

**TECHNICAL MANUAL**

**ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOLS USTS  
FOR**

**ANTENNA GROUP AN/GRA-4**

**(NSN 5985-00-244-5147)**

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TECHNICAL MANUAL

No. 11-5985-231-24P

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 7 June 1978

**ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOLS LISTS  
FOR  
ANTENNA GROUP AN/GRA-4  
(NSN 5985-00-244-5147)  
Current as of 23 January 1978**

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This manual supersedes TM 11-5985-231-24P, 15 August 1973.

**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, direct support, and general support maintenance of the NA/GRA-4. 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 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.

**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:

<b>Code</b>	<b>Definition</b>
PA -	Item procured and stocked for anticipated or known usage.
PD -	Support item, excluding support equipment, procured for initial issue or outfitting and stocked only for subsequent or additional initial issues or outfittings.

**Code**

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

**Definition**

**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 are 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:

<b>Code</b>	<b>Application/Explanation</b>
O -	Support item is removed, replaced, used at the organizational level.
F -	Support item is removed, replaced, used at the direct support level.

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

<b>Cod</b>	<b>Application/Explanation</b>
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.
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.
0 - Repairable item.	When uneconomically repairable, condemn and dispose at organizational level.
F - Repairable item.	When uneconomically repairable, condemn and dispose at the direct 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 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.
- g. Unit of Measure (UIM). 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**

The following publications pertain to the AN/ GRA-4 and its components: TM 11-2651, Antenna Groups AN/GRA-4 and AN/GRA-12 TM 11-5985-22912P, Mast AB-86/GRA-4 TM 11-598522365P, Mast AB-86/GRA-4 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 illustration 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) Four. 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.

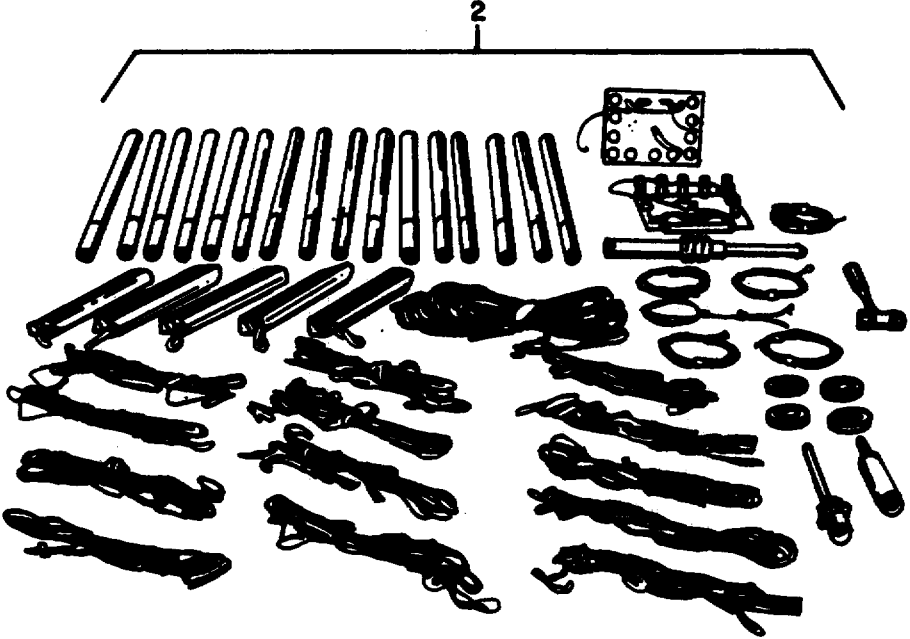
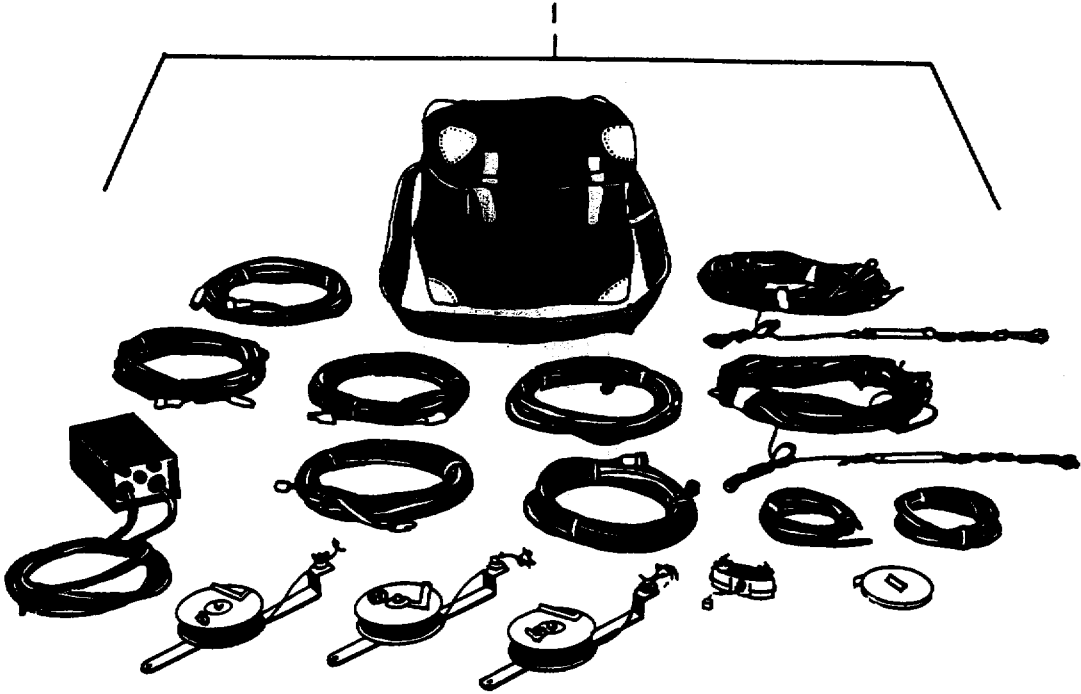
(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. This index is in NIIN sequence followed by a list of part numbers in alphanumeric sequence, cross-referenced to the illustration figure number and item number.

(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)**



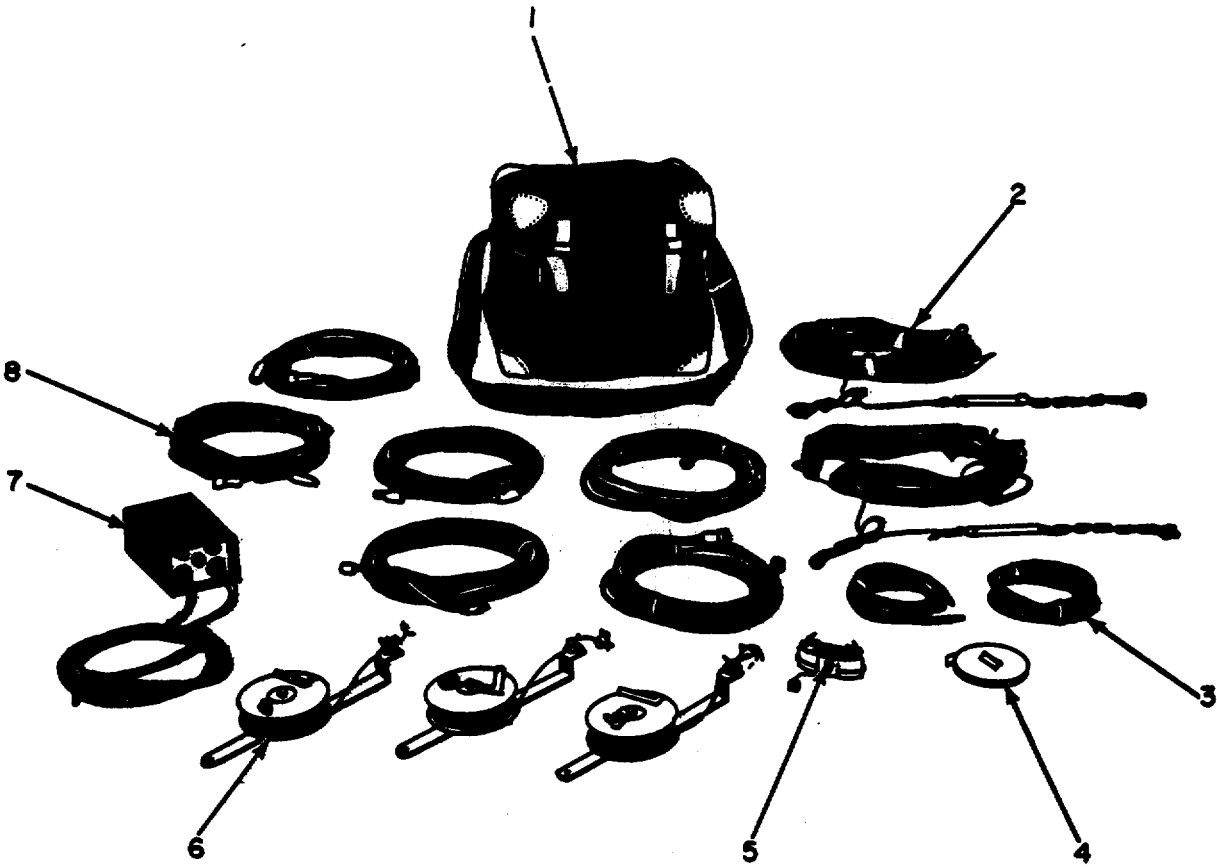
EL5AF001

Figure 1. Antenna Group AN/GRA-4.

SECTION II

TM 11 5985 231 24P

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
1	1	PDOFF	5998 00-264-7586	AS-244/GRA-4	80058	GROUP 00 ANTENNA GROUP AN/GR-4 ANTENNA	EA	1
1	2	PDOFF	5985-00-257-2927	AB-86,/GRA-4	80058	ANTENNA,MAST	EA	2



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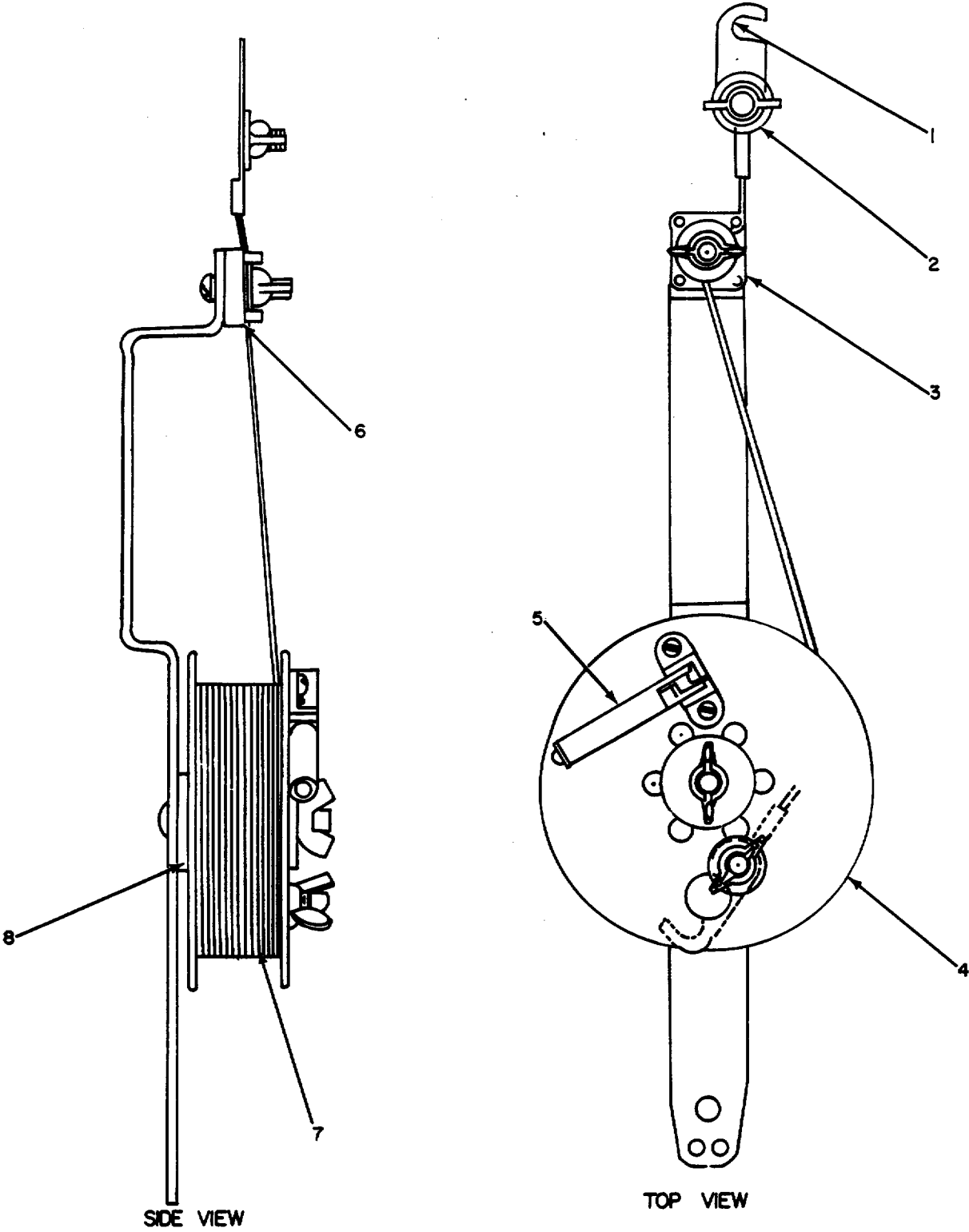
Figure 2. Antenna AS-244/GRA-4.  
6

SECTION II

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(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
						GROUP 01 ANTENNA AS-2440G-4		
2	1	PAOZZ	8105-00-497-9628	BG-102	80058	BAG	EA	1
2	2	PAOOO	5985-00-228-8064	MX516GRA4	80058	HALYARD	EA	2
2	3	PAOZZ	6145-00-160-5114	W-128	81349	WIRE	EA	10
2	4	PAOZZ	5210-00-221-1888	00GGGT106	81348	TAPE,MEASURING	EA	1
2	5	PAOFF	5970-00-405-8223	IL4GRA4	80058	INSULATOR	EA	1
2	6	PAOFF	5985-00-497-8765	RL122GRA4	80058	REEL	EA	3
2	7	PAOFF	5820-00-355-8024	TN174GRA4	80058	ANTENNA TUNER	EA	1
2	8	PAOFF	5995-00-247-9759	CG357U	80058	CABLE ASSEMBLY	EA	6





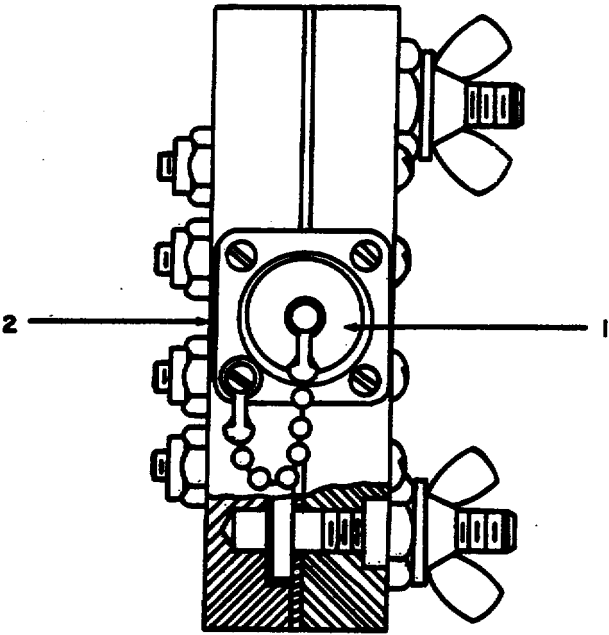
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Figure 3. Reel RL-122/GRA-4.

SECTION II

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(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
						GROUP 0101 REEL RL-L2Z/GRf-4		
3	1	XDOZZ		1000-18	82241	HOOK	EA	1
3	2	PAOZZ	5940-00-355-3344	SCB34913	80063	CLAMP.ELECTRICAL	EA	1
3	3	PAOZZ	3940-00-266-9027	33-3	79517	BLOCK,TACKLE	EA	2
3	4	PAOZZ	5920-00-256-9055	SCC34897	80063	REEL,WIRE	EA	1
3	5	PAOZZ	5823-00-355-9027	SCC34902	80063	HANDLE	EA	1
3	6	PAOZZ	5999-00-643-7004	SCB34908	80063	CLAMP	EA	1
3	7	PAOZZ	6145-00-220-9874	W-120	81349	WIRE	FT	300
3	8	PAOZZ	5310-00-209-1453	SCB34895	80063	WASHE,FLAT	EA	4



**EL5AF004**

Figure 4. Insulator IL-4/GRA-4.

SECTION II

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
4	1	PAOZZ	5935-00-113-0352	MX9130	80058	GROUP 0102 INSULATOR IL-4/GR-4	EA	1
4	2	PAOZZ	5135-00-149-3483	UG-58-A/U	80058	COVER.ELEC CONNECTOR,RCPT	EA	1

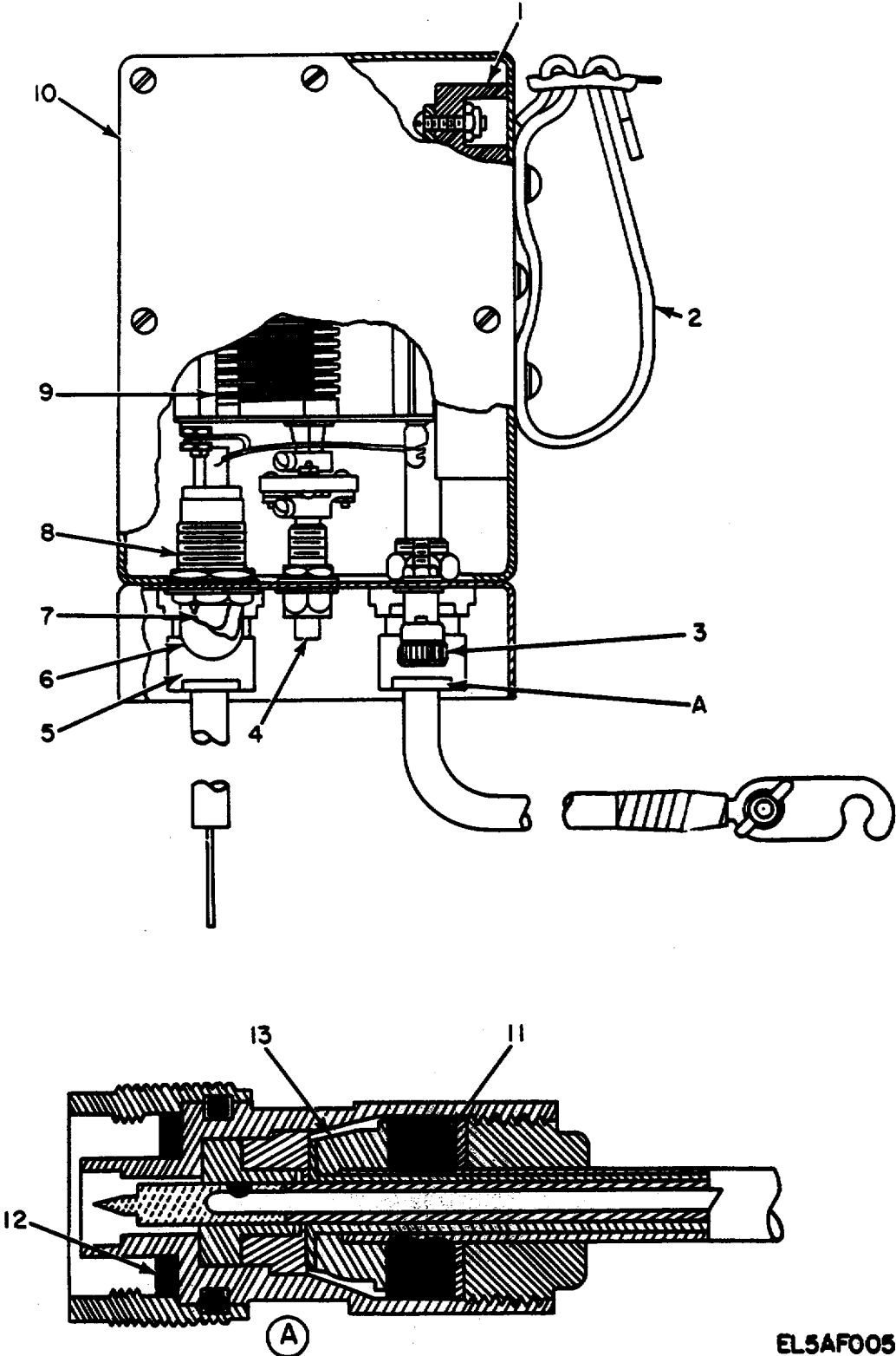


Figure 5. Antenna Tuner TN-174/GRA-4.

EL5AF005

## SECTION II

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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP O103 ANTENNA TUNER TN-174/GRA-4		
5	1	PAFZZ	5970-00-356-055	MX116	80058	INSULATOR, STANDOFF	EA	1
5	2	PAOZZ	5995-00-402-5328	1030-22	82241	SLING, CARRYING	EA	1
5	3	PAOZZ	5940-00-242-0954	14K	72825	POST, BINDING	EA	1
5	4	PAOZZ	3010-00-240-6664	TX8	42498	COUPLING, SHAFT, RGD	EA	1
5	5	XOFZZ		SC034917-6	80063	CO.NNECTOR.CPT	EA	1
5	6	PAOZZ	6213-00-270-4119	91-937	80063	LENS, INO LIGHT	EA	1
5	7	PAOZZ	6240-00-223-9100	NE51	03350	LAMP, GLOW	EA	1
5	8	XDFZZ		912210-9	72619	LIGHT, INDICATOR	EA	1
5	9	XDFZZ		SCC34920	80063	CAPACITOR, VARIABLE	EA	1
5	10	PAFZZ	5975-00-557-2804	SCO-15576GR	80063	BOX CONNECSTOR, ELEC	EA	2
5	11	PAFZZ	5310-00-641-2714	SCB15582-4	80063	PACKING, PREFORMED	EA	2
5	12	PAFZZ	5330-00-521-0628	SCB16582	80063	PACKING, PREFORMED	EA	2
5	13	PAFZZ	5975-00-523-5655	SCB1658-4	80063	SLEEVE	EA	2

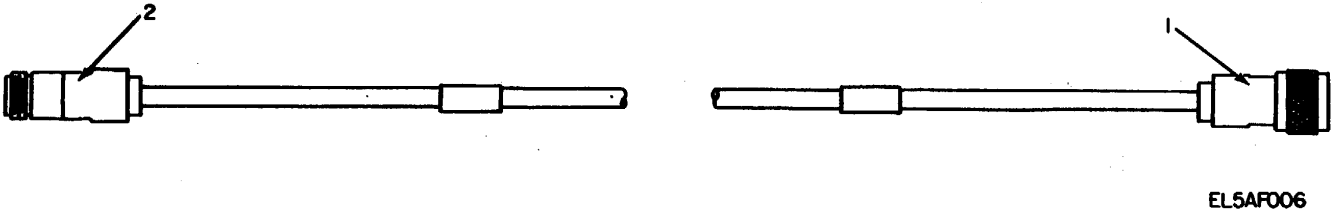
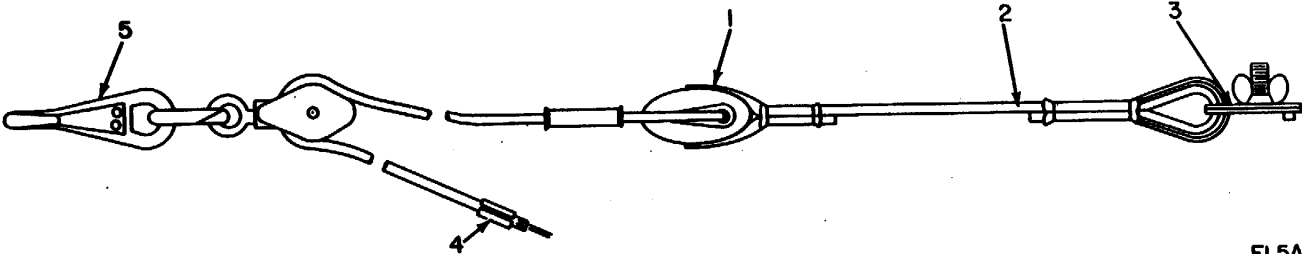


Figure 6. Cable Assembly CG-357/U.  
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(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	PART NUMBER	FSCM	DESCRIPTION  USABLE ON CODE	U/M	QTY INC IN UNIT
6	1	XDFZZ		SCO34982-3	80063	GROUP 0104 CABLE ASSEMBLY C3-357/U CONNECTOR.PLUG.....	EA	1
6	2	PAFZZ	5935-00-500-8608	UG603AU	40058	CONNECTOD,PLUG.....	EA	1





EL5AF007

Figure Halyard MX-516/GRA-4.

SECTION II

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(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
						GROUP 0105 HALYARD MX-516/GRA-4		
7	1	XDOZZ		MX-384	80058	INSULATOR.STRAIN.....	EA	1
7	2	PAOZZ	4020-00-202-1345	SCD28053-1	80063	ROPE.DACRON.....	FT	140
7	3	PAOZZ	5820-00-030-3092	SCD28055	80063	CLAMP .....	EA	1
7	4	PAOZZ	5975-00-392-9599	SCD14516-6	80063	CLAMP .....	EA	1
7	5	PAOZZ	5340-00-497-8670	SCA1304	80063	HOOK.....	EA	1

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

**NOTE: LATEST NATIONAL STOK NUMBER AND PART NUMBER ASSIGNMENTS ARE INCLUDED AT END OF**

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5820-00-030-3092	7	3	5940-00-335-3344	3	2
5935-00-149-3483	4	2	5820-00-355-8024	2	7
6145-00-160-5114	2	3	5820-00-355-9027	3	5
4020-00-202-1345	7	2	5970-00-356-0553	5	1
5310-00-209-1453	3	8	5975-00-392-9599	7	4
6145-00-220-9874	3	7	5985-00-402-5320	5	2
5210-00-221-1888	2	4	5970-00-405-6223	2	5
6240-00-223-9100	5	7	5340-00-497-8670	7	5
5985-00-228-8064	2	2	5985-00-497-8765	2	6
3010-00-240-6664	5	4	5805-00-497-9628	2	1
5940-00-242-094	5	3			
5995-00-247-9559	2	8	5330-00-521-0628	5	12
5820-00-256-9055	3	4	5975-00-923-56S5	5	13
5985-00-264-7506	1	1	5975-00-557-2804	5	10
6210-00-270-4119	5	6	5999-00-643-7004	3	6

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Part Number	FSCM	Fig. No.	Item No.	Part Number	FSCM	Fig. No.	Item No.
AB-86/GRA-4	80058	1	2	SCC34920	80063	5	9
AS-244/GRA-4	80058	1	1	SCD14516-6	d0063	7	4
BG-102	60058	2	1	SCD165t6GCR	80063	5	10
CG357U	80058	2	8	SCD28053-1	80063	7	2
IL4GRA4	80058	2	5	SCD280SS	80063	7	3
MX-384	80058	7	1	SCD34917-6	80063	5	5
SC034982-3	80063	6	1				
MXIL6	80058	5	1	TN174RA4	80058	2	7
MXS1 IGRA4	80058	2	2	TX8	42498	5	4
NE51	03350	5	7	UG-58SAU	80058	4	2
RLL22GCA4	80058	2	6				
SCA 304	80063	7	5	W-120	83349	3	7
SCB16582	80063	5	12	128	83349	2	3
SCB16582-4	80063	5	11	1000-18	82241	3	1
SCL165-4	00063	5	13	1000-22	82241	5	2
SCP34895	80063	3	8	14K	72825	5	3
SCB34908	80063	3	6	336-3	79577	3	3
SCB34913	80063	3	2	400L	23504	Z	4
SCC348S7	80063	3	4	91-931	72619	5	6
SCC34902	80633	3	5	912210-9	72619	5	8

**LAST NATIONAL STOCK NUMBER ASSIGNMENTS**

STOCK NUMBER	FIG.NO	ITEM NO.
5935-00-333-0352	4	3
595-00-257-2927	3	2
390 00-266-9027	3	3
593-000-500-8608	6	2
5330-00-641-274	5	11

**LATEST PART NUMBER ASSIGNMENTS**

PART NUNIER	FSCM	FIG.NO	ITEM NO.
MX9130	80058	4	3
UG603AU	80058	6	2
OOGGGT106	81348	2	4

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