

**TECHNICAL MANUAL**

**ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT**

**MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS**

**FOR**

**TEST SETS, ELECTRICAL POWER**

**AN/UPM-93C (NSN 6625-00-971-6210),**

**AN/UPM-93A, AN/UPM-93B, AND AN/UPM-93D**



TECHNICAL MANUAL  
 NO. 11-6625-303-24P-1



HEADQUARTERS  
 DEPARTMENT OF THE ARMY  
 WASHINGTON, DC, 3 January 1978

**ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT  
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*Current as of 7 September 1977*

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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, and drop it in the mail.

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

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\* This manual supersedes so much of TM 11-6625-303-25P, 12 October 1971, including Change 1, 18 August 1975, as pertains to the AN/UPM-93A,B,C,D.



**SECTION I**

**INTRODUCTION**

**1. Scope**

This manual lists spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE), and other special support equipment required for performance of organizational and general support maintenance of the AN/UPM-93A,B,C, and D. It authorizes the requisitioning and issue of spares and repair parts as indicated by the source and maintenance codes.

**2. General**

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

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

*b. Section III. Special Tools List.* Not applicable.

*c. Section IV. National Stock Number and Part Number Index.* A list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list, in alphabetic 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.

**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 item 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 format as follows:

<i>Code</i>	<i>Definition</i>
PA-	Item procured and stocked for anticipated or known usage.

XD-A support item that is not stocked. When required, item will be procured through normal supply channels.

**NOTE**

Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XA and aircraft support items as restricted by AR 700-42.

(2) *Maintenance code.* Maintenance codes assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the Uniform SMR Code format 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:

<i>Code</i>	<i>Application/Explanation</i>
O-	Support item is removed, replaced, used at the organizational level.
H-	Support item is removed, replaced, used at the general support level.

(b) The maintenance code entered in fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position will contain one of the following maintenance codes:

<i>Code</i>	<i>Application/Explanation</i>
H-	The lowest maintenance level capable of complete repair of the support item is the general support level.
Z-	Nonreparable, No repair is authorized.

(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 format as follows:

*Recoverability codes*

*Definition*

Z-Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.

H-Reparable item. When uneconomically reparable, condemn and dispose at the general support level.

c. *National Stock Number*. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

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 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, the repair part received may have a different part number than the part being replaced.

e. *Federal Supply Code for Manufacture (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 if required, a minimum description to identify item.

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.

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, subfunctional group, or an assembly.

**4. Special Information**

a. Usable on codes are shown in the description column. Uncoded items are applicable to all models. Identification of the usable on codes used in this publication are:

*C o d e*  
3F6  
3F7

*Used on*  
AN/UPM-93B  
AN/UPM-93A

4G9  
CNP

AN/UPM-93c  
AN/UPM-93D

b. The following publications pertain to the AN/UPM-93A,B,C,D and its components:

TM 11-6625-303-12, Electrical Power Test Sets AN/UPM-93A, AN/UPM-93B, AN/UPM-93C, and AN/UPM-100

TM 11-6625-303-35, Electrical Power Test Sets AN/UPM-93A, AN/UPM-93B, AN/UPM-93C, and AN/UPM-100

c. National stock numbers (NSN'S) that are missing from P source coded items have been applied for and will be added to this TM by future change/revision when they are entered in the Army Master Data File (AMDF). Until the NSN'S are established and published, submit exception requisitions to: Commander, US Army Electronics Command, ATTN: DRSEL-MM, Fort Monmouth, New Jersey 07703 for the part required to support your equipment.

**5. How to Locate Repair Parts**

a. When National stock number or part number is unknown.

(1) *First*. Using the table of contents, determine the functional group within which the item belongs. This is necessary since illustrations are prepared for functional groups and listings are divided into the same groups.

(2) *Second*. Find the illustrations covering the functional group to which the item belongs.

(3) *Third*. Identify the item on the illustration and note the illustration figure and item number of the item.

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

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 alphameric sequence, cross-referenced to the illustration figure number and item number.

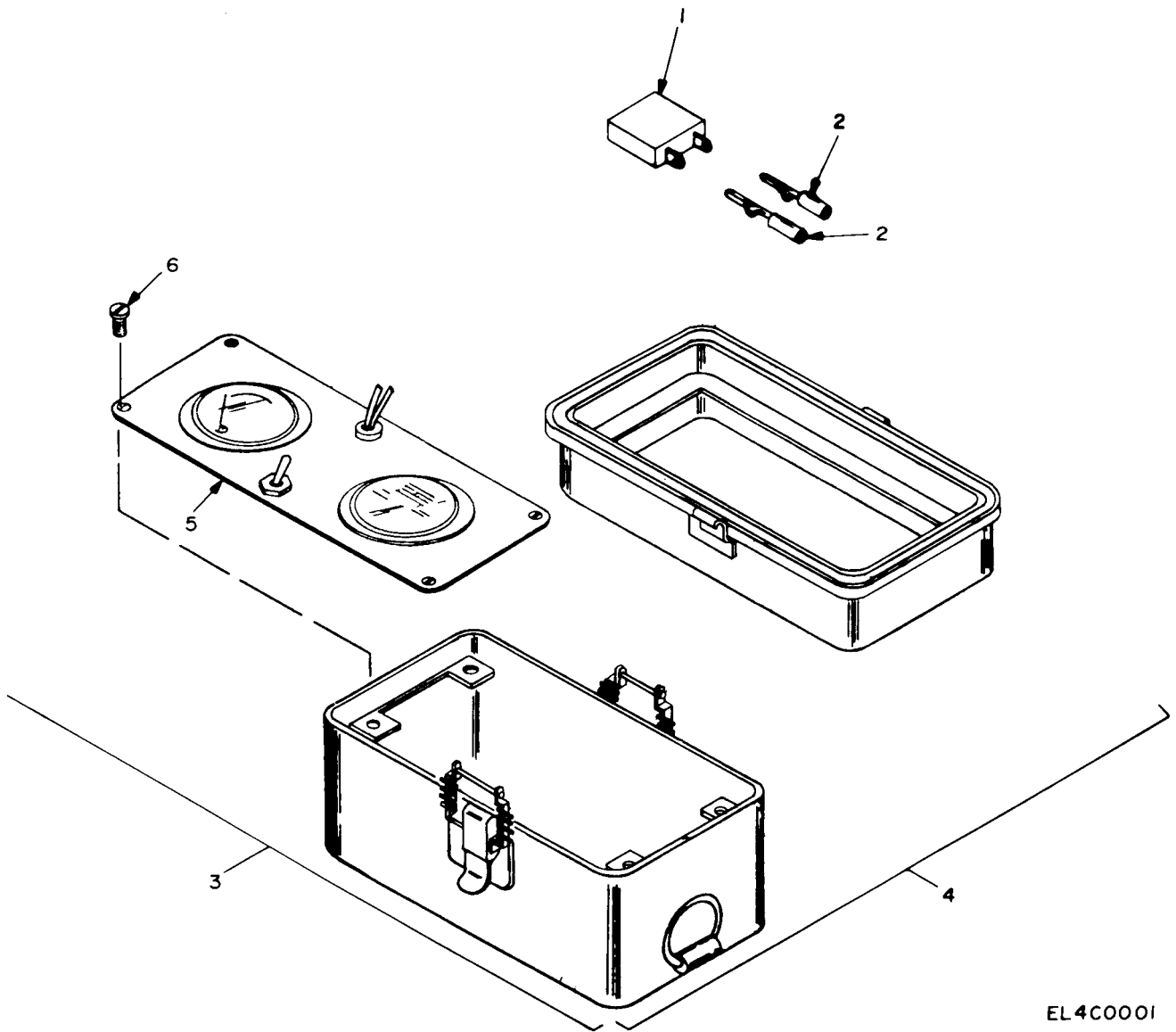
(2) *Second*. After finding the figure and item number, locate the figure and item number in the repair parts list.

**6. Abbreviations**

Not applicable.

**(Next printed page is 4)**

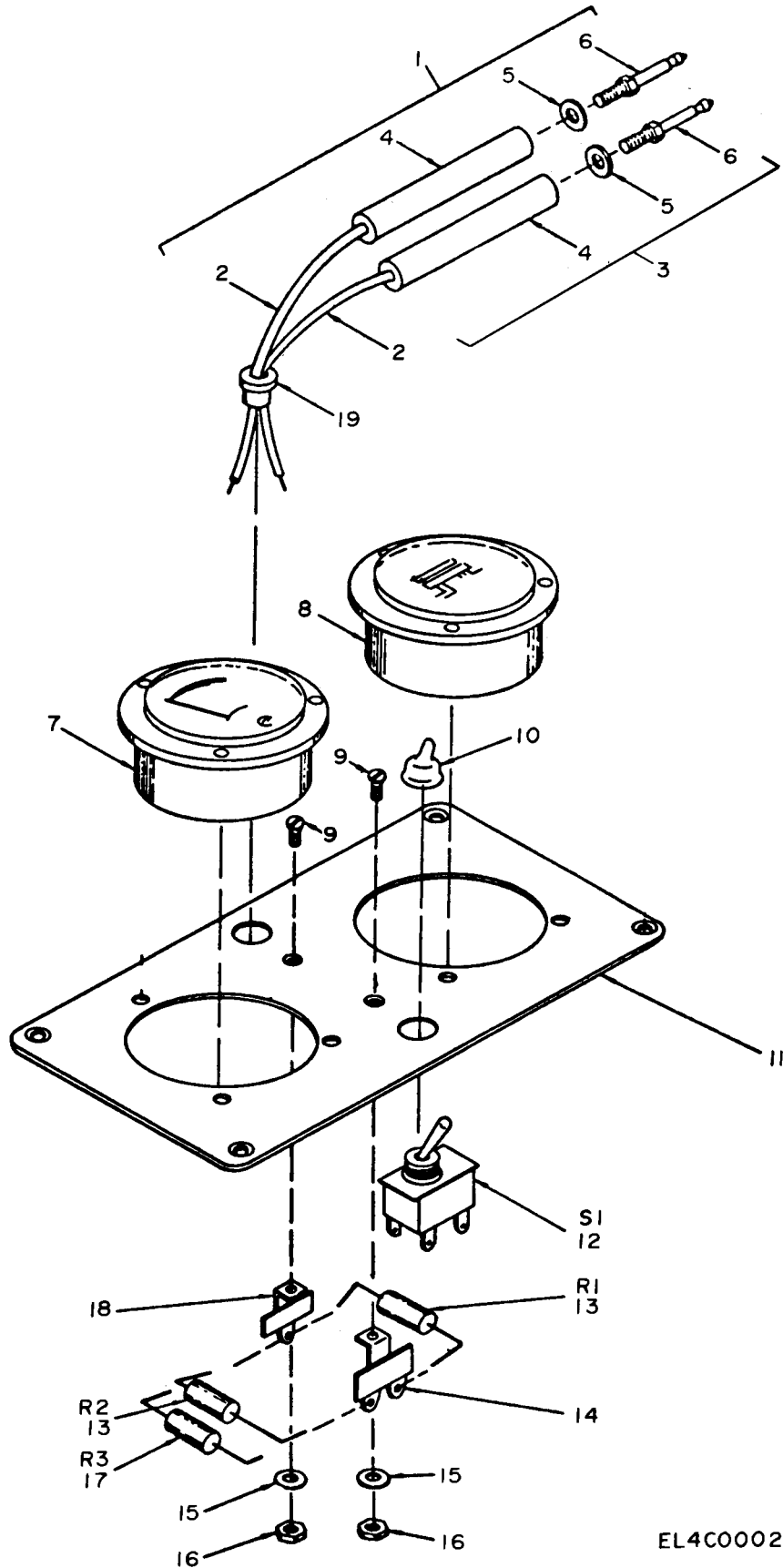




EL4C0001



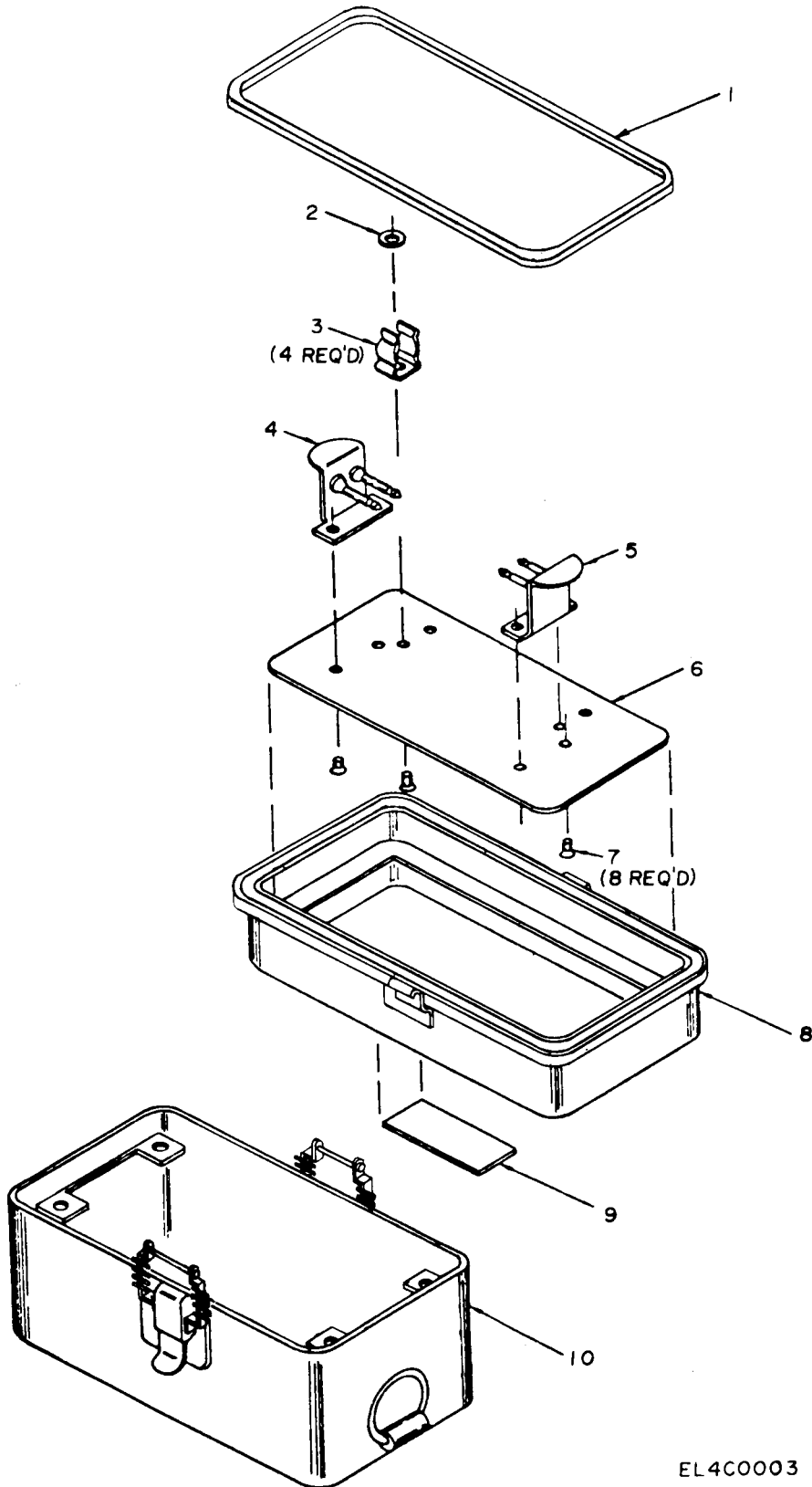
(1) ILLUSTRATION (A) FIG NO.	(2) (B) ITEM NO.	(3) SMR CODE	(4) NATIONAL STOCK NUMBER	(5) PART NUMBER	(6) FSCM	(6) DESCRIPTION	(7) USABLE ON CODE U/M	(8) QTY INC IN UNIT
GROUP 00 TEST SETS, ELECTRICAL POWER AN/UPM-93A,B,C,D								
1	1	PAOZZ	5935-00-581-3170	SCDL17482	80063	CONNECTOR ADAPTER	EA	1
1	2	PAHZZ	5940-00-702-5256	1410D1	91802	CLIP ELECTRICAL	EA	2
1	3	XDHHH		SMC147200	80063	TEST SET ELECT POWER TS934C/U	469,CNP	EA 1
1	3	XDHHH		SMC204777	80063	TEST SET ELECT POWER TS934A	3F6	EA 1
1	3	XDHHH		SMC8414	80063	TEST SET ELECT POWER TS934	3F7	EA 1
1	4	XDHZZ		SMC146836	80063	CASE TEST SET	CNP,409	EA 1
1	4	XDHZZ		SMC84148	80063	CASE TEST SET	3F7	EA 1
1	5	XDHZZ		SMD189406	80063	PANEL ASSEMBLY	CNP,4G9	EA 1
1	5	XDHZZ		SMD204602	80063	PANEL ASSEMBLY	3F6,3F7	EA 1
1	6	PAHZZ	5305-00-763-7822	MS51959-14	96906	SCREW MACHINE	EA	4



EL4C0002

Figure 2. Panel Assembly.

(1) ILLUSTRATION (A) FIG NO.	(2) (B) ITEM NO.	(3) SMR CODE	(4) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) USABLE ON COIU/M	(8) QTY INC IN UNIT
GROUP 01 PANEL ASSEMBLY								
2	1	PAHHH	6625-00-643-8544	SMB174265	80063	LEAD TEST	EA	1
2	2	PAHZZ	6145-00-164-6952	423-0234-00	13499	WIRE ELECTRICAL	EA	1
2	3	PAHHH	6625-00-643-8546	SCC82761	80063	PROD TEST MX1910/U	EA	1
2	4	XDHZZ		SCC76302-3	80063	INSULATOR SLEEVE	EA	1
2	5	XDHZZ		SCB23287	80063	WASHER FLAT	EA	1
2	6	PAHZZ	6625-00-669-0244	SCB76301	80063	TIP	EA	1
2	7	PAHZZ	6625-01-005-0324	4059-125	06339	FREQUENCY METER	CNP	EA
2	7	PAHZZ	6625-00-061-3283	290-10694	77221	FREQUENCY METER	3F7	EA
2	7	PAHZZ		2896S	07239	FREQUENCY METER	3F6,4G9	EA
2	8	PAHZZ	6625-00-935-1444	SMB204605	80063	VOLTIMETER	CNP,3F6,4G9	EA
2	8	PAHZZ	6625-00-061-3281	270-10795	77221	VOLTIMETER	3F7	EA
2	9	PAHZZ	5305-00-763-7822	MS51959-14	96906	SCREW MACHINE	CNP,4G9	EA
2	10	PAHZZ		SMD189406-7	80063	BOOT RUBBER	CNP,4G9	EA
2	11	PAHZZ	6625-00-087-7101	SMC189403	80063	PANEL FRONT	CNP,4G9	EA
2	12	PAHZZ	5930-00-660-3950	MS24524-30	96906	SWITCH TOGGLE	EA	1
2	13	PAHZZ	5905-00-140-6155	RCR42G223JS	81349	RESISTOR FIXED COMPOSITION	CNP,3F6,3F7	EA
2	13	PAHZZ	5905-00-151-4633	RCR42G243JS	81349	RESISTOR, FIXED COMPOSITION	4G9	EA
2	14	PAHZZ	5940-00-329-5409	863	83330	TERMINAL BOARD	EA	1
2	15	PAHZZ	5310-00-782-1349	AN960C4	88044	FLAT WASHER	EA	1
2	16	PAHZZ	5310-00-934-9748	MS35649-244	96906	NUT PLAIN HEXAGON	EA	1
2	17	PAHZZ	5905-00-147-1987	RCR42G203JS	81349	RESISTOR FIXED COMPOSITION	CNP,3F6,3F7	EA
2	17	PAHZZ	5905-00-192-4504	RC42GF822J	81349	RESISTOR, FIXED COMPOSITION	4G9	EA
2	18	PAHZZ	5940-00-636-6025	849	83330	TERMINAL BOARD	CNP,4G9	EA
2	19	XDHZZ	5975-00-578-2864	SR3L	28520	STRAIN RELIEF	EA	1



EL4C0003

Figure 3 . Case .

(1) ILLUSTRATION (A) FIG NO.	(2) (B) ITEM NO.	(3) SMR CODE	(4) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) FSCM	(6) DESCRIPTION	(7) USABLE ON COIU/M	(7) EA	(8) QTY INC IN UNIT
GROUP 02 CASE									
3	1	PAHZZ	5330-01-014-1227	SMB146834	80063	GASKET	CNP,4G9	EA	1
3	2	PAHZZ	5310-00-187-2398	AN960PD6L	88044	WASHER FLAT	CNP,4G9	EA	4
3	3	XDHZZ		SMB189405	80063	CLIP FUSE		EA	4
3	4	XDHZZ		SMB84162	80063	CLIP ASSEMBLY		EA	1
3	5	XDHZZ		SMB84165	80063	CLIP ASSEMBLY		EA	1
3	6	XDHZZ		SMC146832	80063	PLATE MOUNTING	CNP,4G9	EA	1
3	7	XDHZZ		SMB146833	80063	RIVET SOLID	CNP,4G9	EA	4
3	8	XDHZZ		SMC189401	80063	CASE TOP	CNP,4G9	EA	1
3	8	XDHZZ		SMC84160	80063	CASE TOP	3F7	EA	1
3	9	XDHZZ		SMB174197	80063	PLATE IDENTIFICATION	469,CNP	EA	1
3	10	XDHZZ		SMC146837	80063	CASE BOTTOM	CNP,4G9	EA	1
3	10	XDHZZ		SMB146835	80063	CASE BOTTOM	3F6,3F7	EA	1

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

STOCK NUMBER	FIGURE NO.	ITEM NO.	STOCK NUMBER	FIGURE NO.	ITEM NO.
6625-00-061-3281	2	8	6625-00-643-8544	2	1
6625-00-061-3283	2	7	6625-00-643-8546	2	3
6625-00-087-7101	2	11	5930-00-660-3950	2	12
5905-00-140-6155	2	13	6625-00-669-0244	2	6
5905-00-147-1987	2	17	5940-00-702-5256	1	2
5905-00-151-4633	2	13	5305-00-763-7822	1	6
6145-00-164-6952	2	2			
5310-00-187-2398	3	2	5305-00-763-7822	2	9
5905-00-192-4504	2	17	5310-00-782-1349	2	15
5940-00-329-5409	2	14	5310-00-934-9748	2	16
5975-00-578-2864	2	19	6625-00-935-1444	2	8
5935-00-581-3170	1	1	6625-01-005-0324	2	7
5940-00-636-6025	2	18	5330-01-014-1227	3	1

PART NUMBER	FSCM	FIG NO	ITEM NO	PART NUMBER	FSCM	FIG NO	ITEM NO
AN960C4	88044	2	15	SMB4165	80063	3	5
AN960PD6L	88044	3	2	SMC146832	80063	3	6
MS24524-30	96906	2	12	SMC146836	80063	1	4
				SMC146837	80063	3	10
MS35649-244	96906	2	16	SMC147200	80063	1	3
MS51959-14	96906	1	6	SMC189401	80063	3	8
MS51959-14	96906	2	9	SMC189403	80063	2	11
RCR42G203JS	81349	2	17	SMC204777	80063	1	3
RCR42G223JS	81349	2	13	SMC84147	80063	1	3
RCR42G243JS	81349	2	13	SMC84148	80063	1	4
RC4GF822J	81349	2	17	SMC84160	80063	3	8
SCB23287	80063	2	5	SMD189406	80063	1	5
SCB76301	80063	2	6	SMD189406-7	80063	2	10
SCC76302-3	80063	2	4	SMD204602	80063	1	5
SCC82761	80063	2	3	SR3L	28520	2	19
SCDL174282	80063	1	1	1410D1	91802	1	2
SMB146833	80063	3	7	270-10795	77221	2	8
SMB146834	80063	3	1	2896S	7239	2	7
SMB146835	80063	3	10	290-10694	77221	2	7
SMB174197	80063	3	9	4059-125	6339	2	7
SMB174265	80063	2	1	423-0234-00	13499	2	2
SMB189405	80063	3	3	849	83330	2	18
SMB204605	80063	2	8	863	83330	2	14
SMB84162	80063	3	4				

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SHAD (3)	29-55	
USA Dep (1)	26-57	
Sig Sec USA Dep (1)	29-75	
Sig Dep (1)		
Sig FLDMS (1)		

NG: State AG (3); Units-Same as Active Army except allowance is one copy each unit.

USAR: None

For explanation of abbreviations used, see AR 310-50.

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Stateside, N.J. 07703

DATE 10 July 1975

PUBLICATION NUMBER

TM 11-5840-340-12

DATE

23 Jan 74

TITLE

Radar Set AN/PSC-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.
2-25	2-28		
3-10	3-3		3-1
5-6	5-8		
		FO3	

Recommend that the installation antenna alignment procedure be changed throughout 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.

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.

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

REASON: To replace the cover plate.

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.

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

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FIGURE NO.

TABLE NO.

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PARA-GRAPH

FIGURE NO.

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TITLE

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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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TEAR ALONG DOTTED LINE

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

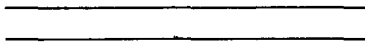
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# THE METRIC SYSTEM AND EQUIVALENTS

## NEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches  
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches  
 1 Kilometer = 1000 Meters = 0.621 Miles

## WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces  
 1 Kilogram = 1000 Grams = 2.2 lb.  
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

## LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces  
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

## SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches  
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet  
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

## CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches  
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

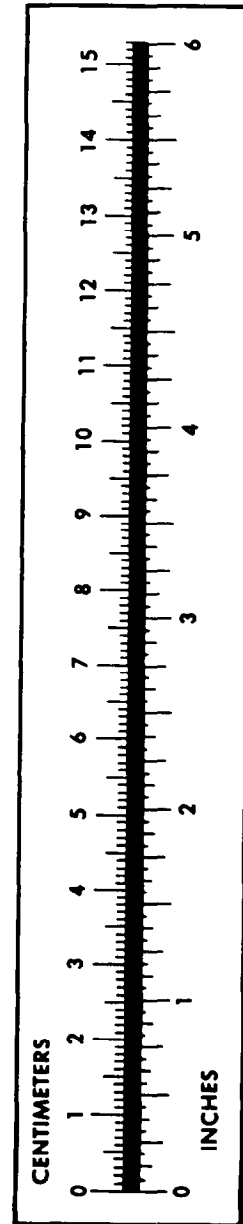
## TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$   
 212° Fahrenheit is equivalent to 100° Celsius  
 90° Fahrenheit is equivalent to 32.2° Celsius  
 32° Fahrenheit is equivalent to 0° Celsius  
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

## APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621





**PIN: 033368-000**