922-9	96906	EA	60	
D-8	6	PAOZZ						5305-00-225-9081	SCREW, CAP, HEX Y90725-36	96906	EA	4	
D-8	7	PAOZZ						5306-00-225-8503	SCREW, CAP, HEX MS90725-39	96806	EA	20	
D-8	8	PAOZZ						5365-00-944-2692	SPACER 13214E1267-1	97403	EA	4	
D-8	9	XBFZ							CHANNEL 13214E1268	97403	EA	2	
D-8	10	XBFZ						5365-00-45-5998	SPACER 13214E1267-2	97403	EA	4	
D-8	11	XBFZZ							CHANNEL 13214E1263	97403	EA	2	

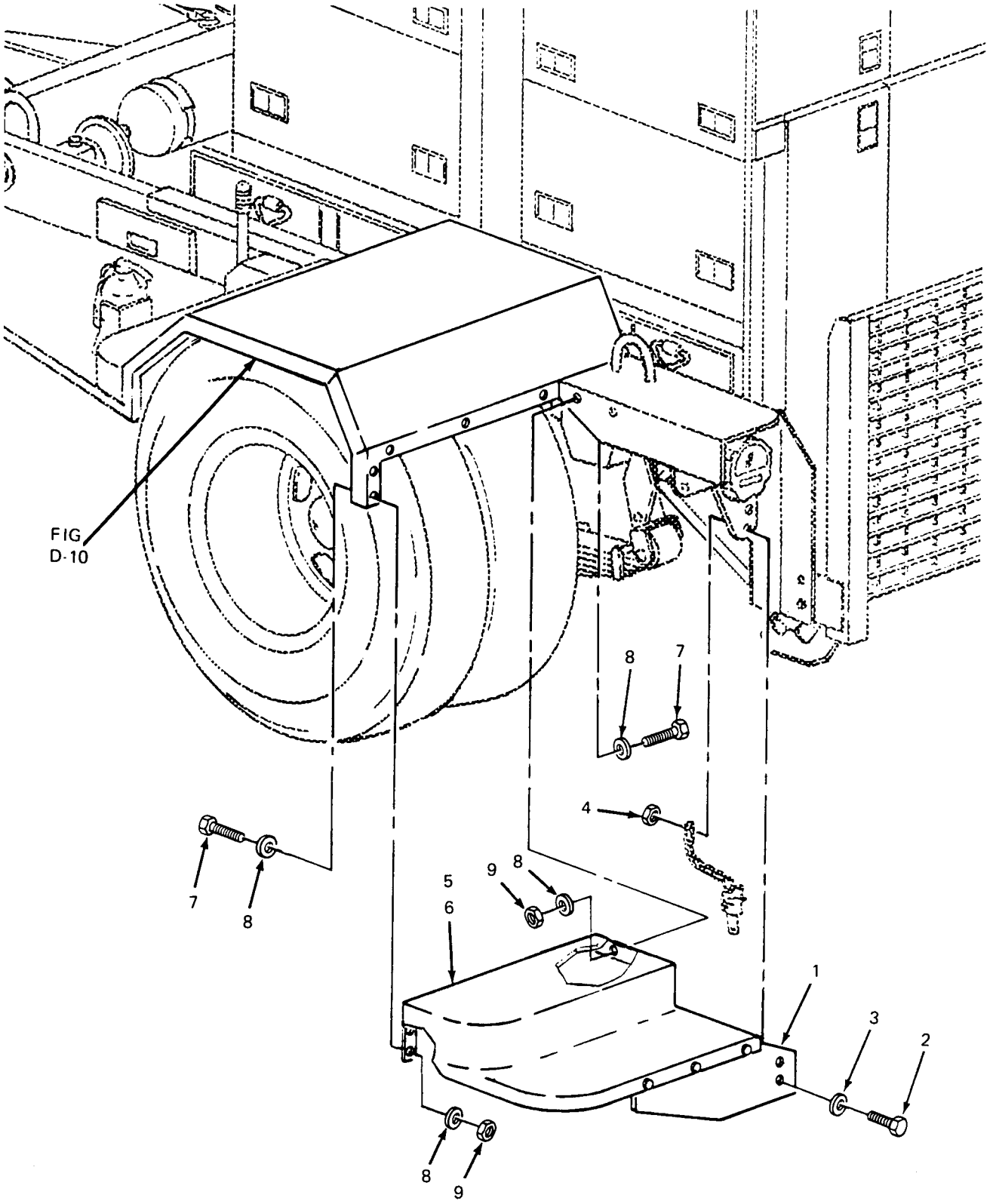


Figure D-9. Rear Steps.

(1) ILLUSTRATION A FIG NO.	B ITEM NO.	(2) SMR CODE A ARMY	B AIR FORCE	C NAVY	D USMC	(3) USMC A SSI	B REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									04 - REAR STEPS				
D-9	1	PBOZZ						5340-01-B75-8820	BRACKET, STEP, REAR 13214E1309-1 97403		EA	4	
D-9	2	PAOZZ						5305-00-269-3213	SCREW, CAP, HEX MS90725-62 96906		EA	12	
D-9	3	PAOZZ						5310-00-080-6004	WASHER, FLAT MS27183-14 96906		EA	12	
D-9	4	PAOZZ						5310-00-087-4652	NUT, SELF-LOCKING MS51922-17 96906		EA	12	
D-9	5	PBFFZ						2510-01-N73-0729	STEP, REAR, ROADSIDE 13214E1261 97403		EA	2	
D-9	6	PBFFZ						2510-01-N73-0794	STEP, REAR, CURBSIDE 13214E1259 97403		EA	2	
D-9	7	PAOZZ						5306-00-225-8499	SCREW, CAP, HEX MS90725-34 96906		EA	40	
D-9	8	PAOZZ						5310-00-081-4219	WASHER, FLAT MS27183-12 96906		EA	80	
D-9	9	PAOZZ						5310-00-984-3806	NUT, SELF-LOCKING MS51922-9 96906		EA	40	

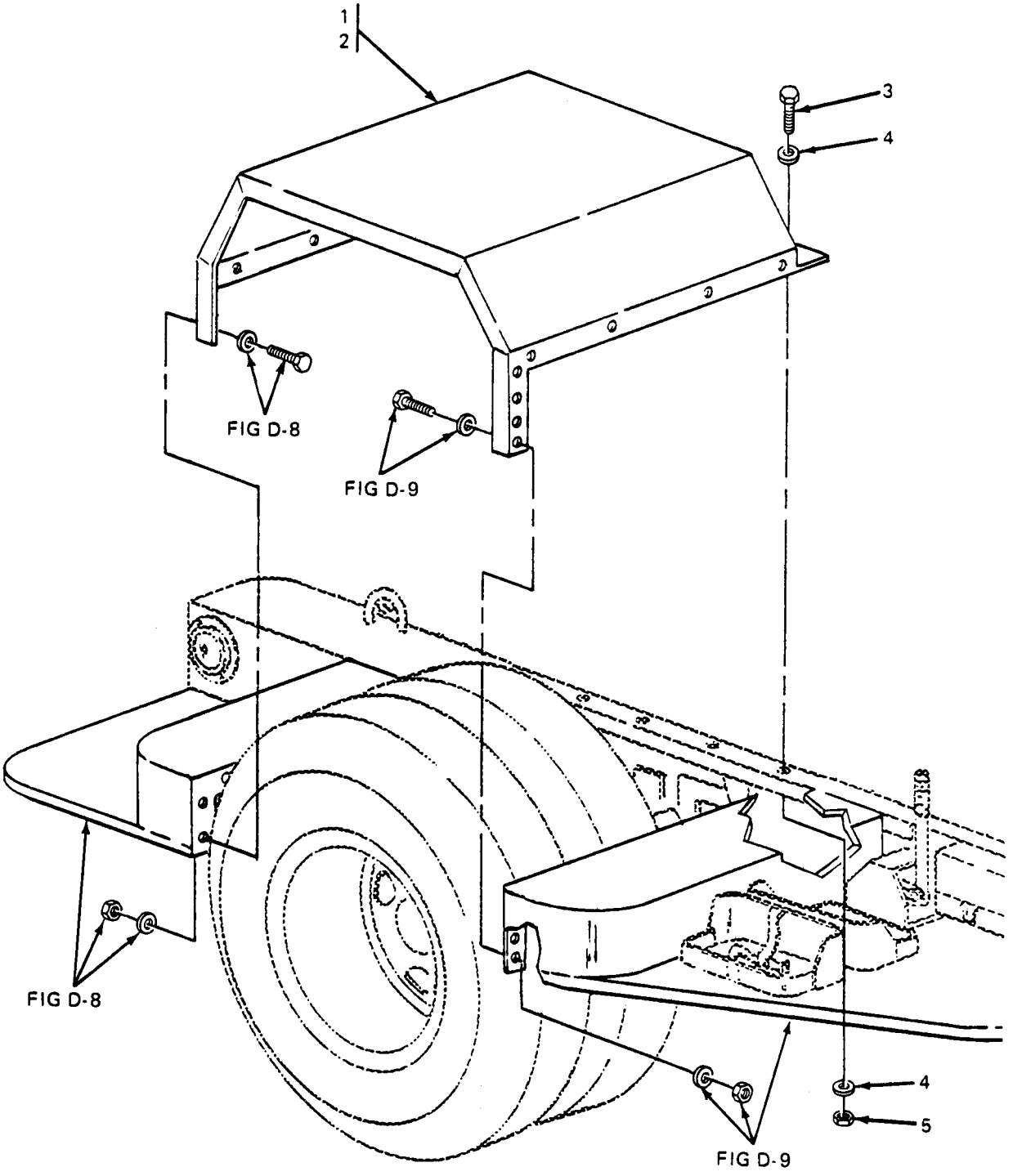


Figure D-10. Fenders.

(1) ILLUS-TRATION A FIG NO.	B ITEM NO.	(2) SMR CODE A ARMY	B AIR FORCE	C NAVY	D USMC	(3) USMC A SSI	B REPL FACTOR	(4) NATIONAL STOCK NUMBER	(5) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON CODE	(6) U/M	(7) QTY INC IN UNIT	(8) USMC QTY PER EQUIP
									04 - FENDERS				
D-10	1	XDFZZ						2510-01-213-3242	FENDER, ROADSIDE 13214E1264 97403		EA	2	
D-10	2	PBFFZ						2510-01-195-4273	FENDER, CURBSIDE 13214E1263 97403		EA	2	
D-10	3	PAOZZ						5306-00-225-8500	SCREW, CAP, HEX MS90725-35 96906		EA	20	
D-10	4	PAOZZ						5310-00-081-4219	WASHER, FLAT MS27183-12 96906		EA	40	
D-10	5	PAOZZ						5310-00-984-3806	NUT, SELF-LOCKING MS51922-9 96906		EA	20	

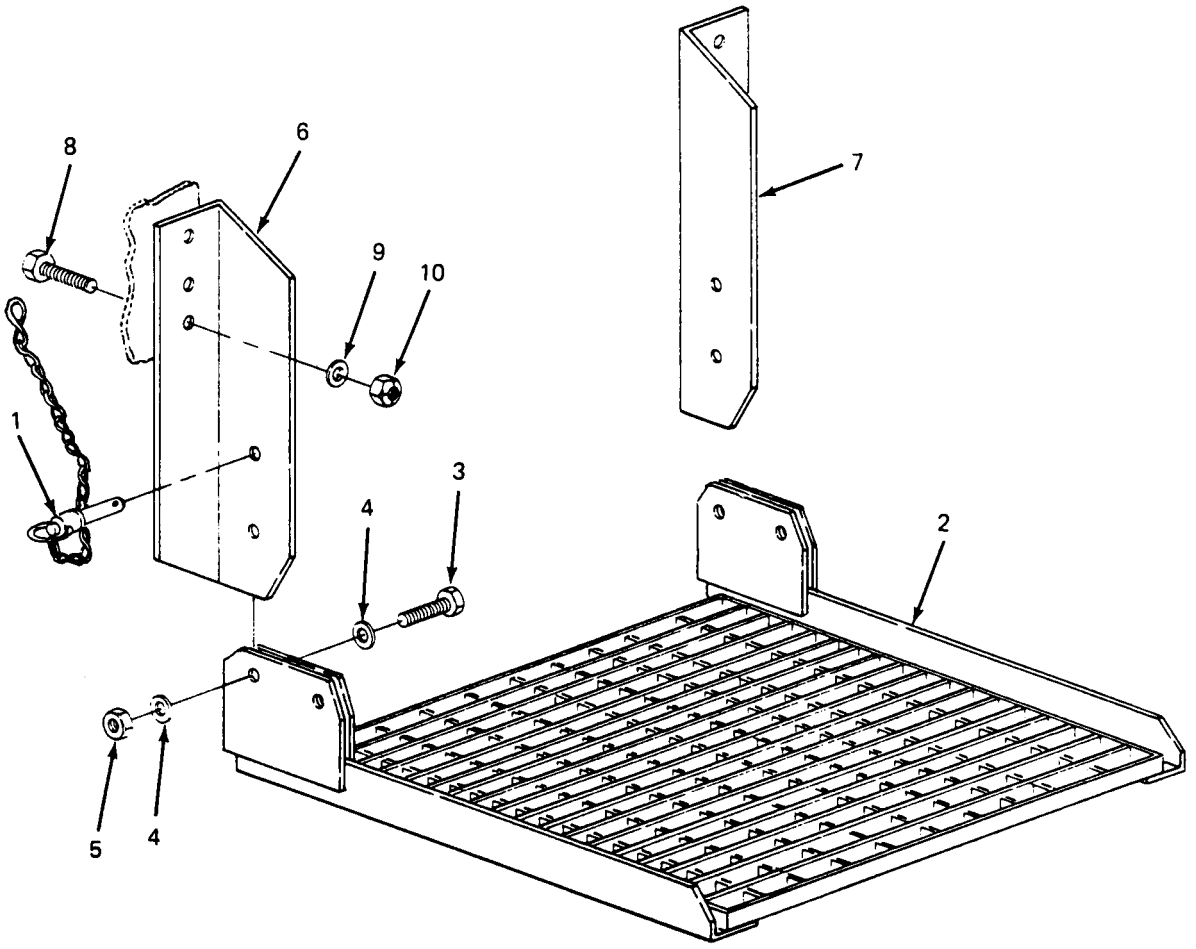


Figure D-11. Personnel Platform.

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									04 - Personnel Platform				
D-11	1	PAOZZ						5340-01-156-6142	ANCHOR, PLATFORM 13214E1303	 97403	EA	4	
D-11	2	XBFZZ						2510-00-926-3517	PLATFORM, PERSONNEL 13214E1298	 97403	EA	2	
D-11	3	PAOZZ						5305-00-039-9204	SCREW, CAP, HEX MS90725-187	 96906	EA	4	
D-11	4	PAOZZ						5310-00-809-8533	WASHER, FLAT MS27183-23	 96906	EA	8	
D-11	5	PAOZZ						5310-00-067-6356	NUT, SELF-LOCKING MS51922-57	 96906	EA	4	
D-11	6	PBOZZ						5340-00-487-7676	BRACKET, LEFT 13214E1299	 97403	EA	2	
D-11	7	XBFZZ						5340-00-999-6441	BRACKET, RIGHT 13214E1300	 97403	EA	2	
D-11	8	PAOZZ						5305-00-042-6417	SCREW, CAP, HEX MS90725-113	 96906	EA	12	
D-11	9	PAOZZ						5310-00-809-5998	WASHER, FLAT MS27183-18	 96906	EA	12	
D-11	10	PAOZZ						5310-10-225-6993	NUT, SELF-LOCKING MS51922-33	 96906	EA	12	

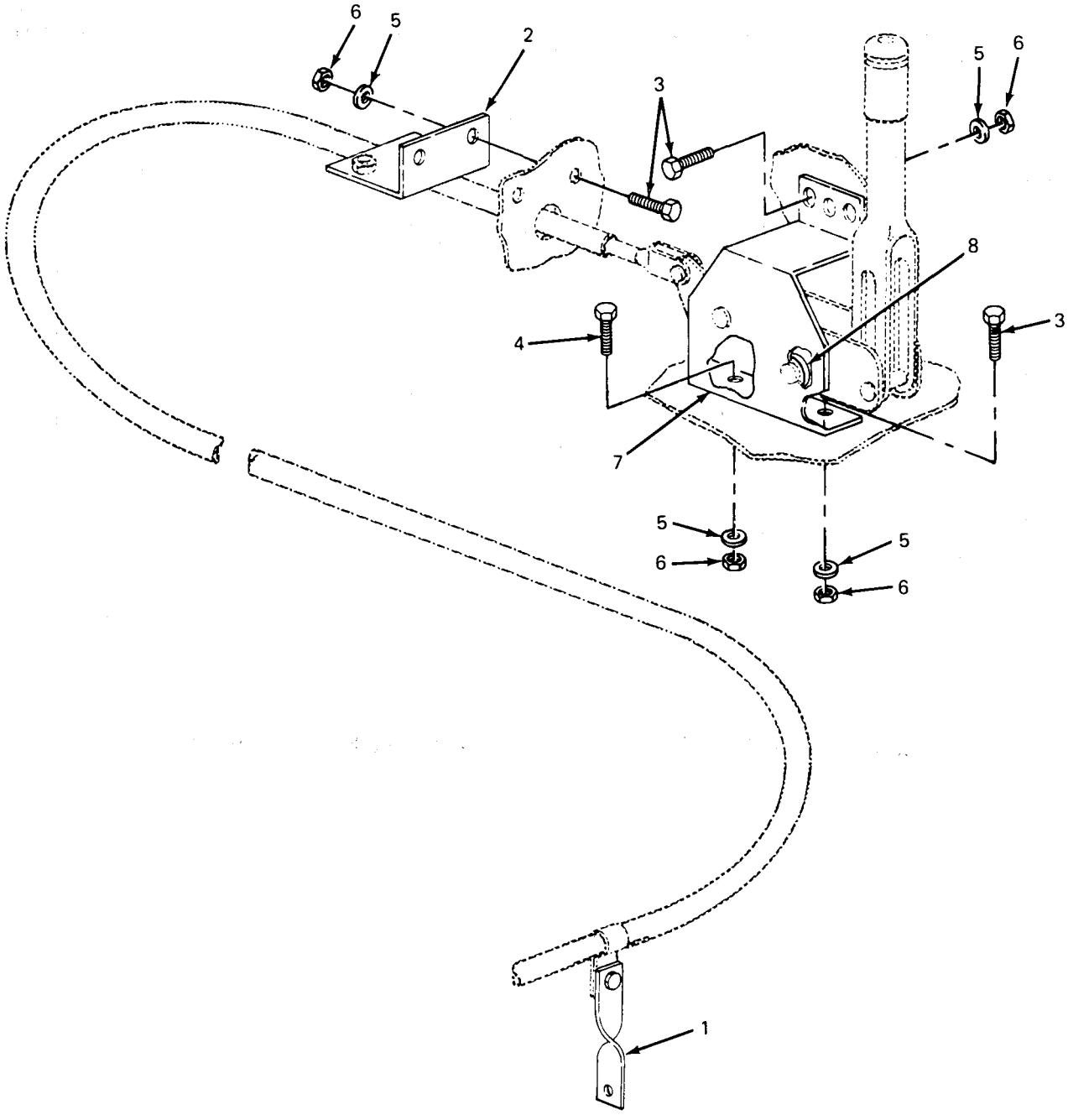


Figure D-12. Handbrakes.

SECTION II

(1) ILLUS-TRATION		(2) SMR CODE				(3) USMC		(4)	(5) DESCRIPTION		(6)	(7)	(8)
a FIG NO.	b ITEM NO.	a ARMY	b AIR FORCE	c NAVY	d USMC	a SSI	b REPL FACTOR	NATIONAL STOCK NUMBER	REF NUMBER & MFR CODE	USABLE ON CODE	U/M	QTY INC IN UNIT	USMC QTY PER EQUIP
									04 - Trailer Frame				
D-12	1	XBOZZ						6115-01-B76-2084	NUT, SELF-LOCKING 13214E1271	97403	EA	4	
D-12	2	PBOZZ							BRACKET, BRAKE CABLE 13214E1270	97403	EA	4	
D-12	3	PAOZZ						5306-00-225-8499	SCREW, CAP, HEX 13214E1270	96906	EA	20	
D-12	4	PAOZZ						5306-00-225-8500	SCREW, CAP, HEX 13214E1270	96906	EA	4	
D-12	5	PAOZZ						5310-00-081 -4219	WASHER, FLAT MS27183-12	96906	EA	40	
D-12	6	PAOZZ						5310-00-9843806	NUT, SELF-LOCKING MS51922-9	96906	EA	24	
D-12	7	PBFZZ						5340-01-226-5766	BRACKET, BRAKE 13214E1269	96906	EA	4	
D-12	8	PBOZZ						5365-00-989-3304	SPACER 13214E1272	97403	EA	8	

Section III. SPECIAL TOOLS, TEST AND SUPPORT EQUIPMENT
Not Applicable

NSN	FIGURE NO.	ITEM NO.	NSN	FIGURE NO.	ITEM NO.
2330-01-150-9864	D-8	1	5310-00-465-2719	D-4	88
2450-00-903-3503	D-7	1		D-5	87
2510-00-926-3517	D-11	2	5310-00-543-4717	D-4	74
2510-01-N73-0729	D-9	5		D-5	72
2510-01-N73-0794	D-9	6		D-6	12
2510-01-195-4273	D-11	2	5310-00-584-7995	D-6	13
2510-01-196-4682	D-8	2	5310-00-584-7999	D-4	35
2510-01-213-3242	D-10	1		D-5	34
4210-00-223-4857	D-6	5	5310-00-680-6823	D-4	34
5110-00-913-9776	D-5	73		D-5	33
5304-00-914-2578	D-6	11	5310-00-809-4056	D-6	24
5305-00-042-6417	D-11	8	5310-00-809-4058	D-6	9
5305-00-068-0502	D-6	8	5310-00-809-5998	D-11	9
5305-00-225-9081	D-8	6	5310-00-809-8533	D-11	4
5305-00-253-5612	D-4	3	5310-00-823-8803	D-1	5
	D-5	3	5310-00-845-5472	D-4	42
5305-00-253-5615	D-4	6		D-4	49
	D-5	6		D-5	41
	D-6	20		D-5	48
5305-00-269-3213	D-6	2	5310-00-877-5797	D-4	24
	D-9	2		D-5	90
5305-00-498-6781	D-4	85	5310-00-948-9708	D-4	87
	D-5	84		D-5	86
5305-00-724-7222	D-1	3	5310-00-951-4679	D-4	13
5305-00-724-7224	D-1	2		D-5	13
5305-00-840-5938	D-4	39	5310-00-984-3806	D-6	6
	D-5	38		D-8	5
5305-00-939-9204	D-11	3		D-9	9
5305-00-958-0586	D-4	59		D-10	5
5305-00-984-4976	D-4	12		D-12	6
5305-00-984-4976	D-5	12	5310-01-004-9129	D-6	14
5305-00-984-5691	D-6	6	5310-01-026-5824	D-4	73
5305-00-993-1848	D-4	27		D-5	71
5305-00-993-1848	D-5	26	5310-01-185-0586	D-1	4
5305-00-993-1851	D-4	25	5320-00-117-6815	D-4	46
	D-5	89		D-5	45
5306-00-225-8498	D-7	4	5320-00-753-3830	D-7	3
5306-00-225-8499	D-8	3	5330-00-508-0753	D-4	11
	D-9	7		D-5	11
	D-12	3	5340-00-087-7676	D-11	6
5306-00-225-8500	D-10	3	5340-00-801-2957	D-4	30
	D-12	4		D-5	29
5306-00-225-8503	D-8	7	5340-00-975-2126	D-7	2
5307-00-227-1741	D-4	72	5340-00-999-6277	D-6	7
	D-5	70	5340-00-999-6441	D-11	7
	D-6	17	5340-01-B75-8820	D-9	1
5310-00-006-8286	D-4	86	5340-01-156-6142	D-11	1
	D-5	85	5340-01-226-5766	D-12	7
5310-00-014-5850	D-4	29	5365-00-944-2692	D-8	8
	D-5	28	5365-00-945-5998	D-8	10
5310-00-022-8847	D-6	16	5365-00-989-3304	D-12	8
5310-00-026-5824	D-6	15	5935-00-175-8419	D-4	10
5310-00-042-5222	D-4	36		D-5	10
5310-00-045-3296	D-4	28	5935-00-801-6617	D-4	9
	D-5	27		D-5	9
5310-00-045-5222	D-5	35	5935-01-087-0780	D-4	18
5310-00-067-6356	D-11	5	5935-01-106-4513	D-2	3
5310-00-080-6004	D-6	3	5940-00-113-8190	D-4	80
	D-9	3		D-5	79
5310-00-081-0551	D-5	14	5940-00-114-1321	D-5	20
5310-00-081-4219	D-8	4	5940-00-115-2676	D-4	81
	D-9	8		D-5	80
	D-10	4	5940-00-115-5025	D-4	21
	D-12	5	5940-00-237-2704	D-4	33
5310-00-087-4652	D-6	4		D-5	32
	D-9	4	5970-01-B76-2093	D-4	60
5310-00-087-7493	D-7	5		D-5	58
5310-00-088-0551	D-4	14	5970-01-B76-2094	D-4	62
5310-00-088-1251	D-5	22		D-5	60
	D-6	10	5970-01-B76-2096	D-4	76
5310-00-184-8971	D-4	71		D-5	75
	D-5	69	5940-01-B76-2124	D-4	82
5310-00-187-2413	D-4	70		D-5	81
	D-5	68	6115-00-258-1622	D-1	1
5310-00-225-6993	D-11	10	6115-01-B76-1261	D-4	37
5310-00-269-4040	D-1	6		D-5	36

NSN	FIGURE NO.	ITEM NO.	NSN	FIGURE NO.	ITEM NO.
6115-01-B76-2084	D-12	1	6145-01-038-5963	D-2	4
6145-00-195-5602	D-4	19		D-4	61
	D-5	19		D-5	59
6145-00-578-6594	D-4	79	6210-01-160-8026	D-4	31
	D-5	78		D-5	30
6145-00-578-6595	D-4	20	9905-01-085-7703	D-6	18
6145-00-578-7518	D-4	56	9905-01-179-7336	D-4	54
	D-5	54		D-6	53

REFERENCE NUMBER	FSCM	FIG. NO.	ITEM NO.
AN961-616S	81352	D-6	14
AN961-616T	81352	D-4	70
		D-5	68
AN961-816T	81352	D-4	88
		D-5	87
C0-04HDF(4/0000)	81349	D-3	5
C0-04HDF(4/0000-4/4R)	81349	D-2	4
C0-04HDF(4/16)	81349	D-4	61
		D-5	59
MIL-H-6000	81349	D-6	24
MIL-I-23053/2		D-4	57
MS15795-922	96906	D-4	36
		D-5	35
MS16203-27	96906	D-6	13
MS16203-31	96906	D-4	35
		D-5	34
MS16203-39	96906	D-4	73
		D-5	71
		D-6	15
MS16203-41	96906	D-4	86
		D-5	85
MS18012-5	96906	D-4	30
		D-5	29
MS18015-1	96906	D-7	2
MS20470AD3-4		D-4	46
		D-5	45
MS20613-4P5		D-7	3
MS20659-124	96906	D-4	22
MS20659-143	96906	D-4	81
		D-5	80
MS20659-160	96906	D-4	21
MS21044N04	96906	D-4	14
		D-5	14
MS21044N3	96906	D-4	24
		D-5	90
MS21318-15	96906	D-4	3
		D-5	3
MS21318-19	96906	D-4	39
		D-5	38
MS21318-21	96906	D-4	6
		D-5	6
		D-6	20
MS24519-9	96906	D-6	22
MS25000-6	96906	D-4	11
		D-5	11
MS25036-122	96906	D-4	80
		D-5	79
MS25036-40	96906	D-2	6
MS25036-141	96906	D-5	20
MS25043-18DA	96906	D-4	10
		D-5	10
MS27183-3	96906	D-4	13
		D-5	13
MS27183-10	96906	D-6	9
		D-6	24
MS27183-12	96906	D-8	4
		D-9	8
		D-10	4
		D-12	5
MS27183-13	96906	D-7	5
MS27183-14	96906	D-6	3
		D-9	3
MS27183-18	96906	D-11	9
MS27183-21	96906	D-1	5
MS27183-23	96906	D-11	4
MS27183-42	96906	D-4	29
		D-5	28
MS3102R18-4P	96906	D-4	9
		D-5	9
MS35206-219	96906	D-4	12
		D-5	12
MS35206-281	96906	D-5	23
MS35206-311	96906	D-6	6
MS35207-265	96906	D-4	27
		D-5	26
MS35207-267	96906	D-4	25
		D-5	89
MS35207-273	96906	D-4	59
MS35309-416	96906	D-4	85
		D-5	84
MS35333-110	96906	D-6	16
MS35335-91	96906	D-5	73
MS35335-93	96906	D-4	87
		D-5	86
MS35338-43	96906	D-4	28
		D-5	27
MS35338-103	96906	D-4	71
		D-5	69
MS35338-108	96906	D-4	34
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MS35425-28	96906	D-4	74
		D-5	72
		D-6	12
MS35842-11	96906	D-6	23
MS51922-1	96906	D-5	22
		D-6	10
MS51922-9	96906	D-6	6
		D-8	5
		D-9	9
		D-10	5
		D-12	6
MS51922-17	96906	D-6	4
		D-9	4
MS51922-33	96906	D-11	10
MS51922-49	96906	D-1	6
MS51922-57	96906	D-11	5
MS53052-1	96906	D-6	1
MS90557-C52413S	96906	D-2	3
MS90558C-52413P	96906	D-4	18
MS90725-6	96906	D-6	8
MS90725-16	96906	D-5	57
MS90725-33	96906	D-7	4
MS90725-34	96906	D-8	3
		D-9	7
		D-12	3
MS90725-35	96906	D-10	3
		D-12	4
MS90725-36	96906	D-8	6
MS90725-39	96906	D-8	7
MS90725-62	96906	D-6	2
		D-9	2
MS90725-113	96906	D-11	8
MS90725-187	96906	D-11	3
MS90728-164	96906	D-1	3
MS90728-166	96906	D-1	2
M23053/2	81349	D-5	21
		D-5	55
M23053/5-110-5	81349	D-2	5
		D-4	23
M5086/1-18-9	81349	D-4	56
		D-5	54
M5086/2-4-9	96906	D-4	20
M5086/2-04-9	96906	D-4	19
		D-5	19
M5086/2-6-9	81349	D-4	79
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13205E4918	97403	D-6	18
13206E4482-3	97403	D-1	4
13208E5820-8	97403	D-4	33
		D-5	32
13211E4162-16	97403	D-4	43
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		D-5	42
		D-5	49
13211E4773	97403	D-4	42
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		D-5	41
		D-5	48
13213E5160-2	97403	D-4	48
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		D-5	47
13213E5161-2	97403	D-5	39
		D-5	46
13214E1213-1	97403	D-6	11
13214E1214	97403	D-6	7

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13214E1223	97403	D-4	72	13218E5113	97403	D-4	82
		D-5	70			D-5	81
		D-6	17	13218E5119-7	97403	D-6	21
13214E1235		D-6	5	13218E5121	97403	D-4	44
13214E1256	97403	D-7	1			D-5	43
13214E1259	97403	D-9	6	13218E5124	97403	D-4	45
13214E1261	97403	D-9	5			D-5	44
13214E1263	97403	D-11	2	13218E5125	97403	D-4	38
13214E1264	97403	D-10	1			D-5	37
13214E1267-1	97403	D-8	8	13213E5160-2	97403	D-4	41
13214E1267-2	97403	D-8	10	13213E5161-2	97403	D-4	40
13214E1268	97403	D-8	9			D-4	47
13214E1269	96906	D-12	7	13220E4454	97403	D-1	1
13214E1270	97403	D-12	2	13221E7351	97403	D-5	2
13214E1271	97403	D-12	1	13221E7352	97403	D-4	37
13214E1272	97403	D-12	8			D-5	36
13214E1298	97403	D-11	2	13221E7353	97403	D-4	53
13214E1299	97403	D-11	6			D-5	52
13214E1300	97403	D-11	7	13216E7554	97403	D-5	56
13214E1303	97403	D-11	1	13221E7354-1	97403	D-6	16
13214E1309-1	97403	D-9	1	13221E7354-2	97403	D-5	17
13214E1357	97403	D-4	32	13221E7356-1	97403	D-4	75
		D-5	31			D-5	74
13214E1359	97403	D-4	51	13221E7356-2	97403	D-4	77
13214E1359	97403	D-5	50			D-5	76
13214E1360	97403	D-4	52	13221E7356-3	97403	D-4	83
		D-5	51	13221E7356-3	97403	D-5	82
13214E1361	97403	D-4	15	13221E7356-4	97403	D-4	84
		D-5	15			D-5	83
13214E1362	97403	D-4	26	13221E7356-5	97403	D-4	69
		D-5	25			D-5	67
13214E1363	97403	D-4	8	13221E7356-6	97403	D-4	67
		D-5	8			D-5	65
		D-8	11	13221E7356-7	97403	D-4	68
13214E1364	97403	D-4	4			D-5	66
		D-5	4	13221E7356-8	97403	D-4	65
13214E1391	97403	D-4	31			D-5	63
		D-5	30	13221E7356-9	97403	D-4	66
13214E1409-1	97403	D-3	4			D-5	64
13214E1461	97403	D-8	1	13221E7356-10	97403	D-4	63
13214E1462	97403	D-8	2			D-5	61
13216E7547-1	97403	D-3	3	13221E7356-11	97403	D-4	64
13216E7548-1	96906	D-5	18			D-5	62
13216E7604-36	97403	D-6	19	13221E7357	97403	D-4	5
13216E7660-3	97403	D-4	78			D-5	5
		D-5	77	13221E7360	97403	D-5	1
13217E2005	97403	D-4	54	13221E7371	97403	D-4	7
		D-6	53			D-5	7
13218E5107	97403	D-4	62	13226E5889-1	97403	D-4	55
		D-5	60	13226E6296	97403	D-4	1
13218E5108	97403	D-5	88	13226E6297	97403	D-4	2
13218E5109	97403	D-4	60	13226E6301	97403	D-4	58
		D-5	58	13226E7626-2	97403	D-2	1
13218E5110-1	97403	D-3	1			D-2	2
13218E5110-2	97403	D-3	2	13226E7627-1	97403	D-4	16
13218E5111	97403	D-4	76	13226E7627-2	97403	D-4	17
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SECTION V. REFERENCE DESIGNATOR INDEX

NOT APPLICABLE

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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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

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .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

Liquid Measure

1 centiliter = 10 milliters = .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 = 264.18 gallons

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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