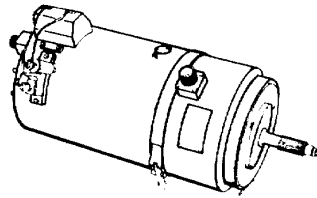


TECHNICAL MANUAL

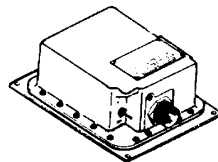
**DIRECT SUPPORT AND GENERAL SUPPORT
MAINTENANCE MANUAL
[INCLUDING REPAIR PARTS AND
SPECIAL TOOLS LISTS]**



650 AMPERE GENERATOR ASSEMBLY

**(BENDIX CORPORATION MODELS 30B95-3-B, 30B95-3-C)
(2920-00-441-8137)**

AND



VOLTAGE REGULATOR ASSEMBLY

**(BENDIX CORPORATION MODEL 24B30-3-B)
AND
(ELECTRO-TECH MODEL 1300)
(6110-00-467-4000)**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
28 OCTOBER 1985**

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothing and don't breathe vapors. Do not use near open flame or excessive heat. The flash point is 100°F - 138°F (38°C-50°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

WARNING

Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

WARNING

Refer to FM21-11 for first aid instructions.

END ITEM APPLICATION

Engines AVDS-1790-2C, AVDX X 790-2CA

Vehicles

TM No. Series

Tank, Combat, Full Tracked:105-MM Gun, M60A1 (RISE)

9-2350-257

Tank, Combat, Full Tracked:105-MM Gun, M60A3

9-2350-253

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 28 October 1985

Direct Support and General Support Maintenance Manual
(Including Repair Parts and Special Tools List)
for
650 AMPERE GENERATOR ASSEMBLY
BENDIX MODELS 30B95-3-B, 30B95-3-C
(2920-00-441-8137)
and
VOLTAGE REGULATOR ASSEMBLY
BENDIX MODEL 24B30-3-B, ELECTRO-TECH MODEL 1300
(6110-00-467-4000)

Current as of
7 January 1985

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to : Commander, US Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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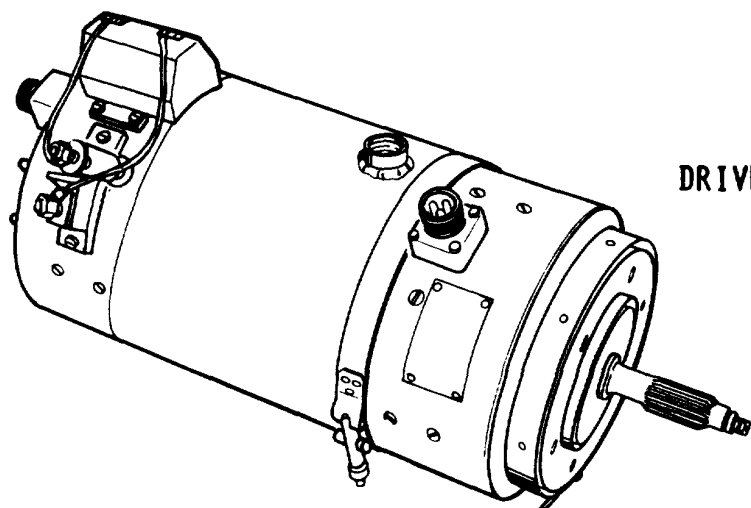
*This manual supersedes TM 9-2920-252-34&P, 15 December 1975.

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HOW TO USE THIS MANUAL

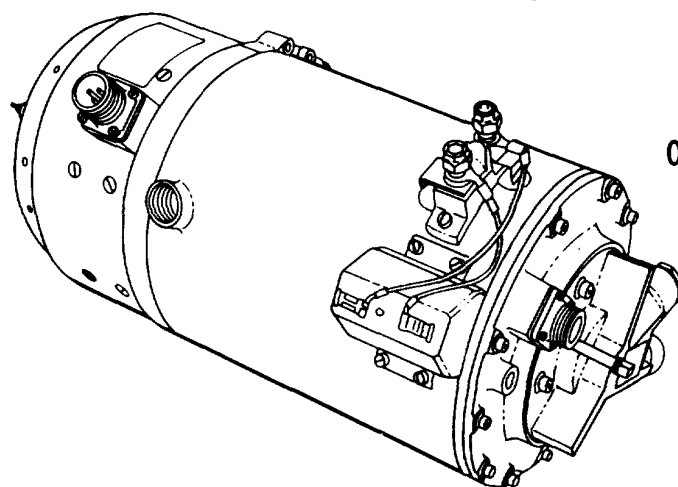
1. This technical manual describes the Direct Support (DS) and General Support (GS) maintenance and repair requirements for the Bendix 650 Ampere Generator Assembly, Models 30B95-3-B and 30B95-3-C and for the Voltage Regulator Assembly, Bendix Model 24B30-3-B or Electro-Tech Model 1300, used with it. To use the maintenance procedures in this manual properly, you must familiarize yourself with the entire procedure before beginning the maintenance task. Information in this manual is divided into three chapters, three appendixes, and an index.
2. Chapter 1 contains general introductory information and description of the characteristics, capabilities, and major components of the generator and regulator.
3. Chapter 2 lists common and special tools required to repair the generator and regulator. This chapter also contains instructions for inspecting and troubleshooting the generator and regulator.
4. Chapter 3 contains procedures for disassembly, cleaning, inspection, repair, and assembly of the generator and regulator. Lubrication instructions and testing are included in this chapter.
5. Appendix A, References, provides the listing of U.S. Army publications which apply to this manual.
6. Appendix B is the Repair Parts and Special Tools List.
7. Appendix C, Expendable Supplies and Materials, is a list of consumable material required to maintain the generator and regulator at the DS/GS level.
8. An alphabetical index is also provided at the end of this manual, and a metric conversion table is included on the inside back cover.

MODEL
30B95-3C



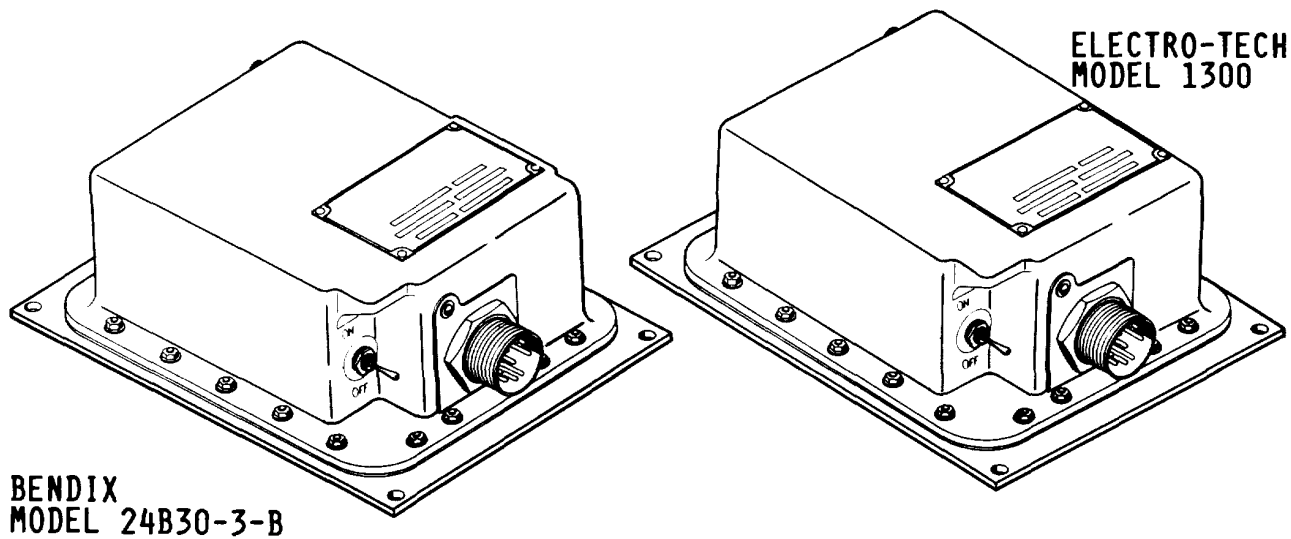
DRIVE END

MODEL
30B95-3B



OIL PUMP END

Figure 1-1. 650 Ampere Generator Assembly



BENDIX
MODEL 24B30-3-B

ELECTRO-TECH
MODEL 1300

Figure 1-2. Voltage Regulator Assemblies

CHAPTER 1

INTRODUCTION

SECTION I. GENERAL INFORMATION.

1-1. SCOPE.

a. Type of Manual. This technical manual contains instructions for Direct Support and General Support (DS/GS) maintenance of Bendix Models 30B95-3-B and 30B95-3-C Generator Assemblies, Bendix Model-24B30-3-B Regulator Assembly, and Electro-Tech Model 1300 Regulator Assembly.

b.- Equipment Identification.

(1) The two models of the 650 ampere generator appear quite similar. Model 30B95-3-C has jam nuts on the input shaft and a jam nut on the oil pump adjusting screw. Model 30B95-3-B uses a self-locking nut on the input shaft and has no jam nut on the oil pressure screw.

(2) The two regulators are outwardly different in appearance only by a slight case variation. The Bendix regulators, which have a part number 1582488-M circuit card installed, will have a serial number ending in "-M" (refer to regulator identification plate).

c. Purpose of Equipment. These generators are high current output devices which convert mechanical energy of large diesel engines into electrical power. The regulator controls the generator output.

d. Superseded Manual. This manual differs from TM 9-2920-252-34&P (Dec 1975), which it supersedes, by the addition of an updated generator (model 30B95-3-C) and an alternate regulator (model 1300).

1-2. DS/GS ALLOCATIONS.

Refer to maintenance allocation chart in TM 9-2350-258-20 for the assignment of maintenance functions.

1-3. MAINTENANCE FORMS AND RECORDS.

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

1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

If your generator or regulator assembly needs improvement, let us know. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put your comments on an SF 368 (Quality Deficiency Report). Mail it to: U.S. Army Tank and Automotive Command, ATTN: AMSTA-Q, Warren, MI 48397-5000. We'll send you a reply.

1-5. WARRANTY INFORMATION.

The generator and regulator assemblies are warranted by the manufacturers for 12 months. Warranty starts on the date found on DA Form 2410 or DA Form 2408-16 in the logbook. Report all defects in material or workmanship to your supervisor who will take the appropriate action.

SECTION II. EQUIPMENT DESCRIPTION AND DATA.

1-6. GENERATOR DESCRIPTION.

a. General. The generator is a heavy-duty, 28 volt, 650 ampere, oil cooled, brushless, direct current type (converting mechanical input energy to an alternating current which is rectified within the unit to produce a direct current output) engine accessory.

(1) The generator uses filtered oil from engine main gallery line for cooling. Oil circulation is provided by a pump integral with the generator and equipped with appropriate bypass valve to limit the oil pressure and flow.

(2) The generator is completely enclosed and waterproof. It will continue to function properly even if completely submerged in water.

NOTE

Reference numbers shown in parentheses refer to the sectional view of the generator (Figure 1-1).

b. Construction. The generator consists of six main subassemblies: drive shaft assembly (19), exciter field assembly (9), main generator field assembly (6), main generator rotor (4) and exciter rotor assembly (7), end bell assembly (1), and oil pump assembly (22).

(1) Drive shaft assembly (19) consists of a flexible drive shaft and a friction damper assembly. Flexibility is obtained with a telescoping type design.

Friction damper assembly pressure is controlled by spring (18) within the shaft assembly.

(2) The generator is designed to an eight pole configuration, with salient pole, rotating field for optimum performance. Two three-phase stator windings, separated in phase relationship by thirty electrical degrees, are each connected to a separate three phase, bridge connected rectifier assembly.

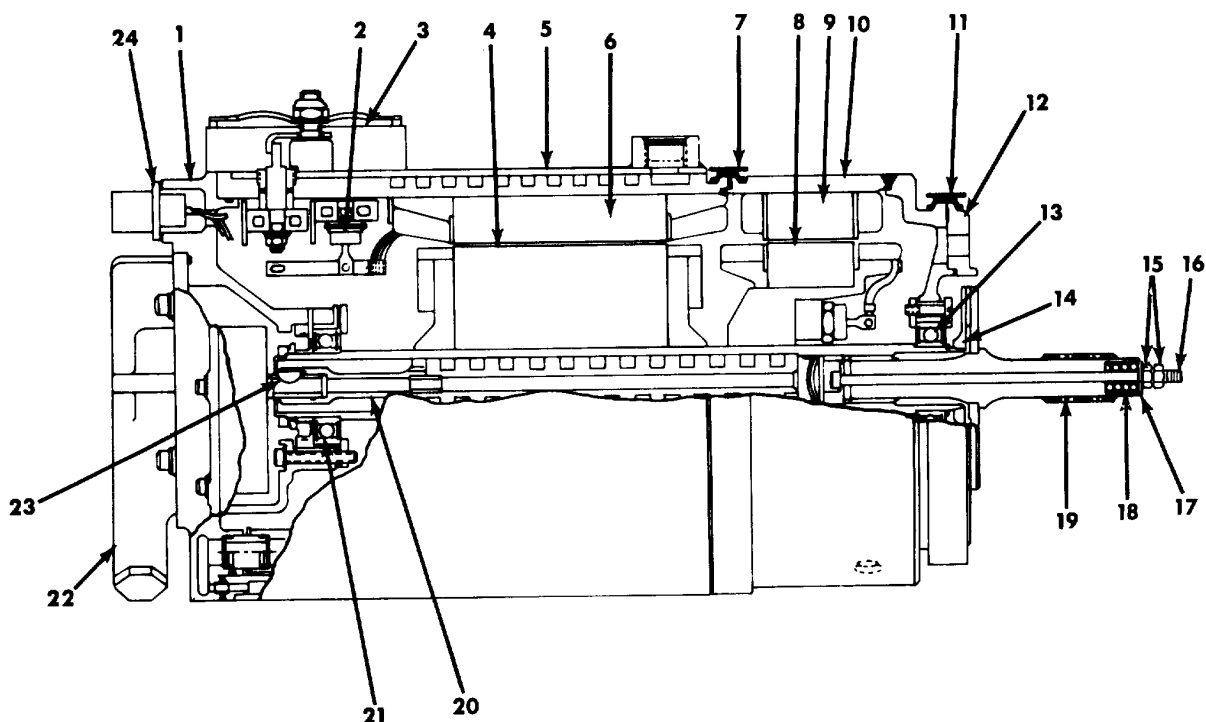
(3) The drive end and anti-drive end ball bearings (13 and 21) are sealed and permanently lubricated.

(4) The oil pump assembly (22) is located at the anti-drive end and is driven from the rotor shaft through an intermediate oil pump drive shaft (20). This intermediate shaft is driven by the rotor shaft through a telescoping spline drive. The intermediate shaft, in turn, is coupled to the input shaft of the oil pump with woodruff key (23).

1-7. VOLTAGE REGULATOR DESCRIPTION.

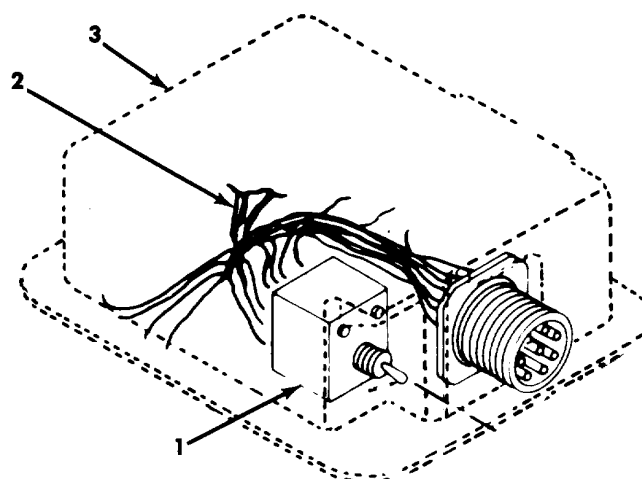
a. The voltage regulator used with this generator is transistorized and completely static except for a circuit breaker. The circuit breaker is reset manually by means of an external toggle switch type lever (Figure 1-4).

b. The regulator is completely enclosed and waterproof.



- | | | |
|---------------------------|----------------------------|---------------------------|
| 1. End bell assy | 9. Exciter field assy | 17. Flat washer |
| 2. Diode assy | 10. Exciter stator assy | 18. Spring |
| 3. EMI filter | 11. Grooved coupling clamp | 19. Drive shaft assembly |
| 4. Generator rotor | 12. Adapter plate assy | 20. Oil pump drive shaft |
| 5. Generator stator assy | 13. Ball bearing | 21. Ball bearing |
| 6. Generator field assy | 14. Front plate | 22. Oil pump assembly |
| 7. Grooved coupling clamp | 15. Jam nuts | 23. Woodruff key |
| 8. Exciter rotor | 16. Screw | 24. Electrical receptacle |

Figure 1-3. Sectional View of Generator



- | | | |
|------------------|-------------------|-------------------|
| 1. Toggle switch | 2. Wiring harness | 3. Cover assembly |
|------------------|-------------------|-------------------|

Figure 1-4. Typical Voltage Regulator

SECTION III. PRINCIPLES OF OPERATION.

1-8. GENERATOR OPERATION.

NOTE

Reference numbers shown in parentheses refer to the sectional view of the generator cooling system (Figure 1-5).

a. Cooling System. The cooling of the generator is accomplished by circulating filtered engine oil from the engine main gallery line through the generator and back to the engine oil pan. The generator oil pump, with its own bypass valve, will maintain relatively constant pressure and flow of cooling oil through the wide speed range of the generator. The oil is for cooling only, it does not lubricate the generator.

b. The engine main gallery line supplies oil to the suction side of the generator oil pump (1). The oil out of this pump is discharged into the rotor shaft center tube (2) and flows to the drive end (3) of the generator. An aluminum heat sink (4) conducts heat from the exciter

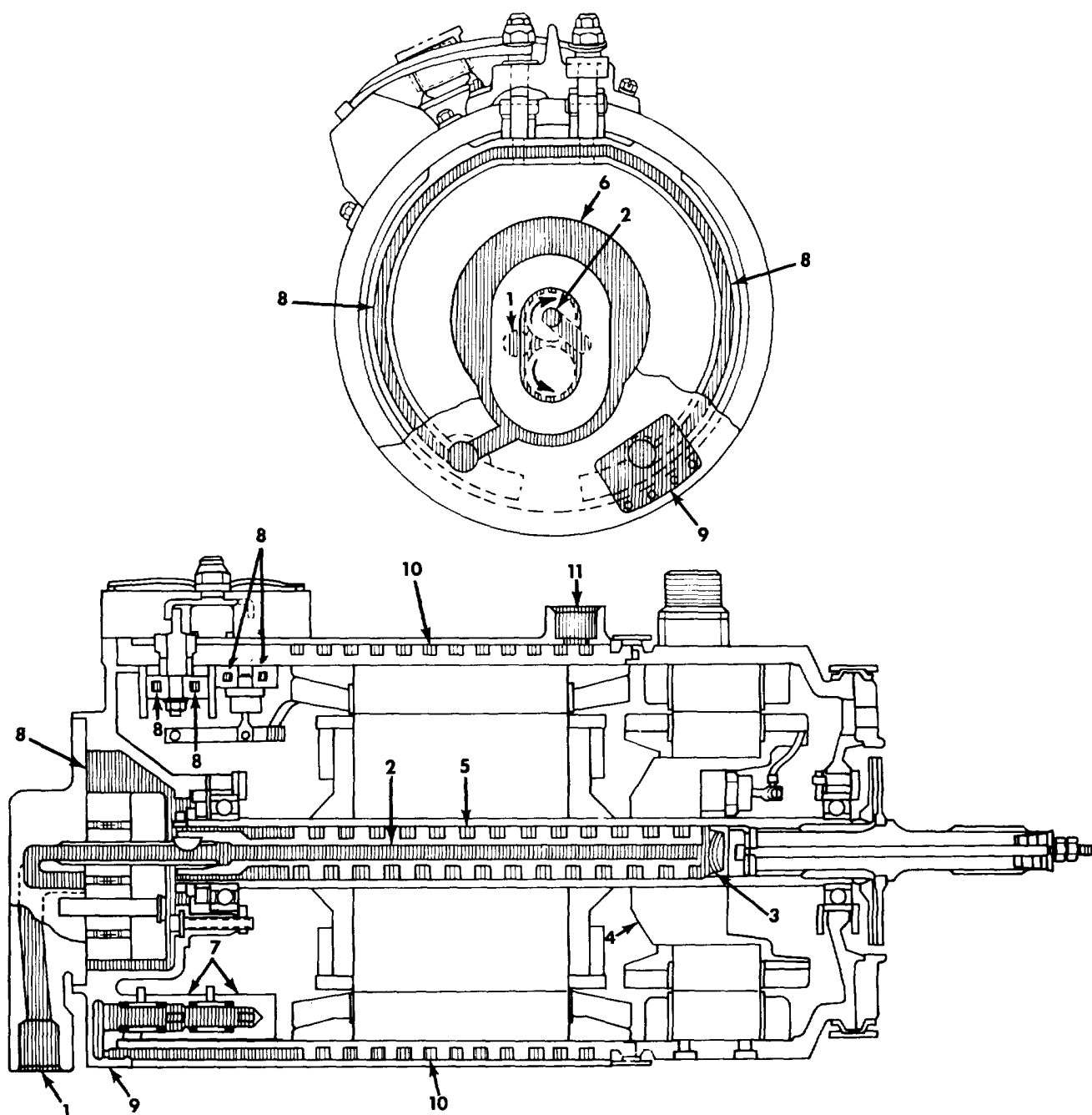
armature and exciter rotating diodes to the coolest available oil. The oil flows back through spirally cut grooves (5) in the outer shaft, collecting the main rotor heat.

c. The oil is discharged at anti drive end into passages (6) in the end bell which carry the oil to the two rectifier heat sinks (7). The rectifiers are mounted in these aluminum heat sinks, each of which contains two oil passages (8). The oil moves through the two rectifier heat sinks in parallel flow and discharges to the housing connections (9).

d. From the housing connections, oil flows through spiral machined grooves (10) in the housing collecting the main stator winding heat as it proceeds to the end of the stator and out through oil discharge port (11).

1-9. VOLTAGE REGULATOR OPERATION.

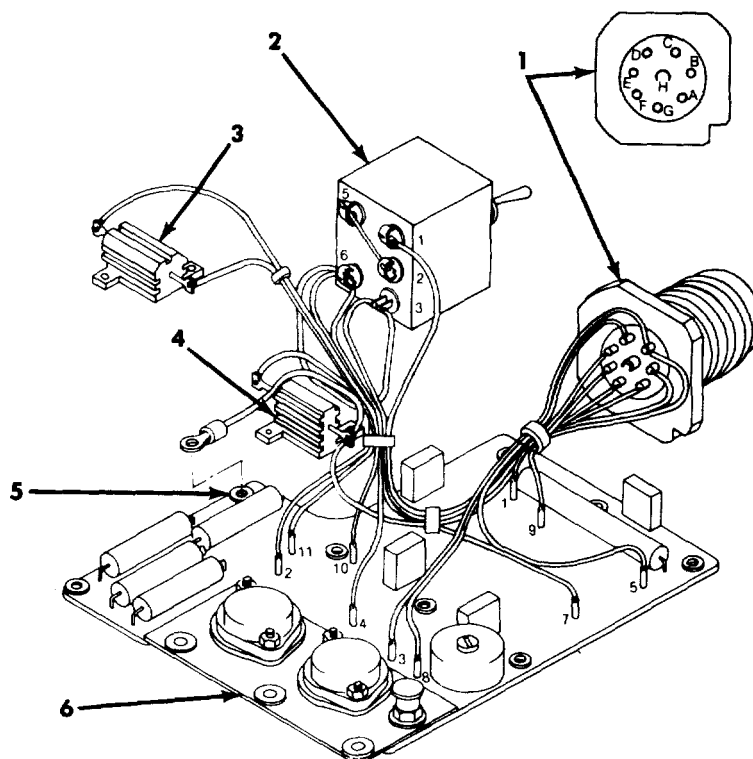
The voltage regulator provides voltage regulation, current limiting, and overvoltage protection in addition to automatic operation of a starter cut-off relay (Figure 1-6).



- | | |
|---------------------------------|-----------------------------|
| 1. Oil pump | 7. Rectifier heat sink |
| 2. Center tube | 8. Oil passages, heat sink |
| 3. Drive end, center tube | 9. Oil connection, housing |
| 4. Heat sink | 10. Spiral grooves, housing |
| 5. Spiral grooves, shaft | 11. Oil discharge port |
| 6. Oil passages, anti-drive end | |

Figure 1-5. Sectional View of Generator Cooling System

TA315003



- | | | |
|------------------|---------------------|-----------------|
| 1. Connector | 3. 117 ohm resistor | 5. Ground |
| 2. Toggle switch | 4. 150 ohm resistor | 6. Circuit card |

Figure 1-6. Typical Voltage Regulator Wiring Harness Connections.

1-10. EQUIPMENT DATA

a. Generator

Manufacturer Bendix Corporation
 Model No 30B95-3-B, 30B95-3-C
 Army Part No 11655469
 National Stock No 2920-00-441-8137
 Rating 28 Volts dc, 650 amperes
 Operating Range at
 Rated Output 2400 - 8000 rpm
 Type Oil cooled, internal diode
 Ground Polarity Negative
 Rotor Rotation Counterclockwise from
 drive end
 Control of Maximum

Output Remote voltage regulator

b. Voltage Regulator.

Manufacturer Bendix Corporation
 Model No 24B30-3-B
 Manufacturer Electro-Tech
 Model No 1300
 Army Part No 11668583
 National Stock No 6110-00-467-4000
 Rated Volts 28 dc

CHAPTER 2

MAINTENANCE INSTRUCTIONS

SECTION I. REPAIR PARTS, SPECIAL TOOLS, AND SUPPORT EQUIPMENT.

2-1. COMMON TOOLS AND EQUIPMENT.

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

NOTE

This generator cannot be operationally tested on equipment available to DS/GS maintenance because it needs a source of cooling oil when operated.

2-2. SPECIAL TOOLS.

Special tools are listed and illustrated in Appendix B of this manual.

2-3. REPAIR PARTS.

Repair parts are listed and illustrated in Appendix B of this manual.

SECTION II. TROUBLESHOOTING.**2-4. TROUBLESHOOTING.**

a. Troubleshooting by DS/GS personnel will be limited to manual checks for rotational freedom and electrical resistance checks of internal circuits.

b. Repair of the regulator by DS/GS maintenance is not authorized, so the troubleshooting is limited to electrical resistance checks which might verify suspected malfunction and identify which internal circuit is at fault.

c. Generator Rotational Freedom Check. Try to rotate the generator drive shaft by hand. The drive shaft should turn freely, but inertia of rotor (resistance due to rotor's weight) should be sensed as rotation starts or is stopped.

(1) If internal binding prevents manual rotation of drive shaft, remove oil pump assembly. (Refer to Chapter 3, Section II for disassembly instructions.)

(a) Try manual rotation of the drive shaft for the oil pump assembly, and again try manual rotation of the generator drive shaft.

(b) If binding is felt in oil pump drive shaft, install a replacement oil pump assembly. (Refer to Chapter 3, Section III for assembly instructions.)

(2) If generator drive shaft does not bind, but there is no rotor resistance, shaft may be broken. Remove drive shaft assembly. (Refer to Chapter 3, Section II for disassembly instructions.) Inspect removed parts for damage.

d. Generator Electrical Resistance Checks. Make all electrical resistance checks of generator's internal circuits shown in Table 2-1. Figure 2-1 identifies the test points listed in Table 2-1. If any resistance readings are outside of limits given in Table 2-1, generator must be repaired at the Depot level (refer to DMWR 9-2920-252).

NOTE

Circuit breaker must be closed (switch lever at ON) for resistance checks.

e. Regulator Electrical Resistance Checks. Make all electrical resistance checks of voltage regulator's internal circuit shown in Table 2-2. Figure 2-2 shows the location of regulator test points used in Table 2-2. If any resistance measurement is outside limits shown in the table, regulator must be repaired at Depot level (refer to DMWR 9-2920-252).

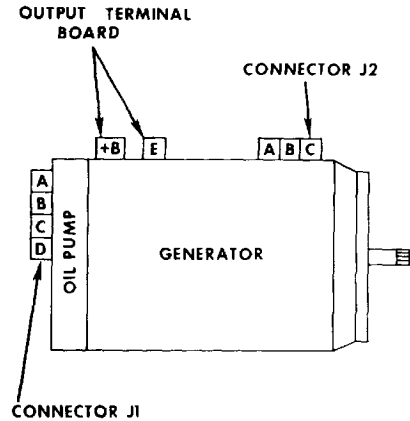


Figure 2-1. Test Points for Generator Resistance Checks

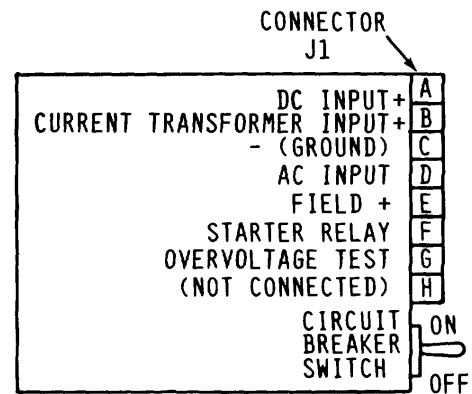


Figure 2-2. Test Points for Regulator Resistance Checks

Table 2-1. Generator Electrical Resistance Checks

Connector/Pin (+)	Resistance measured	OHMS	
		Simpson 260 series on x1 scale	
		Normal	Limits
J2/A to J2/C	Field	1.80	1.55 to 2.05
J1/B to J1/C	Current Transformer	9	8 to 10
J1/A (+) * to OTB/E (-)	AC Sensor		
* to OTB/E (+)	AC Sensor	6.5	5.0 to 8.0
J1/A (+) * to OTB/B+ (-)	AC Sensor	6.5	5.0 to 8.0
J1/A (-) * to OTB/B+ (+)	AC Sensor		
OTB/B+ (+) * to OTB/E (-)	Output Diodes		
OTB/B+ (-) * to OTB/E (+)	Output Diodes	20	16 to 24
J2/A to Generator Frame	Field Insulation		

* NOTE: Capacitor must be disconnected.

Table 2-2. Regulator Electrical Resistance Checks

Simpson 260 series		Resistance limits (ohms)			
Lead on Connector pin		Meter Scale	Bendix	Bendix "M"	Electro-Tech
+	-				
A	C	X100	300 to 400	250 to 350	750 to 850
C	A	X100	300 to 400	250 to 350	500 to 700
B	C	X1	25 to 35	25 to 40	25 to 40
C	B	X1	25 to 35	25 to 40	25 to 40
D	C	X10K	8K to 10K	10K to 20K	9000 to 12000
C	D	X10K	100K to	30K to 50K	9000 to 12000
E	C	X100	0.6K to 1.1K	0.6K to 1.1K	900 to 1100
C	E	X100	450 to 650	450 to 650	450 to 650
F	C	X100	2.5K to 5K	2.5K to 5K	3000 to 4500
C	F	X100	700 to 800	550 to 800	600 to 850
E	A	X100	0.5K to 1.7K	0.5K to 1.7K	400 to 600
A	E	X100	0.9K to 1.1K	0.8K to 1.1K	1900 to 2100
F	A	X100	2K to 5K	2K to 5K	1200 to 1400
A	F	X100	1K to 1.5K	0.9K to 1.5K	2500 to 2700
G	C	X100	300 to 400	250 to 400	500 to 650
C	G	X100	300 to 400	250 to 400	775 to 950

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CHAPTER 3

MAINTENANCE PROCEDURES

SECTION I. GENERAL.

3-1. PURPOSE.

This chapter contains DS/GS applicable instructions for general cleaning; disassembly; inspection, and repair of component parts; assembly and leak testing.

(3) Personnel requirements.

(4) Equipment condition.

3-2. APPLICATION.

All procedures in this chapter apply to both generator and both regulator configurations covered by this manual except where identified as for Model 30B95-3-B or 30B95-3-C generator.

c. Procedure. Outlines the process for performing the task in step-by-step sequence.

3-3. ORGANIZATION.

Each maintenance task described in this chapter will be organized in the following manner:

3-4. ILLUSTRATIONS.

Each illustration used to describe a procedural step will be located next to that step.

a. Task. A description of the scope of the task.

b. Initial Setup. Lists the information you will need before starting the procedure, such as:

(1) Tool requirements.

(2) Material and supplies requirements.

3-5. REMOVAL AND INSTALLATION.

Refer to TM 9-2815-220-34 for instructions covering removal and installation of the generator and regulator.

3-6. GENERAL CLEANING

Solvent (Item 1, Appendix C)
Clean rag (Item 2, Appendix C)
Tape (Item 3, Appendix C)
Crocus cloth (Item 4, Appendix C)
Hard bristle brush (Item 10, Appendix C)
Goggles (Item 11, Appendix C)
Rubber gloves (Item 12, Appendix C)

1. CLEANING. (cont.)**NOTE**

Maintain rigid cleaning standards. Keep hands free of grease or oil which would transfer dust and grit to cleaned parts.

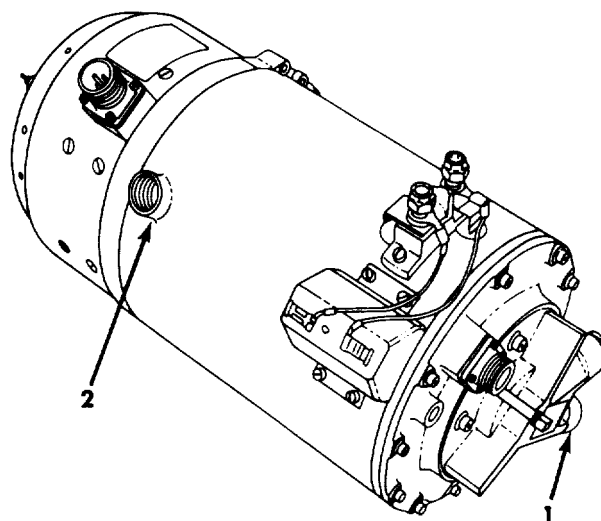
- a. Using tape, seal oil inlet port (1) and oil discharge port (2).

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothing and don't breathe vapors. Do not use near open flame or excessive heat. The flash point is 100°F 138°F (38-C 50°-C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

- Do not immerse main body of generator or the oil pump in solvent.
 - Do not use high pressure steam for cleaning.
 - Never use caustic solution, wire brush, or steel blade scraper on exterior surface of generator.
- b. Clean main body of generator and exterior of pump assembly with a clean rag moistened in cleaning solvent. Do not allow solvent to touch seals, wired terminals, or insulation.



3-6. GENERAL CLEANING (CONT)**1. CLEANING (cont)**

- c. Using a bristle brush and solvent, remove dirt, oil, and other contaminants from all exterior surfaces.
- d. Use a clean rag moistened with solvent to clean hard to reach areas.

WARNING

Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

- e. Blow cleaned surfaces dry with compressed air.
- f. Cleaning Instructions for Components.
 - (1) Attaching parts, removed shafts, adapter plate, and other metallic parts may be immersed in solvent, then scrubbed with a brush or rag.
 - (2) Clean residue of sealing compound from attaching hardware and from threads in tapped holes (chase with correct size tap).

SECTION II. DISASSEMBLY.

3-7. DISASSEMBLY OF THE GENERATOR.

INITIAL SETUPTools:

General mechanic's tool kit:

Automotive - 5180-00-177-7033

Tap and die set - 5180-00-177-7033

Solder gun - 3439-00-618-6623

Soft-faced hammer - 5120-00-903-8555

(holder) 5120-00-596-1071 and

5120-00-596-1075 (faces)

Micrometer (0-1") - 5120-00-540-2973

Micrometer (2-3") - 5120-00-221-1945

Telescope gage set - 5120-00-473-9350

Dial indicator - 5210-00-223-9648

Spring tester - 6635-00-641-7346

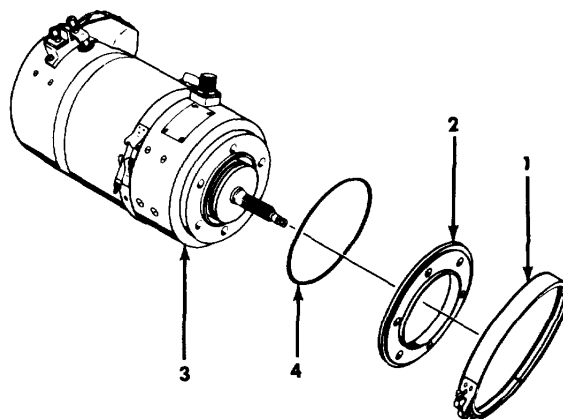
Equipment Condition:

Generator on workbench

NOTE**Inspect all bolts, screws, and nuts, for worn or damaged threads. Replace if defective.**

3-7. DISASSEMBLY (CONT)**1. DRIVE END ADAPTER PLATE.**

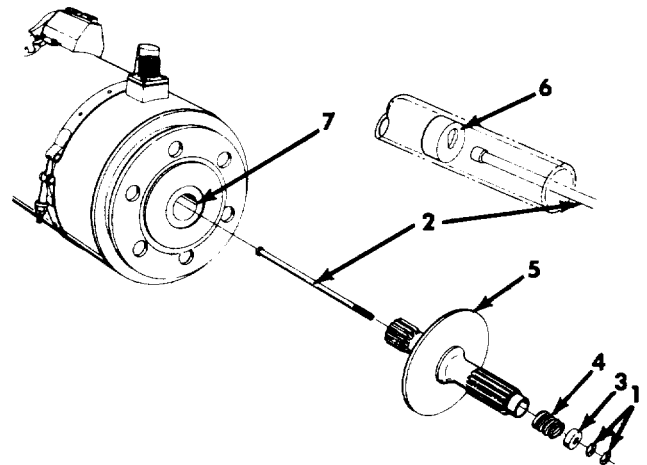
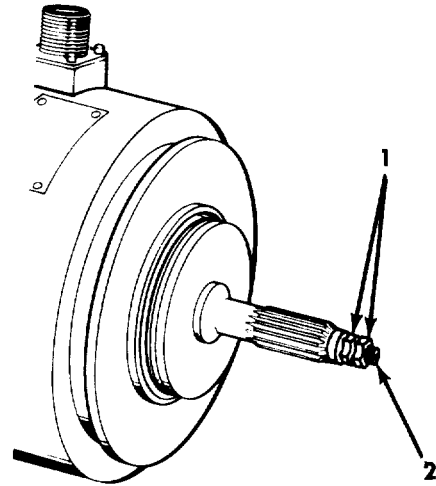
- a. Remove drive end adapter plate coupling clamp (1).
- b. Check clamp for deformation or broken welds. Replace if defective.
- c. Remove adapter plate (2) from exciter stator (3).
- d. Remove and discard gasket (4) from groove in inner face of adapter plate (2).
- e. Check sealing surface of adapter plate for any scratches that would prevent sealing.



3-7. DISASSEMBLY (CONT)

2. DRIVE SHAFT ASSEMBLY.

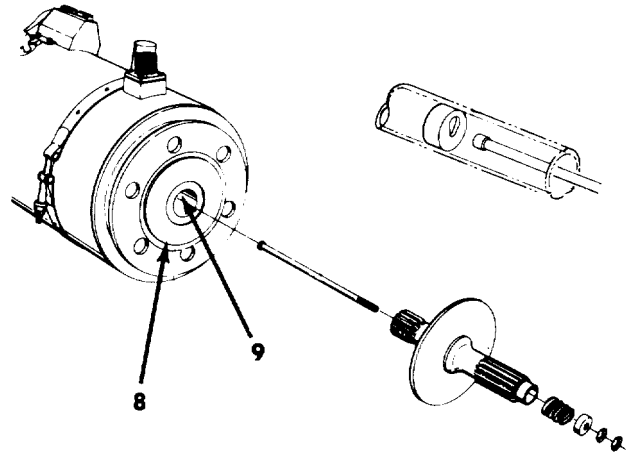
- a. Model 30B95-3-C (Shown). Hold inner nut (1) with one wrench and loosen outer nut (1) with second wrench. Hold drive shaft retainer screw (2) with screwdriver as necessary while removing nuts (1).
- b. Model 30B95-3-B. Hold drive shaft retainer screw (2) with screwdriver while removing self-locking nut (1). Discard nut.
- c. Remove special washer (3) and spring (4).
- d. Inspect spring for cracks and distortion.
- e. Load required to compress the spring to a length of 0.625 inch shall be between 135 to 165 lb-ft (182 to 223 N•m).
- f. Remove drive shaft assembly (5).
- g. head of retainer screw (2) from keyhole (6) and remove from rotor bore (7).
- h. Check drive shaft retainer screw for straightness and damage to screwdriver slot in threaded end. Replace if defective.
- i. Check drive shaft for smooth inner face.
- j. Heresite coating on inner and outer faces of drive shaft assembly must not be damaged.
- k. Check splines for chips, gouges, galling, burs, and excessive wear. Replace if defective.
- l. Check spline wear must not exceed 22.5 degrees rotation when installed in mating spline.



TA315008

3-7. DISASSEMBLY (CONT)**2. DRIVE SHAFT ASSEMBLY (cont)**

- m. Remove shaft retaining plate (8) from end of rotor shaft. Tap plate lightly with a soft-faced mallet, if necessary, to unseat mated tapers of plate on rotor shaft (9).
- n. Plate must show no looseness on shaft and runout of plate must not exceed 0.0020 inch.



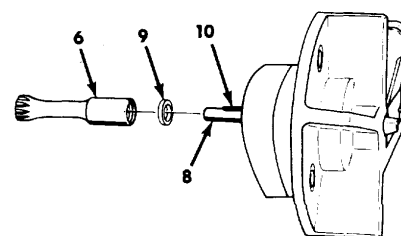
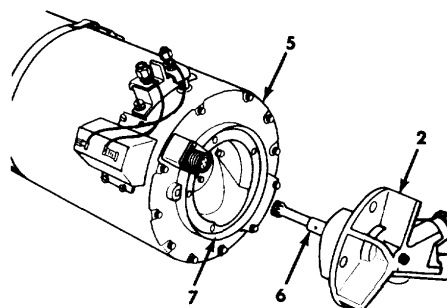
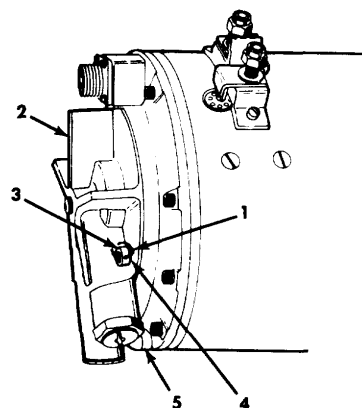
TA315009

3-7. DISASSEMBLY (CONT)

3. OIL PUMP ASSEMBLY.**CAUTION**

Do not disturb setting of oil pressure adjusting screw in oil pump assembly. If generator is received with lockwire broken, oil pump assembly must be replaced. Pump flow calibration can be accomplished only at Depot level (refer to DMWR 9-2920-252).

- a. Cut lockwire (1) and remove from pump (2) attaching socket head screws (3). Discard lockwire.
- b. Remove four socket head screws (3) and packings with retainers (4) from oil pump assembly (2) and retaining plate (5). Discard packings.
- c. Remove oil pump assembly (2) with oil pump drive shaft (6).
- d. Remove preformed packing (7) from groove in retaining plate (5). Discard packing.
- e. Remove oil pump drive shaft (6) from oil pump shaft (8).
- f. Remove preformed packing (9) from internal groove in bore of drive shaft (6). Discard packing.
- g. Remove key (10) from oil pump shaft (8).



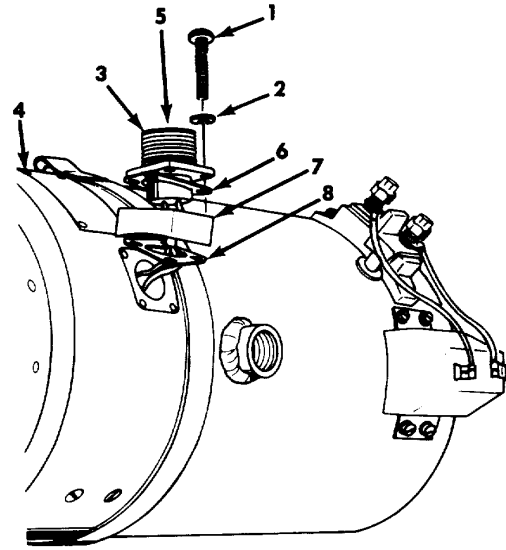
TA315010

3-7. DISASSEMBLY (CONT)**3. OIL PUMP ASSEMBLY (cont)**

- h. Rotate pump shaft to check for internal damage or binding.
- i. Check that lockwire, which secures pressure adjustment screw, is not broken or missing.
- j. Check key slot in pump drive shaft for damage.
- k. Outside diameter of pump drive shaft must not be worn to less than 0.4373 inch.
- l. Check for any loose screws.
- m. Look for damage to supply port.
- n. Check pump drive shaft for straightness.
- o. Check internal keyway width; it must not exceed 0.0970 inch.
- p. Inside diameter of drive shaft must be smooth and must not exceed 0.444 inch.

3-7. DISASSEMBLY (CONT)**4. CONNECTOR J2.**

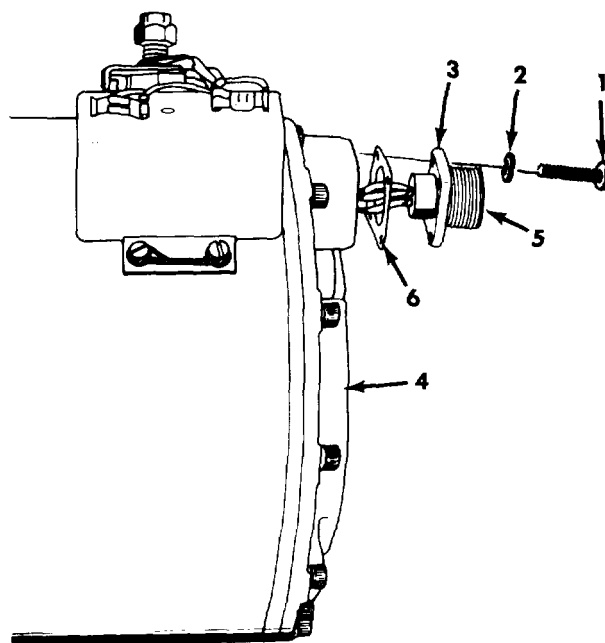
- a. Remove four screws (1) and washers (2).
- b. Pull connector (3) away from exciter stator (4).
- c. If pins (5) are damaged, unsolder each wire at connector (3). Remove connector. If there is no damage to the pins, push pins out of connector using a small punch.
- d. Remove and discard connector gasket (6).
- e. Remove connector retainer (7).
- f. Remove and discard adapter gasket (8).
- g. Inspect connector for damaged threads.
- h. Check for damaged contacts and inserts.



TA315011

3-7. DISASSEMBLY (CONT)**5. ELECTRICAL RECEPTACLE J1.**

- a. Remove four screws (1) and washers (2).
- b. Pull connector (3) away from end cover (4).
- c. If pins (5) are damaged, unsolder each wire at connector (3). Remove connector. If there is no damage to the pins, push pins out of connector using a small punch.
- d. Remove and discard connector gasket (6).
- e. Inspect electrical receptacle for damaged threads.
- f. Check for damaged contacts and inserts.



SECTION III. INSPECTION AND REPAIR.

3-8. INSPECTION OF VOLTAGE REGULATOR.

INITIAL SETUP

Tools:

Magnifying glass - 6650-00-252-6250
 Extension light - 6230-00-729-9259
 File, fine mill - 5110-00-234-6537

Materials/Parts:

Solvent (Item 1, Appendix C)
 Crocus cloth (Item 4, Appendix C)

Equipment Condition:

Regulator on workbench

REGULATOR BASE AND COVER.**NOTE**

When inspecting for cracks, use an extension light and magnifying glass.

1. Check regulator base and cover for cracks.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothing and don't breathe vapors. Do not use near open flame or excessive heat. The flash point is 100°F 138°F (38°C 50°C). If

you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

2. Raised metal on mounting face may be removed with a fine mill file or crocus cloth moistened in solvent.
3. Inspect connector for damaged threads, contacts or inserts.
4. Check security of the screws which attach connector and those attaching base to cover.
5. Actuate switch lever of circuit breaker; you should feel detent positions.

3-9. REPAIR

Repair, other than removal of raised metal as directed in inspection procedures, is not authorized for voltage regulator or for components of the generator. Replace regulator or generator parts found to have defects.

SECTION IV. ASSEMBLY AND LEAK TESTING.

3-10. ASSEMBLY OF THE GENERATOR COMPONENTS.

INITIAL SETUP

Tools:

General mechanic's tool kit:

Automotive - 5180-00-177-7033

Packing installing tool -

5120-01-020-2099

Soldering gun - 3439-00-618-6623

Test set, generator -

4910-00-092-9136

Torque Wrench (0-600 lb-in)

5120-00-221-7983

Materials/Parts:

Sealant (Item 5, Appendix C)

Solder (Item 6, Appendix C)

Grease (Item 7, Appendix C)

Lockwire

Packings

Locknuts

Gaskets

Equipment Condition:

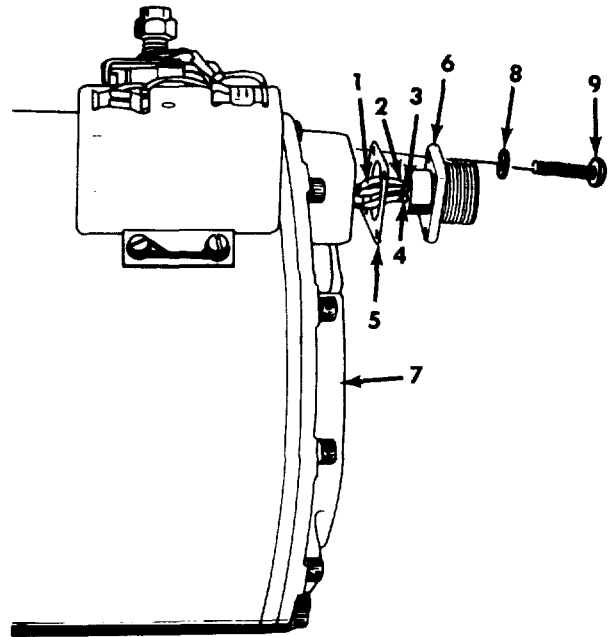
Generator components on workbench

NOTE

All soldering will be done in accordance with specification MIL-S-6872.

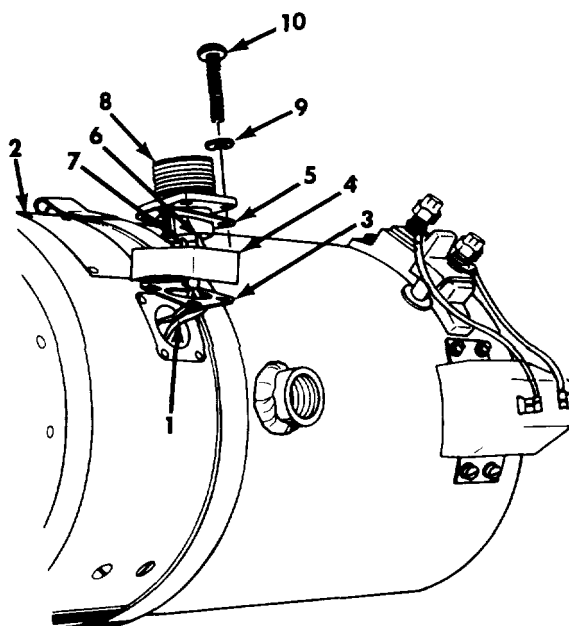
3-10. ASSEMBLY (CONT)**1. RECEPTACLE J1.**

- a. Thread AC output and current transformer wires (1) [oil pump end of generator main assembly] through new gasket.
- b. Solder wires at respective terminals A (2), B (3), and C (4) [no connection to D].
- c. Position gasket (5) and receptacle (6) against generator end bell (7). Install four washers (8) and screws (9). Torque to 3.5-4.5 lb-in [0.4 to 0.5 N•m].
- d. Using a test set, perform dielectric check by applying 250 VAC for one minute between receptacle terminals and generator housing. There shall be no insulation breakdown.



3-10. ASSEMBLY (CONT)**2. CONNECTOR J2.**

- a. Thread two exciter field wires (1) of generator main assembly (2) through new gasket (3), connector adapter (4), and second new gasket (5).
- b. Solder wires (1) at respective terminals A (6) and C (7) [no connection to B].
- c. Apply RTV sealer to screw threads. Position gaskets (3) and (5), adapter (4), and connector (8) against generator housing (2). Install four washers (9) and screws (10). Torque to 3.5-4.5 lb-in [0.4 to 0.5 N•m].
- d. Using a test set, perform dielectric check by applying 250 VAC for one minute between the connector terminals and generator housing. There shall be no insulation breakdown.



TA315014

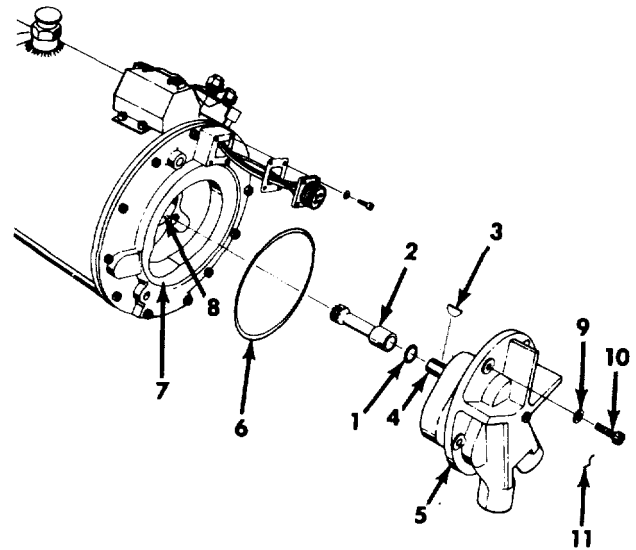
3-10. ASSEMBLY (CONT)**3. OIL PUMP ASSEMBLY.**

- a. Using packing installing tool seat new preformed packing (1) in internal groove of oil pump drive shaft (2).
- b. Install key (3) into groove in input shaft (4) of oil pump assembly (5).
- c. Slide oil pump drive shaft (2) onto input shaft (4) of oil pump assembly (5), aligned so that key (3) engages keyway in drive shaft.
- d. Apply a light film of grease to spline of oil pump drive shaft (2).
- e. Install new preformed packing (6) into groove in mounting face of generator end bell (7).

CAUTION

Use extreme care when installing oil pump assembly to avoid damage to oil pump, generator end bell, and oil transfer tube in generator rotor shaft.

- f. Put oil pump assembly (5) into position on generator end bell (7), making sure drive shaft (2) slides over oil transfer tube (8) in rotor bore and splines engage. It may be necessary to rotate pump assembly slightly to align splines for engagement.
- g. Put new packing with retainer (9) on each of four screws (10) and install screws to attach oil pump assembly (5) to generator end bell (7). Torque screws to 75-100 lb-in [8.5 to 11.3 N•m].
- h. Install lockwire (11) to secure attaching screws (10) for oil pump assembly (5).

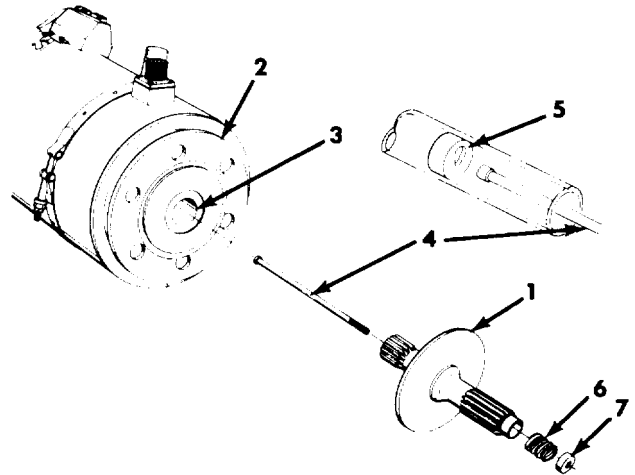


3-10. ASSEMBLY (CONT)**4. GENERATOR DRIVE SHAFT.**

- a. Apply a light film of grease to short spline of drive shaft assembly (1).
- b. Put shaft retaining plate (2) in position on rotor shaft (3).

Engage head of shaft retainer screw (4) in keyhole (5) in rotor bore of generator.

- c. Hold retainer screw (4) engaged while sliding drive shaft assembly (1) onto screw (4). Alinement of drive shaft with rotor bore will keep screw in narrow part of keyhole even though screw may move into rotor slightly until bottomed.
- d. Rotate drive shaft (1) as necessary for alinement of splines as shaft is moved fully into position.
- e. Install drive shaft pressure spring (6) and special washer (7) onto outer end of the retainer screw (4).



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3-10. ASSEMBLY (CONT)**4. GENERATOR DRIVE SHAFT (cont)**

- f. Prevent rotation of retainer screw (4) with a screwdriver while installing:

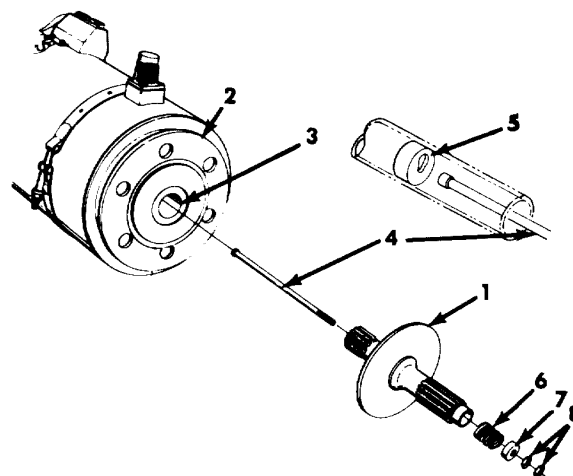
(1) Self-locking nut generator model 30B95-3-B.

-or

(2) Two plain nuts (8) generator model 30B95-3-C [shown].

The self-locking nut or inner plain nut must be tightened until about half the thickness of special washer remains outside (3/32 inch still shows) end of drive shaft.

- g. Generator model 30B95-3-C - torque outer plain nut against inner plain nut to 15-20 lb-in [1.7 to 2.3 N•m].

**NOTE**

Adapter plate and clamp which secure it to housing will be installed during packaging of generator. Paragraph 3-11 describes general procedure.

TA315017

3-11. LEAK TEST OF GENERATOR.

INITIAL SETUPEquipment:

Leak test fixture

Tools:

General mechanic's tool kit:

Automotive - 5180-00-177-7033

Materials/Parts:Detergent (Item 8, Appendix C)
and water solution

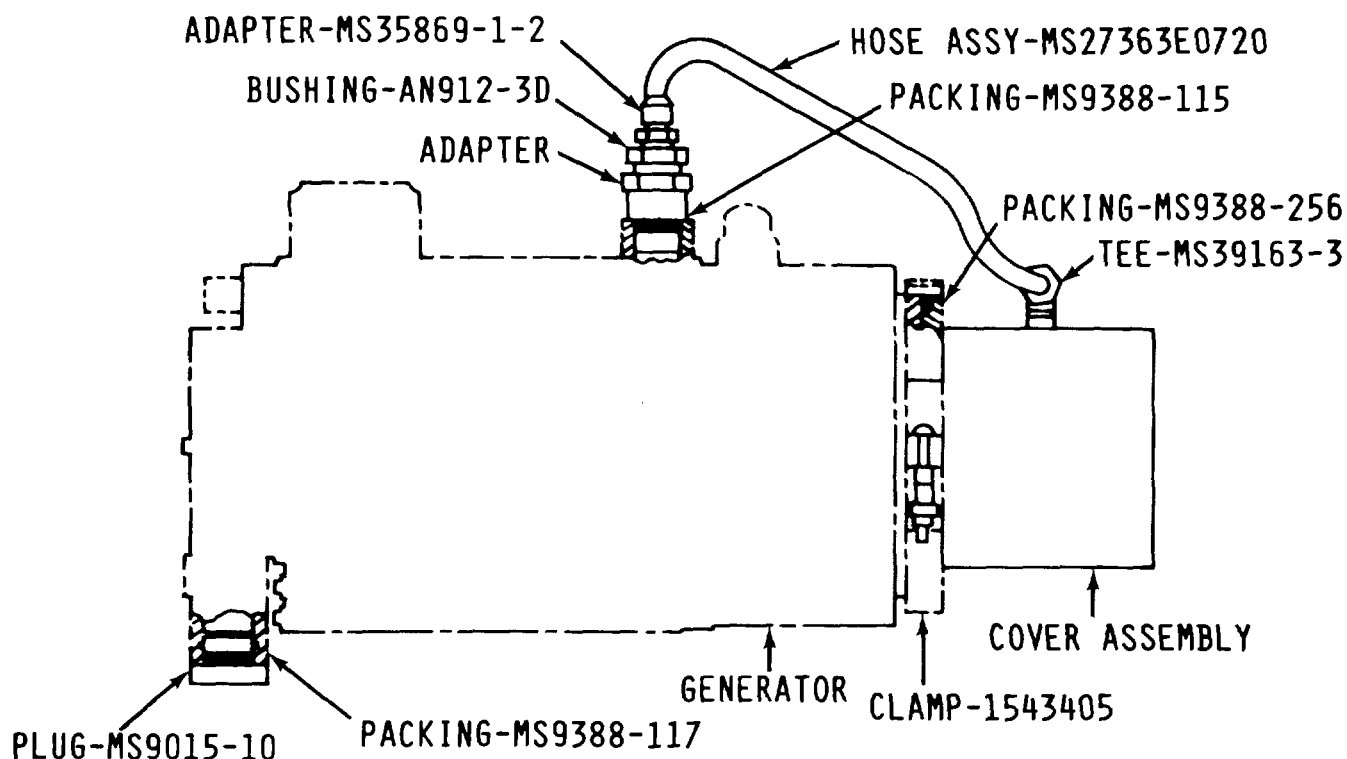
Gasket

Equipment Condition:Generator fully assembled with
new seals except for adapter
plate and clamp.

3-11. LEAK TEST OF GENERATOR (CONT)

1. LEAK TEST SETUP.

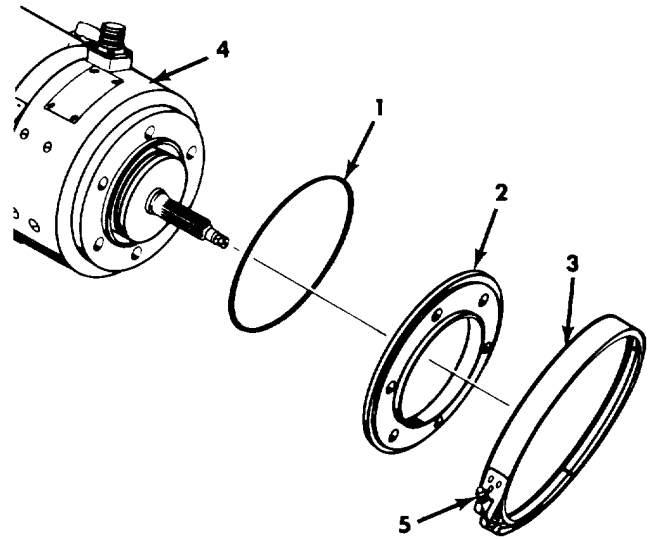
- a. Install cover of test fixture with preformed packing and secure in place with clamp.
- b. Install plug and preformed packing in oil pump supply port.
- c. Install fittings with preformed packing into oil outlet port, and connect tubing between fittings and tee on cover.
- d. Close-connect a measured chamber of approximately one cubic foot with a 0-10 psi pressure gage and a shut-off valve at its input to remaining port of tee on fixture cover.
- e. Pressurize generator and chamber with dry air to 10 psi.
- f. Close chamber shut-off valve and begin timing a two-minute interval.
- g. At end of two-minute interval, note loss of pressure. If loss of pressure does not exceed 3 psi, the waterproofness of generator is acceptable.
- h. Use soap solution applied to seal areas of generator while pressurized to 10 psi to locate any source of excessive leakage.
- i. If source of excessive leakage is a sealed area that is authorized for DS/GS maintenance, disassemble and re-assemble with new seals as applicable. Perform leak tests again.



3-11. LEAK TEST OF GENERATOR (CONT)**2. INSTALLATION OF ADAPTER PLATE.****NOTE**

Adapter plate will usually be mounted to engine (for generator installation) or to packaging disk (for storage).

- a. Install new gasket(1)into groove in inner face of adapter plate (2).
- b. Loosen coupling clamp (3) as necessary and slide into generator housing (4).
- c. Position end of generator housing (4) against adapter plate (2) and move coupling clamp (3) into position. Tighten clamp by turning nut (5) to torque stamped on the outer band of the clamp.



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APPENDIX A**REFERENCES**

SECTION I. GENERAL INFORMATION.**A-1. PURPOSE.**

This appendix is a reference list of Army publications which pertain to the operation and maintenance of the vehicle/weapons systems incorporating 650 Ampere Generator Assembly, Bendix Models 30B95-3-B, 30B95-3-C and Voltage Regulator Assembly, Bendix Model 24B30-3-B and Electro-Tech Model 1300.

A-2. ARRANGEMENT OF LISTINGS.

The document listings in each portion of this appendix are arranged in numerical order by publication number.

A-3. REQUISITIONING OF PUBLICATIONS.

Copies of the publications referenced in this appendix, which are required in the performance of your mission, may be requisitioned from Commander, U.S. Army AG Publications Center, 1655 Woodson Road, St. Louis, MO 63144.

SECTION II. TECHNICAL AND REFERENCE DOCUMENTS.

A-4. STANDARD FORMS.

DA Form 2028-2 Recommended Changes to
Equipment Technical Manuals

SF368Quality Deficiency Report

A-5. MILITARY STANDARD DRAWINGS.

MS33537 Insert, Screw Thread, Helical
Coil, Coarse and Fine Thread,
Standard Dimensions for

A-6. TECHNICAL MANUALS.

TM 9-2350-253-10 Operator's Manual, Tank
Combat, Full Tracked: 105 MM
Gun, M60A3

TM 9-2350-257-10 Operator's Manual, Tank
Combat, Full Tracked: 105 MM
Gun, M60A1 (RISE)

TM 9-2350-215-20-1-4 Organizational Maintenance,
Tank Combat, Full-Tracked:
105 MM Gun, M60A1 and
M60A1/A0S (Hull)

TM 9-247 Materials Used for Cleaning,
Preserving, Abrading, and
Cementing Ordnance Materiel

TM 9-2815-220-34 Direct Support and General
Support Maintenance Manual
for Engine with Container:
Turbosupercharged, Diesel,
Fuel Injection, 90° "V" Type,
Air-Cooled, 12 Cylinder,
Assembly; Models AVDS-
1790-2C, AVDS-1790-2CA,
AVDS-1790-2D, AVDS-1790-2DA,
and AVDS-17902DR

A-6. TECHNICAL MANUALS (CONT)

TM 9-2815-220-34P	Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) Engine with Container: Turbosupercharged, Diesel, Fuel Injection, 90° "V" Type, Air-Cooled, 12 Cylinder, Assembly: Models AVDS-1790-2C, AVDS-1790-2CA, AVDS-1790-2D, AVDS-1790-2DA, and AVDS-1790-2DR
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A-7. SUPPLY CATALOGS.

SC 4910-95-CL-A31	Shop Equipment, Maintenance and Repair: Automotive
SC 4910-95-CL-A63	Shop Equipment, Maintenance and Repair: Automotive
SC 5180-90-CL-N26	Tool Kit, General Mechanic's: Automotive

A-8. PUBLICATION INDEXES.

The following indexes should be consulted frequently for the latest changes or revisions to references given in the appendix and for new publications relating to the material covered in this Technical Manual.

DA Pam 310-1	Consolidated Index of Army Publications and Blank Forms
DA Pam 738-750.....	The Army Maintenance Management System (TAMMS)

APPENDIX B

REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION.

B-1. SCOPE.

This appendix lists repair parts and special tools required for the direct and general support maintenance of the 650 Ampere Generator Assembly, Bendix Models 30B95-3-B and 30B95-3-C, and the Voltage Regulator Assembly, Bendix Model 24B30-3-B and Electro-Tech Model 1300. It authorizes the requisitioning and issue of repair parts as indicated by the source and maintenance codes.

<u>Model Numbers</u>	<u>Engine Applications</u>
Generator 30B95-3-B, 30B95-3-C	AVDS-1790-2C AVDS-1790-2CA
Regulator 24B30-3-B, 1300	

B-2. GENERAL.

This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of repair parts authorized for use in the performance of maintenance. The list also includes parts which must be removed for replacement of authorized parts. Parts lists are composed of functional groups in numeric sequence, with the parts in each group listed in figure and item number sequence.

b. Section III. Special Tools List. No special tools are required.

c. Section IV. National Stock Number and Part Number Index. A list, in National item identification

number (NIIN) (last nine numerals) sequence, of all national stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

B-3. EXPLANATION OF COLUMNS.

a. Illustration. 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. The number used to identify items called out in the illustration.

b. Source, Maintenance, and Recoverability (SMR) Codes.

(1) Source Code. Source codes 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 as follows:

<u>Code</u>	<u>Definition</u>
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purpose because essentially dictates that a minimum quantity be available in the supply system.
PC	Item procured and stocked which otherwise would be coded PA except that it is deteriorative in nature.

REPAIR PARTS AND SPECIAL TOOLS LIST (CONT)

<u>Code</u>	<u>Definition</u>		
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.	MH	Item to be manufactured or fabricated at the general support maintenance level.
		MD	Item to be manufactured or fabricated at the depot maintenance level.
PE	Support equipment procured and stocked for initial issue or outfitting to specified maintenance repair activities.	AO	Item to be assembled at organizational level.
PF	Support equipment which will not be stocked but which will be centrally procured on demand.	AF	Item to be assembled at the direct support maintenance level.
		AH	Item to be assembled at the general support maintenance level.
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.	AD	Item to be assembled at the depot maintenance level.
		XA	Item not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
KD	An item of a 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.	XB	Item not procured or stocked. If not available through salvage, requisition.
		XC	Installation drawing, diagram, instruction sheet, or field service drawing, that is identified by manufacturer's part number.
KF	An item of a maintenance kit and not purchased separately. Maintenance kit defined as a kit that provides an item that can be replaced at organizational or intermediate levels of maintenance.	XD	A support item that is not stocked. When required, item will be procured through normal supply channels.
KB	Item included in both a depot overhaul/repair kit and a maintenance kit.		
MO	Item to be manufactured or fabricated at organizational level.		
MF	Item to be manufactured or fabricated at the direct support level.		

NOTE

Cannibalization or salvage may be used as a source of supply for any items coded above except those coded XA.

REPAIR PARTS AND SPECIAL TOOLS LIST (CONT)

(2) Maintenance Code. Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support item. The maintenance codes are entered in the third and fourth positions of the uniform SMR Code as follows:

(a) The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance.

<u>Code</u>	<u>Application/Explanation</u>
C	Crew or operator maintenance performed within organizational maintenance.
O	Support item is removed, replaced, used at the organizational level.
F	Support item is removed, replaced, used at the direct support level.
H	Support item is removed, replaced, used at the general support level.
D	Support items that are removed, replaced, used at depot, mobile depot, or specialized repair activity only.

(b) 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 the complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

<u>Code</u>	<u>Application/Explanation</u>
O	The lowest maintenance level capable of complete repair of the support item is the organizational level.
F	The lowest maintenance level capable of complete repair of the support item is the direct support level.
H	The lowest maintenance level capable of complete repair of the support item is the general support level.
D	The lowest maintenance level capable of complete repair of the support item is the depot level.
L	Repair restricted to (enter applicable designated specialized repair activity), 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) Recoverability Code. 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 as follows:

<u>Recoverability Codes</u>	<u>Definition</u>
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.

REPAIR PARTS AND SPECIAL TOOLS LIST (CONT)

Recover-

ability

CodesDefinition

O	Reparable item. When uneconomically reparable, condemn and dispose at the organizational level.
F	Reparable item. When uneconomically reparable, condemn and dispose at the direct support level.
H	Reparable item. When uneconomically reparable, condemn and dispose at the general support level.
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 procedures 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. National Stock Number. Indicates the National Stock Number assigned to the item and which will be used for requisitioning.

d. Part Number. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the

design and characteristics of the B-4 item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When a stock numbered item is requisitioned, item received may have a different part number than the part being replaced.

e. Federal Supply Code for Manufacturer (FSCM). The FSCM is a 5-digit numeric code listed in SB 708-42 which is used to identify the manufacturer, distributor, or Government agency, etc.

f. Description. Indicates the Federal item name and, if required, a minimum description to identify the item. 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. When the part to be used differs between serial numbers of the same model, the effective serial numbers are shown as the last line of the description. In the Special Tools List, the initial basis of issue (BOI) appears as the last line in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased accordingly.

g. Unit of Measure (U/M). 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.

REPAIR PARTS AND SPECIAL TOOLS LIST (CONT)

h. Quantity Incorporated in Unit. Indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, a subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable, (e.g., shims, spacers, etc.).

B-4. SPECIAL INFORMATION.

a. Repair Parts Kits. Repair parts kits appear as the last entries in the repair parts listing for the figure in which its parts are listed as repair parts.

b. Special Tool Sets. Special tool sets are stocked for initial issue. Tool set components are requisitioned as individual items. Stockage of tools that are duplicated in tool sets for other vehicles assigned or supported are not required beyond actual need.

B-5. HOW TO LOCATE PARTS.

a. When National Stock Number or Part Number is Unknown:

(1) First. Find the illustration for the configuration of the generator assembly being repaired.

(2) Second. Identify part on the illustration and note illustration number and item number for the part.

(3) Third. Using the repair parts listing for the illustration, find the item number.

b. When National Stock Number or Part Number is Known.

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers in alphanumeric sequence, cross referenced to the illustration figure number and item number.

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

SECTION II. REPAIR PARTS LIST.

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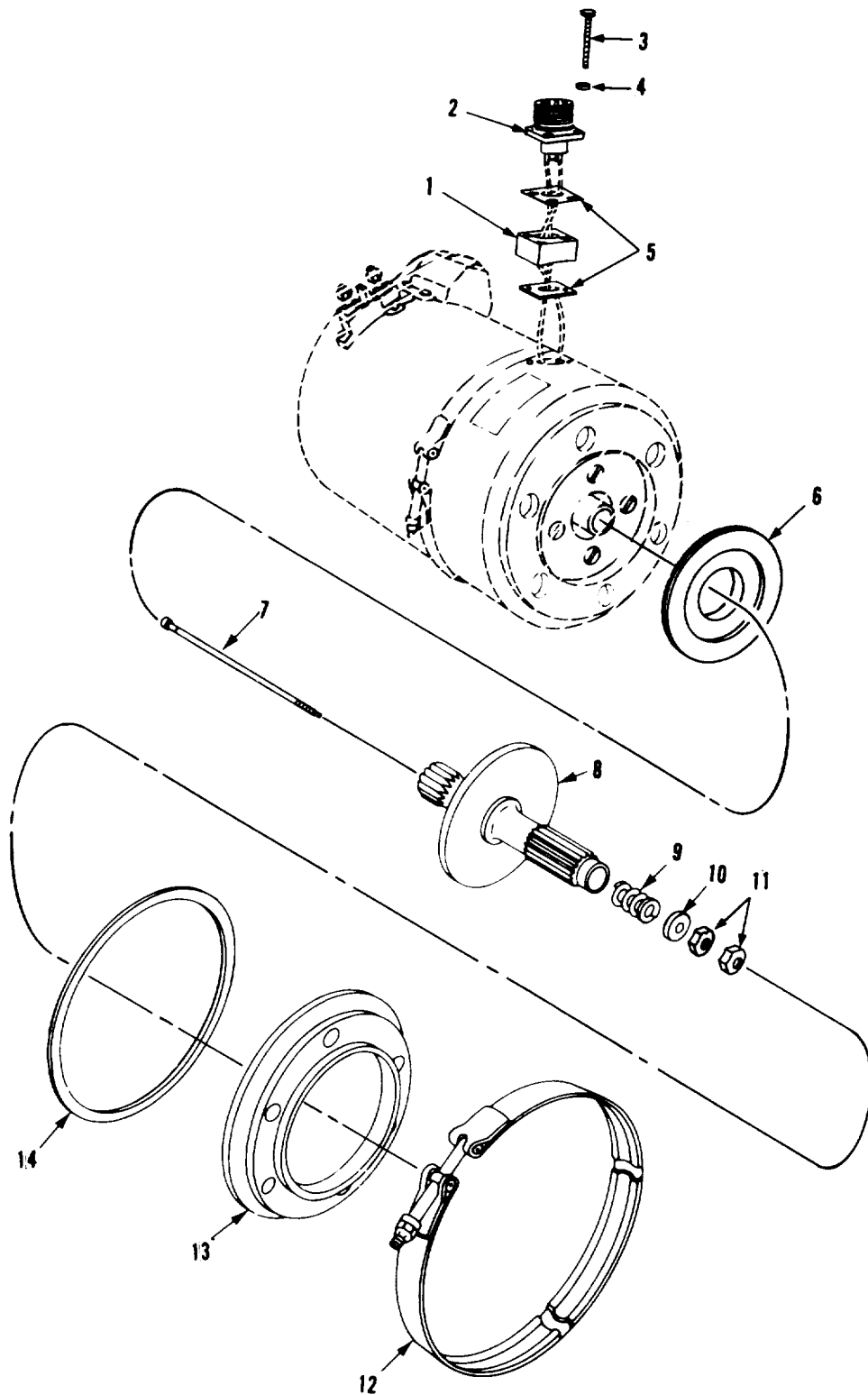
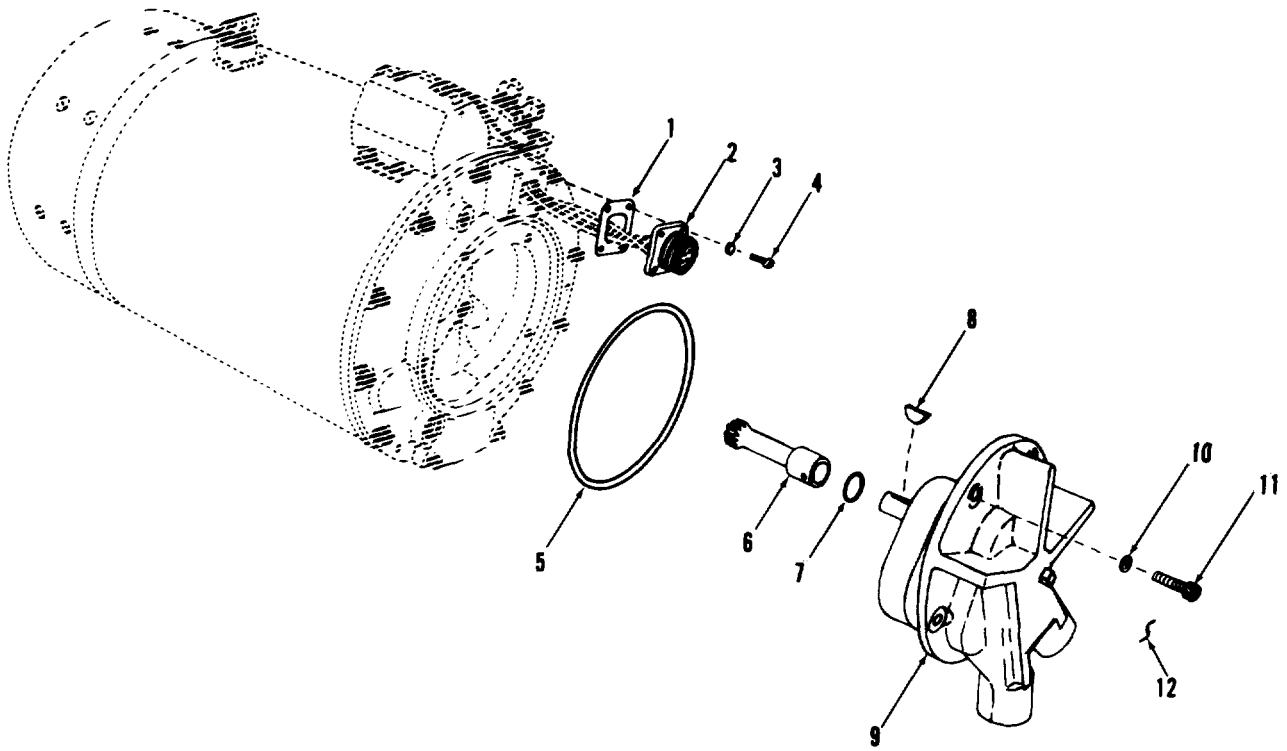


Figure B-1. Generator Drive End and Connector

(1) Illustration		(2)	(3)	(4)	(5)	(6) Description	(7)	(8)
(a) Fig No.	(b) Item No.	SMR Code	National Stock Number	Part Number	FSCM	Usable On Code	U/M	Qty Inc In Unit
B-1	1	PAFZZ	5935-01-017-8265	1545693-1	83298	GROUP: 0601 GENERATOR ASSEMBLY, BENDIX MODEL 30B95-3-C RETAINER, ELECTRICAL CONNECTOR:..... STATOR EXCITER	EA	1
B-1	2	PAFZZ	5935-00-368-4857	7720490	19207	CONNECTOR BRAKE CABLE: STATOR EXCITER.....	EA	1
B-1	3	PAFZZ	5305-00-622-9473	MS35265-21	96906	SCREW, MACHINE: ADAPTER AND CONNECTOR TO STATOR EXCITER	EA	4
B-1	4	PAFZZ	5310-00-950-1310	M527183-4	96906	WASHER, FLAT: ADAPTER AND CONNECTOR TO STATOR EXCITER	EA	4
B-1	5	PAFZZ	5330-00-946-8344	10-40450-16	77820	GASKET: ADAPTER AND CONNECTOR STATOR..... EXCITER	EA	2
B-1	6	PAFZZ	2920-01-020-6072	1549883-1	83298	PLATE, RETAINING SHAFT: DRIVE FRONT	EA	1
B-1	7	PAFZZ	5306-01-021-3326	1549842-1	83298	BOLT, MACHINE: FRONT DRIVE SHAFT AND..... SPRING ADJUSTING	EA	1
B-1	8	PAFZZ	2920-01-027-4842	1549882-1	83298	SHAFT, GENERATOR DRIVE: FRONT	EA	1
B-1	9	PAFZZ	5360-01-022-6241	1543632	83298	SPRING, HELICAL, COMPRESSION: DRIVE SHAFT PRESSURE ADJUSTING	EA	1
B-1	10	PAFZZ	5310-01-035-7857	1585924-1	83298	WASHER, SPECIAL: DRIVE SHAFT SPRING.....	EA	1
B-1	11	PAFZZ	5310-00-934-9751	MS35650-302	96906	NUT, PLAIN, HEXAGON: DRIVE SHAFT SPRING	EA	2
B-1	12	PAFZZ	5340-01-023-9396	1543405	83298	COUPLING, CLAMP, GROOVED: STATOR EXCITER TO ADAPTER PLATE	EA	1
B-1	13	PAFZZ	2920-01-021-5983	1543293-1	83298	PLATE, RETAINING, SHAFT: DRIVE END	EA	1
B-1	14	XDFZZ	5330-01-171-8249	1580154-1	83298	GASKET: DRIVE END ADAPTER PLATE.....	EA	1



TA315021

Figure B-2. Generator Oil Pump and Connector

(1) Illustration		(2) SMR Code	(3) National Stock Number	(4) Part Number	(5) FSCM	(6) Description <i>Usable On Code</i>	(7) U/M	(8) Qty Inc In Unit
(a) Fig No.	(b) Item No.							
B-2	1	PAFZZ	5330-00-641-4338	10-40450-14	77820	GROUP: 0601 GENERATOR ASSEMBLY, BENDIX MODEL 30B95-3-C GASKET: CONNECTOR TO END COVER	EA	1
B-2	2	PAFZZ	5935-01-018-2308	7524939	19207	CONNECTOR, RECEPTACLE, ELECTRICAL: GENERATOR END COVER	EA	1
B-2	3	PAFZZ	5310-00-950-1310	MS27183-4	96906	WASHER, FLAT: CONNECTOR TO END COVER.....	EA	4
B-2	4	PAFZZ	5305-00-614-0260	MS35265-17	96906	SCREW, MACHINE: CONNECTOR TO END COVER	EA	4
B-2	5	PAFZZ	5330-01-040-2114	MS9388-048	96906	PACKING, PREFORMED: OIL PUMP TO END..... COVER	EA	1
B-2	6	PFFZZ	3040-01-016-8464	1580159-1	83298	SHAFT, SHOULDERED: OIL PUMP	EA	1
B-2	7	PAFZZ	5330-00-166-0988	M83248-1-013	81349	PACKING, PREFORMED: OIL PUMP DRIVE SHAFT	EA	1
B-2	8	PAFZZ	5315-01-019-6619	1586398-1	83298	KEY, WOODRUFF: OIL PUMP DRIVE SHAFT	EA	1
B-2	9	PFFDD	4320-01-021-3334	1545567-1	83298	PUMP, ROTARY	EA	1
B-2	10	PAFZZ	5330-01-019-2470	1545737-6	83298	PACKING WITH RETAINER: OIL PUMP TO COVER ASSEMBLY	EA	4
B-2	11	PAFZZ	5305-00-273-5591	MS24677-34	96906	SCREW, CAP, SOCKET HEAD: OIL PUMP TO COVER ASSEMBLY	EA	4
B-2	12	MFFZZ		MS20995NC40-12	96906	WIRE, NONELECTRICAL: OIL PUMP ATTACHING SCREWS (12 IN. LG.) (MAKE FROM 9525-00-990-7799)	EA	2

(1) Illustration		(2)	(3)	(4)	(5)	(6) Description	(7)	(8)
(a) Fig No.	(b) Item No.	SMR Code	National Stock Number	Part Number	FSCM	<i>Usable On Code</i>	U/M	Qty Inc In Unit
BULK		PAOZZ	9525-00-990-7799	MS20995NC40	96906	GROUP: 99 BULK MATERIALS WIRE, NONELECTRICAL: 1 lb spool (234 ft/lb)	FT	V

SECTION III. SPECIAL TOOLS LIST. NONE

SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX.

National Stock Number Cross Referenced to Figure and Item Number

National stock number	Fig. no.	Item no.
2920-01-020-6072	B-1	6
2920-01-021-5983	B-1	13
2920-01-027-4842	B-1	8
3040-01-016-8464	B-2	6
4320-01-021-3334	B-2	9
5305-00-614-0260	B-2	4
5305-00-622-9473	B-1	3
5305-00-273-5591	B-2	11
5306-01-021-3326	B-1	7
5310-00-934-9751	B-1	11
5310-00-950-1310	B-1	4
5310-00-950-1310	B-2	3
5310-01-035-7857	B-1	10
5315-01-019-6619	B-2	8
5330-00-166-0988	B-2	7
5330-00-641-4338	B-2	1
5330-00-946-8344	B-1	5
5330-01-007-5088	B-2	10
5330-01-040-2114	B-2	5
5330-01-171-8249	B-1	14
5340-01-023-9396	B-1	12
5360-01-022-6241	B-1	9
5935-01-018-2308	B-2	2
5935-00-368-4857	B-1	2
5935-01-017-8265	B-1	1
9525-00-990-7799	BULK	

Part Number Cross Referenced to Figure and Item Number

Part number	FSCM	Fig. no	Item no.	Part number	FSCM	Fig. no.	Item no.
MS20995NC40	96906	BULK		1543632	83298	B-1	9
MS20995NC40-12	96906	B-2	12	1545567-1	83298	B-2	9
MS24677-34	96906	B-2	11	1545693-1	83298	B-1	1
MS27183-4	96906	B-1	4	1545737-6	83298	B-2	10
MS27183-4	96906	B-2	3	1549842-1	83298	B-1	7
MS35265-17	96906	B-2	4	1549882-1	83298	B-1	8
MS35265-21	96906	B-1	3	1549883-1	83298	B-1	6
MS35650-302	96906	B-1	11	1580154-1	83298	B-1	14
MS9388-048	96906	B-2	5	1580159-1	83298	B-2	6
M83248-1-013	81349	B-2	7	1585924-1	83298	B-1	10
10-40450-14	77820	B-2	1	1586398-1	83298	B-2	8
10-40450-16	77820	B-1	5	7524939	19207	B-2	2
1543293-1	83298	B-1	13	7720490	19207	B-1	2
1543405	83298	B-1	12				

APPENDIX C

EXPENDABLE SUPPLIES AND MATERIALS LIST

INTRODUCTION.

This appendix lists the expendable supplies and materials you will need to repair the generator. These items are authorized to you by CTA50-970, Expendable Items (except Medical, Class V, Repair Parts, and Heraldic Items).

Item number	National stock number	Description	U/M
1	6850-00-281-1985	SOLVENT, DRY CLEANING: 1 gallon can, P-D-680, Type II (81348)	gal
2	7920-00-205-1711	RAG, WIPING, COTTON, WHITE: 50 lb. bale, DDD-R-30 (81348)	lb
3	7510-00-852-8179	TAPE, ADHESIVE: Type II, 36 yard roll, 1 inch wide, MIL-T-22085 (81349)	roll
4	5350-00-268-3116	CLOTH, CROCUS: Commercial grade	roll
5	8040-00-225-4548	SEALANT, ADHESIVE: RTV 732 (white) MIL-A-46106	Oz
6	3439-00-243-1882	SOLDER: lead alloy, 1 lb spool, 0.125 in. diameter, QQ-S-571 (81348)	spool
7	9150-00-985-7247	GREASE, AIRCRAFT AND INSTRUMENT (GL): MIL-G-238273 (81349) 6 1/2 lb can	can
8	7930-00-282-9699	DETERGENT, GENERAL PURPOSE: A-A-137 (58536) 1 gallon	gal
9	9150-00-231-6689	OIL, LUBRICATING: 1 qt can, VV-L-800 (81348)	quart
10	7920-00-205-2401	BRUSH: hard bristle	ea
11	4240-00-816-3819	GOGGLES: safety	ea
12	8415-00-266-8677	GLOVES: rubber	ea

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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 decigrams = .035 ounce
 1 decagram = 10 grams = .35 ounce
 1 hectogram = 10 decagrams = 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 milliliters = .34 fl. ounce
 1 deciliter = 10 centiliters = 3.38 fl. ounces
 1 liter = 10 deciliters = 33.81 fl. ounces
 1 dekaliter = 10 liters = 2.64 gallons
 1 hectoliter = 10 dekaliters = 26.42 gallons
 1 kiloliter = 10 hectoliters = 264.18 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

<i>To change</i>	<i>To</i>	<i>Multiply by</i>	<i>To change</i>	<i>To</i>	<i>Multiply by</i>
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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