

TECHNICAL MANUAL

**OPERATOR AND ORGANIZATIONAL
MAINTENANCE MANUAL**

FOR

MOTOR-GENERATOR PU-545/A

(NSN 6125-00-958-6915)

HEADQUARTERS DEPARTMENT OF THE ARMY

JUNE 1976

WARNING

Dangerous voltages exist in this equipment. Always deenergize the inverter before working with ac output circuit. Serious injury or death may result from contact with these points when energized.

DON'T TAKE CHANCES!

**OPERATOR AND ORGANIZATIONAL
 MAINTENANCE MANUAL
 MOTOR-GENERATOR PU-545A
 (NSN 6125-00-958-6915)**

REPORTING OF ERRORS

You can improve this manual by recommending improvements using DA Form 2028-2 (Test) located in the back of the manual. Simply tear out the self addressed form, fill it out as shown on the sample, fold it where shown hand drop it in the mail.

If there are no blank DA Form 2028-2 (Test) in the back of your manual, use the standard DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward to the Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.

In either case a reply will be furnished direct to you.

			Paragraph	Page
CHAPTER	1.	INTRODUCTION		
Section	I.	General		
		Scope	1-1	1-1
		Indexes of Publications	1-2	1-1
		Forms and records	1-3	1-1
		Administrative storage	1-4	1-1
		Destruction of Army materiel	1-5	1-1
	II.	Description and data		
		Purpose and use	1-6	1-1
		Description	1-7	1-1
		Tabulated data	1-8	1-2
		Items comprising an operable equipment	1-9	1-2
CHAPTER	2.	INSTALLATION AND OPERATION		
Section	I.	Service upon receipt		
		Unpacking	2-1	2-1
		Checking unpacked equipment.	2-2	2-1
		Installation	2-3	2-1
	II.	Operation		
		General	2-4	2-2
		Starting and stopping operation	2-5	2-2
		Initial operational check	2-6	2-2
CHAPTER	3.	ORGANIZATIONAL MAINTENANCE INSTRUCTIONS		
		Tools and equipment	3-1	3-1
		Paints and finishes	3-2	3-1
		Touchup painting instructions.	3-3	3-1
		Lubrication	3-4	3-1
		Preventive maintenance checks and services	3-5	3-1

*This manual supersedes so much of TM 11-6125-240-15, 17 August 1964, including all changes, as pertains to operator and organizational functions.

		Paragraph	Page
	Cleaning	3-6	3-2
	Troubleshooting	3-7	3-2
	Maintenance	3-8	3-2
	Adjustment of output voltage.	3-9	3-2
APPENDIX	A. REFERENCES		
	B. BASIC ISSUES ITEMS LIST (Nonapplicable)		
	C. MAINTENANCE ALLOCATION		
Section	I. Introduction		C-1
	II. Maintenance allocation chart for Motor-Cenerator PU-545/A		C-3

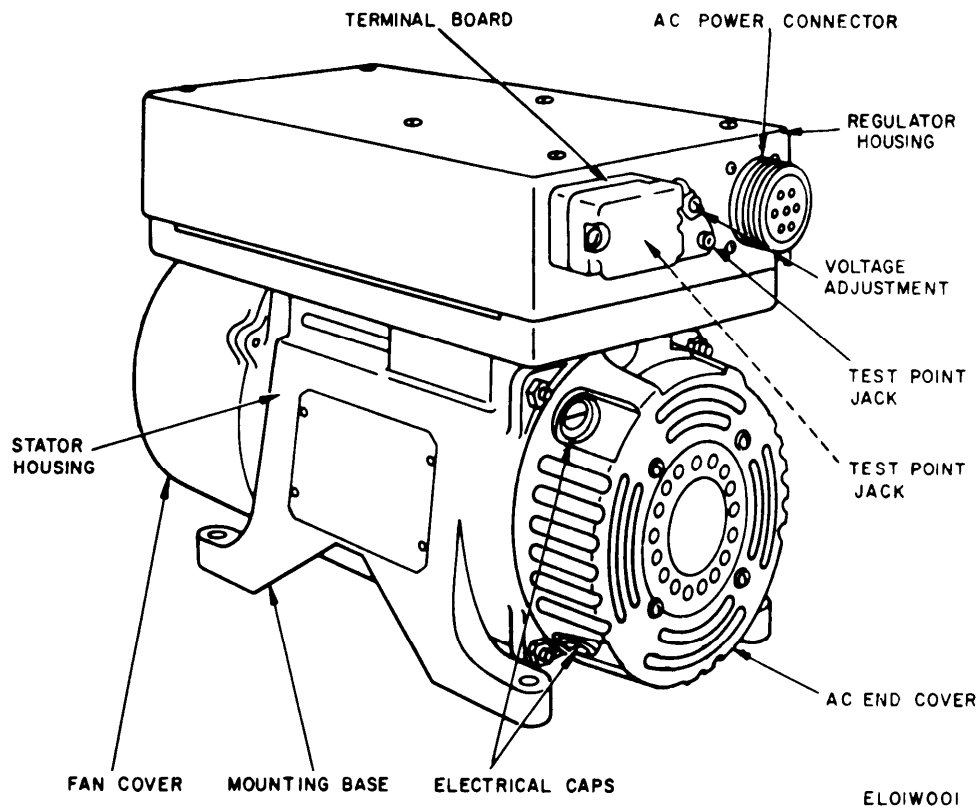


Figure 1-1. Motor-Generator, PU-545/A

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes the operation of Motor-Generator PU-545/A, as well as its operator and organizational maintenance. A Maintenance Allocation Chart will be found in Appendix C.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all maintenance levels are listed in and prescribed by TM 38-750 (Army).

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy} in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33A/AFR 75-18/MCO P4610.19B, and DSAR 4500.15.

1-4. Administrative Storage

For procedures, forms, and records, and inspections required during administrative storage of this equipment, refer to TM 740-90-1.

1-5. Destruction of Army Materiel

Destruction of Army materiel to prevent enemy use shall be as prescribed in TM 750-244-2.

Section II. DESCRIPTION AND DATA

1-6. Purpose and Use

a. Motor-Generator PU-545/A is a motor-driven inverter designed to convert the 28V direct current (dc) from an aircraft power supply to 115V, 400 Hz alternating current (ac) (single phase) or 110/208V, 400 Hz alternating current (three phase). The output can be either single-phase or three phase, but not both simultaneously.

b. The PU-545/A is used to supply ac to those items of an aircraft configuration which require it for operation.

1-7. Description

(fig. 1-1)

The inverter is a self-contained unit consisting of a static voltage and frequency regulator and rotating section located in a stator housing.

a. Regulator Section. The regulator is housed in a rectangular metal box permanently attached to the top of the stator housing of the inverter. The top of the regulator can be removed for internal inspection by loosening screw fasteners and lifting off the regulator housing cover. The dc power input is connected to the inverter through the terminal board (TB1) located on the front of the regulator. The ac power output of the in-

verter is taken from the ac power connector (J3) at the front of the regulator. (Refer to the applicable aircraft technical manual.) Also provided on the front of the regulator are two test point jacks (J1 and J2) used for checking the ac power output. An external increase volts adjustment resistor permits manual setting of the output voltage.

b. Generator Section. The rotating section of the inverter is contained in a heavy metal frame housing. The inverter mounting base is a fixed part of the bottom of the housing, and has four holes for attaching the inverter to the aircraft. An ac end cover and a fan cover, one on each end of the inverter, are removable for inspection of rotating parts. Both covers are slotted to provide an airflow through the rotating section for cooling. The airflow intake is through the fan cover, and the exhaust is through the ac end cover. Four electrical brush holders are installed on the ac end, with four electrical caps located externally for checking and replacement of the ac brushes.

c. Additional Equipment Required. A 28V dc power source is required to supply input power to the inverter.

CHAPTER 2

INSTALLATION AND OPERATION

Section I. SERVICE UPON RECEIPT

2-1. Unpacking

(fig. 2-1)

a. Packaging Data. When packed for shipment, the PU-54S/A is mounted on a board and placed in a cardboard carton. It is further protected with a side and top liner. The inverter consists of a single unit that is 9.5 inches high, 13.6 inches deep, and 7.1 inches wide, weighing 45 pounds.

b. Removing Contents. Perform the steps outlined below when unpacking the equipment.

- (1) Open the cardboard carton.
- (2) Remove the top and side liners.
- (3) Lift the inverter and mounting base from the cardboard carton.
- (4) Remove the four stove bolts that attach the inverter to the mounting board and remove the inverter.

2-2. Checking Unpacked Equipment

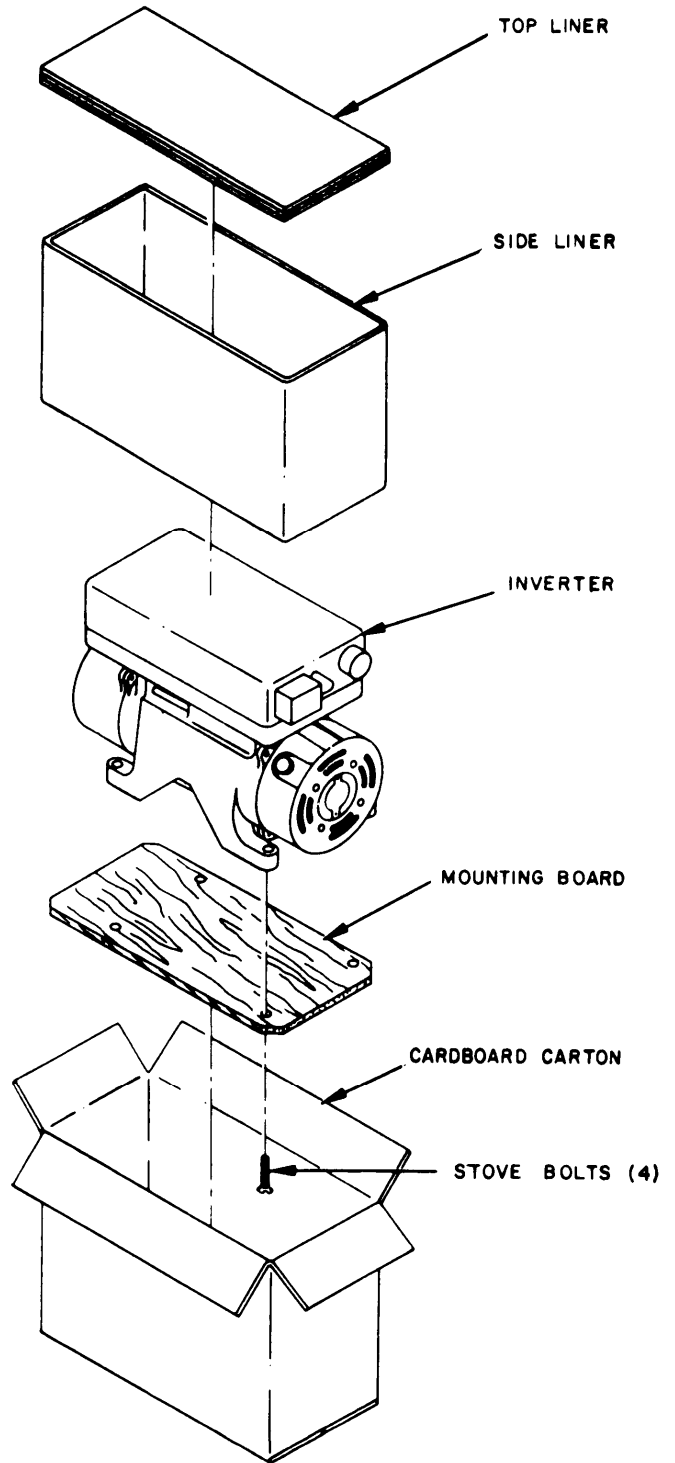
a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1-2).

b. Check to see whether the equipment has been modified. (Equipment which has been modified will have the MWO number on the front panel, near the nomenclature plate.) Check also to see whether all currently applicable MWO have been applied. (Current MWO applicable to the equipment are listed in DA PaM 310-7).

2-3. Installation

The output and input power of the PU-54S/A is routed through the circuits of the aircraft in which the inverter is installed. Refer to the applicable aircraft technical manual for the desired mode of operation and physical location within the aircraft, and to the following table for the proper output connections at the ac power connector. A typical installation procedure is presented in *a* below.

Ac Volts	Connection	Output
115 single phase.		A-B
115 three phase.	A to F, B to G, and	A-B-C
	C to D (delta)	
110/208 three phase	D, E, and F to C (wye). . .	A-B (208 Vac) and C-G(110Vac) A-C (208 Vac) and BG(110 Vac), or B-C (208 Vac) and A-C(110 Vac)



ELOIW002

Figure 2-1. Packing diagram, PU-54S/A

a. Typical Installation Procedure.

(1) Make sure that the portion of the aircraft mounting that corresponds to the inverter mounting base is free from oil and grease to insure good electrical grounding.

(2) Position the inverter on the aircraft mounting; line up the holes in the inverter mounting base with the holes in the aircraft mounting.

(3) Secure the inverter to the aircraft mounting with the four sets of mounting hardware.

(4) Connect the power cable to the ac power connector of the inverter.

(5) Connect the dc input leads to the terminal board studs; maintain the proper polarity.

b. Removal. To remove the inverter for maintenance or repair, reverse the procedures in *a* above.

Section II. OPERATION

2-4. General

The PU-545/A must be energized before use and de-energized after use; no other operation is required. The inverter contains no on/off switch. It is energized automatically when the aircraft 28V dc power is applied and deenergized when the power is removed. No warmup is required before use.

2-5. Starting and Stopping Operation

a. Starting. Turn on the necessary aircraft switches to apply the 28V dc to energize the inverter. The motor should start.

CAUTION

After starting the inverter, check for smoke or any other sign of malfunction. If any malfunction is noted, immediately remove the 28V dc power.

b. Stopping. Turn off the necessary aircraft switches to remove the 28V dc from the inverter.

2-6. Initial Operational Check

a. General. The operational check (*b* below) supplements the inspection procedures in the aircraft operator's condensed checklist. The operator's inspection consists of checking serviceability by performing an operational check. The checks listed should be accomplished before a flight. The pilot or copilot should report any malfunction or failure noted during the flight, or any discrepancy noted in the preflight check (TM 38-750).

b. Operational Check. The following preflight checks should be made during engine warmup as an ex-

tension of the ground tests in the applicable aircraft operator's condensed checklist. The checks should be performed in the order given.

NOTE

Use an external power source for making functional checks to prevent drain on aircraft batteries. (Refer to applicable aircraft technical manual.)

(1) Start the inverter. If the aircraft in which the inverter is installed is equipped with panel meters for reading the ac voltage and frequency, check the output of the inverter on the meters, (Refer to applicable aircraft technical manual.) If the inverter is performing satisfactorily, the voltmeter should read between 109 and 121 or 202 and 214 volts ac, and the frequency meter should read between 390 and 410 Hz (determined by external hookup). Vary the load from no load to full load by turning on the aircraft equipment that operates with the ac supplied by the inverter. (Refer to the applicable aircraft technical manual.) The voltage indicated on the voltmeter should not vary more than 1 V, and the indicated frequency variation should be less than 6 Hz.

(2) If no ac panel meters are installed in the aircraft, check to see that the inverter is running by listening to the motor. Turn on any aircraft equipment that operates from the ac supplied by the inverter and check to see that the equipment is operating. (Refer to the applicable aircraft technical manual.)

(3) Turn off the necessary aircraft switches to stop the inverter.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

3-1. Tools and Equipment

Tools and test equipment required for organizational maintenance of the PU-545/A are listed in table 1 of appendix C of this manual.

3-2. Paints and Finishes

When the inverter requires repainting, refinishing, or touchup painting refer to Federal Standard No. 595A for a matching color. SB 11-573 lists the tools and miscellaneous supplies required for painting.

3-3. Touchup Painting instructions

a. Refer to TB 43-0108 for instructions on painting and preserving Electronics Command equipment. In touchup painting a perfect match with the exact shade of the original paint may not be possible. The prevention of corrosion and deterioration is the most important consideration in touchup painting; appearance is secondary. This should not be construed to mean that the appearance of the equipment is unimportant. Touchup painting should be accomplished neatly, and in a good workmanlike manner. Inspection personnel in the field will make allowance for slight color mismatch where minor touchup has been done, but not for neglect or poor workmanship.

b. Remove rust and corrosion from metal surfaces by lightly sanding them with fine sandpaper. Brush two thin coats of paint on the bare metal to protect it from further corrosion.

3-4. Lubrication

There are no lubrication requirements at the organizational level.

3-5. Preventive Maintenance Checks and Services.

a. To insure that the PU-545/A is always ready for operation, it must be inspected systematically so that defects may be discovered before they result in serious damage or failure. The necessary preventive maintenance checks and services (PMCS) are listed and described in tables 3-1 and 3-2. The item numbers indicate the sequence of the minimum inspection requirements. Defects discovered during operation of the unit will be noted for future correction to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted during operation which would damage the equipment. Record all deficiencies together with the corrective action taken in accordance with TM 38-750.

b. Perform the maintenance functions in table 3-1 once each intermediate interval. An intermediate inter-

val is defined as approximately 25 flying hours. The intermediate PMCS on the inverter should be performed concurrently with the Intermediate PMCS scheduled on the aircraft in which the equipment is installed. Adjustments of the maintenance interval must be made to compensate for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation) condition must have intermediate maintenance performed on it at least once every 30 days. Equipment in limited storage (requires service before operation) does not require intermediate maintenance.

c. Perform the maintenance functions in table 3-2 once each periodic interval (approx 200 flying hours) in addition to the intermediate PMCS in table 3-1. Periodic preventive maintenance will be scheduled in accordance with the requirements of TM 38-750. The periodic preventive maintenance inspection should be scheduled concurrently with the periodic maintenance service schedule of the aircraft in which the inverter is installed to reduce out-of-service time. Refer to the applicable aircraft technical manual for the hours between service periods.

Table 3-1. Intermediate PMCS

Total time required: 0.3		
Sequence number	Item to be Inspected Procedure	Work time (M/H)
1	EXTERNAL WIRING: Inspect external wires and cable for damaged insulation of jacketing.	0.1
2	AIR VENTS: Check the airflow intake and exhaust vents for obstructions.	
3	EXTERIOR SURFACES: Remove dirt and moisture, and inspect for rust, corrosion, and chipped paint.	0.1
4	MOUNTING: Check for cleanliness, stability, and loose or missing hardware.	
5	ELECTRICAL CAPS: When accessible, check the electrical brush caps for seating. Do not remove, rock, or twist to inspect. Use only a direct pressure to insure that the cap is fully seated.	0.1
6	CONNECTIONS: Check connections at terminal board and ac power connector and see that they are clean, intact, and secure,	
7	OPERATION: During operation be alert for signs of malfunction such as excessive vibration, overheating, or variations in output voltage and frequency. Refer to the operational check in paragraph 2-6.	

Table 3-2. Periodic PMCS

Total time required: 0.3

Sequence number	Item To Be Inspected Procedure	Work time (M/H)
1	PUBLICATIONS: Check to see that all publications pertinent to this equipment are on hand, complete, and usable. Check DA Pam 310-4 for recent changes to publications.	0.1
2	MODIFICATIONS: Check DA Pam 310-7 to see that all urgent MWO's have been applied, and that all normal MWO's have been scheduled.	
3	INSTALLATION: Check to see that the inverter is properly secured with safety wire attached.	0.1
4	SLIPRINGS: Remove the ac end cover and inspect the sliprings for excessive wear and pitting.	
5	AC CONTACT BRUSHES: When accessible, remove the ac contact brushes as in paragraph 3-8 and inspect for wear cracks, chips, and broken flexible wire. Check brush holders and springs for cleanliness and proper tension. Refer inverter to Direct Support maintenance for replacement.	0.1

3-6. Cleaning

All exterior surfaces of the inverter should be free of dirt, grease, and fungus. Perform the following procedures as specified in the preventive maintenance checks and services table 3-1.

a. Remove moisture and loose dirt with a clean soft cloth.

WARNING

The fumes of trichloroethane are toxic, Provide thorough ventilation whenever used. **DO NOT USE NEAR AN OPEN FLAME.** Trichloroethane is not flammable, but exposure of the fumes to an open flame or hot metal surface forms highly toxic phosgene gas.

b. Remove grease, fungus, and ground-in dirt from the exterior surfaces with a clean cloth dampened (not wet) with trichloroethane. Wipe dry with a clean, dry, lint-free cloth.

c. Remove dust or dirt from the ac power connector and associated plug with a soft-bristle brush.

3-7. Troubleshooting

The troubleshooting procedures in table 3-3 are based upon symptoms noted while the inverter is in operation. Any malfunction observed that is not included in the table should be referred to higher category maintenance.

3-8. Maintenance

Periodic inspection (every 200 flying hours) of the ac contact brushes is the only maintenance performed at the organizational level. This operation may be performed in the aircraft if the inverter can be reached easily. Otherwise, remove the inverter from the aircraft as in paragraph 2-3.

3-9. Adjustment of Output Voltage.

The increase volts adjustment (fig. 1-2) is adjusted to provide 115 volts ac output. Follow the procedure given below.

a. Turn on the necessary aircraft switches to start the inverter. Set the multimeter range to 1000 AC VOLTS and connect its test leads to the test point jacks on the front of the regulator housing. Note output voltage reading.

b. Loosen the locknut on the increase volts adjustment resistor. Using a screwdriver, turn the voltage adjustment shaft clockwise to increase and counterclockwise to decrease output voltage, until the multimeter indicates 115V ac.

c. After adjustment, tighten the locknut on the adjustment shaft. Disconnect the multimeter leads, and turn off the aircraft power.

Table 3-3. Troubleshooting

Malfunction	Possible cause	Corrective action
Inverter vibrates	a. Loose or missing hardware. b. Inverter improperly seated.	a. Tighten or replace hardware. b. See that mounting surface is clean and free of foreign objects. If trouble is not corrected higher category maintenance is required.
Inverter fails to start	a. Loose or blown fuses or open circuit breaker in dc line. b. Short circuit in dc line	a. Check and replace or reset as required. b. Check aircraft line fuses or circuit breakers. If blown, inspect wiring between fuses or circuit

		breakers and inverter. Repair wiring as necessary.
	<i>c.</i> Dc brushes not making contact with commutator.	<i>c.</i> Refer inverter to higher category maintenance.
	<i>d.</i> Dc input circuit open.	<i>d.</i> Check wiring and connection to the inverter for an open circuit. Repair or replace as necessary.
	<i>e.</i> Armature jammed	<i>e.</i> Refer inverter to higher category maintenance.
Inverter runs but fails to deliver proper voltage or frequency.	<i>a.</i> Ac circuit open.	<i>a.</i> Connect a power test set to the test point jacks on the front of the regulator (fig. 1-2), and start the inverter. If indication is between 109 and 121 Vac, 390 and 410 Hz, check exterior wiring and connections for an open circuit, and repair. If indication is not as specified, refer inverter to higher category maintenance.
	<i>b.</i> Slipring brushes not making contact with slipring.	<i>b.</i> Remove ac electrical end caps and check for broken brushes or springs. Refer inverter to higher category maintenance.
	<i>c.</i> Regulator failure.	<i>c.</i> Refer inverter to higher category maintenance.
Ac output voltage is low	<i>a.</i> Dc input voltage is low.	<i>a.</i> Check dc voltage at power supply and correct.
	<i>b.</i> Misadjustment of increase volts adjustment resistor.	<i>b.</i> Readjust increase volts adjustment resistor as described in paragraph 3-9.
Ac output voltage is high.	<i>a.</i> Dc input voltage is higher than 30V.	<i>a.</i> Check dc voltage at power supply and correct.
	<i>b.</i> Misadjustment of voltage adjustment resistor.	<i>b.</i> Readjust as described in paragraph 3-9.
	<i>c.</i> Regulator failure.	<i>c.</i> Refer inverter to higher category maintenance.
Speed (frequency) is too high or too low.	Misadjustment of internal frequency adjustment resistor.	Refer inverter to higher category maintenance.
Output voltage unstable	<i>a.</i> Loose connections.	<i>a.</i> Check and tighten connections as necessary. If trouble persists refer to higher category maintenance.
	<i>b.</i> Poor commutation or poor brush contact at sliprings.	<i>b.</i> Check and refer to higher category maintenance.
Speed (frequency) is too high or too low	Misadjustment of increase adjustment resistor.	Refer inverter to higher category maintenance.
Output voltage unstable.	<i>a.</i> Loose connections.	<i>a.</i> Check and tighten connections as necessary. If trouble persists refer to higher category maintenance.
	<i>b.</i> Poor commutation or poor brush contact at sliprings.	<i>b.</i> Check and refer to higher category maintenance.

APPENDIX A REFERENCES

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	US Army Equipment Index of Modification Work Orders.
SB 11-573	Painting and Preservation Supplies Available for Field Use for Electronics Command Equipment.
TB 43-0118	Field Instructions for: Painting and Preserving Electronics Command Equipment including Camouflage Pattern Painting of Electrical Equipment Shelters.
TM 11-6625-203-12	Operator and Organizational Maintenance: Multimeter AN/URM-105 and AN/URM-105C including Multimeter ME-77/U and ME-77C/U.
TM 38-750	The Army Maintenance Management System (TAMMS).
TM 740-90-1 TM 750-244-2	Administrative Storage of Equipment, Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronics Command).

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C-1. General

This appendix summarizes the maintenance operations covered in the equipment literature. It authorizes categories of maintenance for specific maintenance functions on repairable items and components, and the tools and equipment required to perform each function.

C-2. Maintenance Functions

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean, preserve, drain, paint, or to replenish fuel/lubricants/hydraulic fluids or compressed air supplies.

d. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision 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.

g. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module/component/assembly, end item or system.

j. Overhaul. That periodic maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

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

C-3. Column Entries

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a worktime figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate worktime figures will be shown for each category. The number of man-hours specified by the worktime figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of Column 4 are as follows:

C... Operator/crew
O...Organizational
F...Direct support
H.. .General support
D...Depot

e. Column 5, Tool and Equipment. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test and support equipment required to perform the designated function.

C-4. Tool and Test Equipment Requirements Table 1)

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used

in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturers part number followed parenthetically by the five digit Federal Supply Code for that manufacturer.

SECTION II MAINTENANCE ALLOCATION CHART
 For
 MOTOR-GENERATOR PU-545/A

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQUIPMENT
			C	O	F	H	0	
00	MOTOR-GENERATOR PU-545/A	Inspect Test ¹ Test Test Service Adjust ² Adjust ³ Replace Repair Overhaul		0.1 0.1 0.1 0.1 0.5	0.2 0.1 0.8	1.5		2,3 4,7,8 4,7,8 1,2 3,4 4 thru 8 4 thru 35
01	REGULATOR SECTION	Inspect Service Replace Repair			0.1 0.1 1.0	1.5		4 4 4 4 thru 22,14,16
02	GENERATOR SECTION	Inspect Test Service Adjust Replace ⁴ Repair Repair			0.2 0.5 1.0	0.5 0.3 1.0 2.0		4,18,19,21 4 thru 13,15 4,18,19,21 4,5,8,17 4 4 4 thru 22

(1) Output voltage and frequency.
 (2) Output voltage.
 (3) Output frequency.
 (4) By replacement of contact brushes.

TABLE 1. TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
MOTOR-GENERATOR PU-545/A

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	0	TOOL KIT, ELECTRONIC EQUIPMENT TK-101/G	5180-00-064-5178	
2	0	MULTIMETER AN/URM-105	6625-00-581-2036	
3	O,F,H,D	TEST SET, ELECTRICAL POWER AN/UPM-93	6625-00-581-2097	
4	P,H,D	TOOL KIT , ELECTRONIC EQUIPMENT TK-100/G	5180-00-605-0079	
5	F,H,D	MULTIMETER AN/USM-223 (REPLACES TS-352B/U)	6625-00-999-7465	
6	F,H,D	MULTIMETER ME-26()/U	6625-00-913-9781	
7	F,H,D	TEST SET, MOTOR-GENERATOR AN/GSM-65	6920-00-348-5793	
8	F,H,D	POWER SUPPLY PP-4606 (OR EQUIVALENT)	6130-00-504-0327	
9	H,D	1MOTOR-GENERATOR PU-545/A	6125-00-958-6915	
10	H,D	OHMMETER ZM-21A/U	6625-00-581-2466	
11	H,D	OSCILLOSCOPE AN/USM-281A	6625-00-228-2201	
12	H,D	BRIDGE RESISTANCE ZM-4B/U	6625-00-500-0937	
13	H,D	TEST SET, ARMATURE TS-965()/U	6625-00-828-5810	
14	H,D	TEST SET, CAPACITOR, ZM-3()/U	6625-00-229-1060	
15	H,D	TEST SET, INSULATION BREAKDOWN AN/GSM-6	6625-00-542-1331	
16	H,D	TEST SET, TRANSISTOR TS-1836()/U	6625-00-695-2628	
17	H,D	DUMMY BRUSHES (2 REQUIRED) (FABRICATED)		
18	H,D	PLIERS, RETAINING	5120-00-288-9717	
19	H,D	WRENCH , TORQUE	5120-00-746-6621	
20	H,D	BEARING PUSHER, BASE AND TOP		
21	H,D	PULLER ASSEMBLY, BEARING RETAINER		
22	H,D	ARBOR PRESS; GREENERD MODEL #3 (OR EQUIVALENT)		
23	D	SPECTURM ANALYZER TS-723D/U	6625-00-668-9418	
24	D	POWER SUPPLY; SORENSON MODEL DCR40 - 500A (OR EQUIVALENT)		
25	D	CIRCUIT BREAKER, 18CA	5925-00-257-7072	
26	D	PHASE SEQUENCE INDICATOR (400 HZ); ASSOCIATED RESEARCH MODEL 44 (OR EQUIVALENT)		
27	D	BALANCING MACHINE ; GISHOLT TYPE IS		
28	D	LATHE (8 1/2" SWING X 24" BED); WADE MODEL 8A (OR EQUIVALENT)		
29	D	OVEN		
30	D	PAINT BOOTH		
31	D	ULTRASONIC CLEANER		
32	D	AIR GAGE; SHEFFIELD MODULAR PRECISIONAIRE COLUMN, 9"		
33	D	DIAL INDICATOR (CALIBRATED TO 0.001"); LUFKIN MODEL 2-B25-5		
34	D	SPRING SCALE	6670-00-291-8721	
35	D	DIAMOND (OR CARBOLOY) TIPPED CUTTING TOOL		

By Order of the Secretary of the Army:

FRED C. WEYAND
General, United States Army
Chief of Staff

Official:

PAUL T. SMITH
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-36, Organizational literature requirements for PU-545/A.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL MANUALS



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Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE 10 July 1975

PUBLICATION NUMBER

TM 11-5840-340-12

DATE

23 Jan 74

TITLE

Radar Set AN/SPC-76

BE EXACT... PIN-POINT WHERE IT IS

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
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2-25	2-28		
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Recommend that the installation antenna alignment procedure be changed through to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

3-10	3-3		
------	-----	--	--

		3-1	Item 5, Function column. Change "2 db" to "3db."
--	--	-----	--

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

5-6	5-8		
-----	-----	--	--

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

F03

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. + 24 VDC is the input voltage.

TEAR ALONG DOTTED LINE

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SSG I. M. DeSpirito 999-1776

SIGN HERE:

SSG I. M. DeSpirito

DA FORM 2028-2 (TEST) 1 AUG 74

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR MANUAL "FIND," MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

HISA 1686-75

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UNIT'S ADDRESS

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DEPARTMENT OF THE ARMY

Commander
US Army Electronics Command
ATTN: DRSEL-MA-Q
Fort Monmouth, New Jersey 07703

FOLD BACK

CUT ALONG DOTTED LINE



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