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NAVSHIPS  
0967-161-7010

TECHNICAL MANUAL

*for*

TRANSMITTING ANTENNA

DISSIPATOR AND DUMMY LOAD

MODEL TER-5000-50U

(DA-209/U)



THE TECHNICAL MATERIEL CORPORATION

MAMARONECK, N.Y.

OTTAWA, ONTARIO

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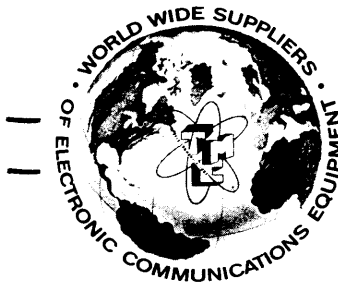
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#### NOTICE

THE CONTENTS AND INFORMATION CONTAINED IN THIS INSTRUCTION MANUAL IS PROPRIETARY TO THE TECHNICAL MATERIEL CORPORATION TO BE USED AS A GUIDE TO THE OPERATION AND MAINTENANCE OF THE EQUIPMENT FOR WHICH THE MANUAL IS ISSUED AND MAY NOT BE DUPLICATED EITHER IN WHOLE OR IN PART BY ANY MEANS WHATSOEVER WITHOUT THE WRITTEN CONSENT OF THE TECHNICAL MATERIEL CORPORATION.



# THE TECHNICAL MATERIEL CORPORATION

C O M M U N I C A T I O N S   E N G I N E E R S

700 FENIMORE ROAD

MAMARONECK, N. Y.

## W a r r a n t y

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes,\*fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes\*furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

\*Electron tubes also include semi-conductor devices.

### *PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT*

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

### *PROCEDURE FOR ORDERING REPLACEMENT PARTS*

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

### *PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT*

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION  
Engineering Services Department  
700 Fenimore Road  
Mamaroneck, New York

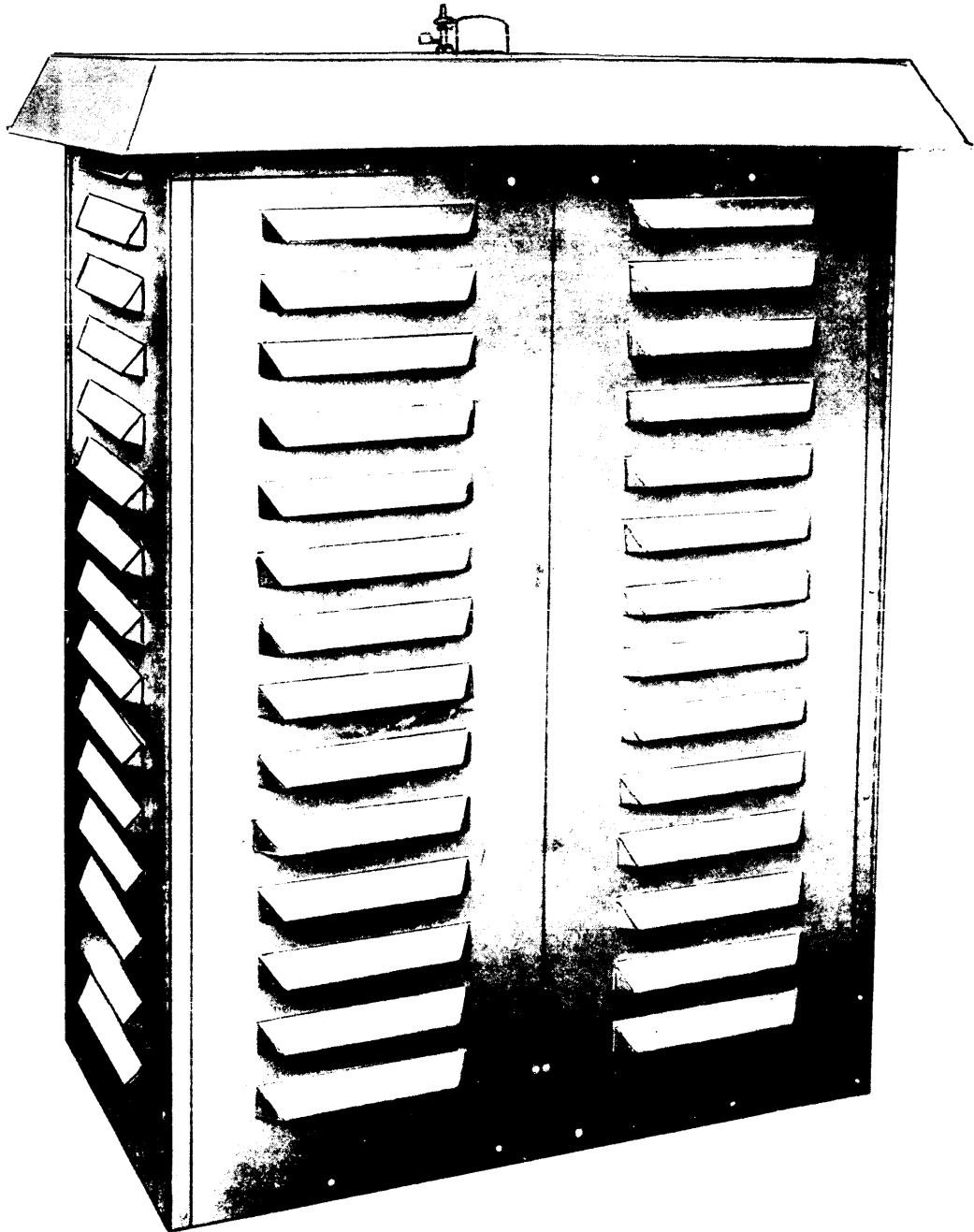


## TABLE OF CONTENTS

<u>Paragraph</u>		<u>Page</u>
1	Purpose . . . . .	2
2	Description . . . . .	2
3	Technical Specifications . . . . .	2
4	Installation . . . . .	3
5	Unpacking . . . . .	5
6	Test Procedure . . . . .	5
7	Maintenance . . . . .	5
	Parts List . . . . .	7

## LIST OF ILLUSTRATIONS

<u>Figure</u>		<u>Page</u>
1	Transmitting Antenna Dissipator and Dummy Load, Model TER-5000-50U . . . . .	1
2	Installation Diagram . . . . .	4
3	Model TER-5000-50U . . . . .	6
4	Mounting Plate Connector, AX-273 QDL . . . . .	9



8009C-1

Figure 1. Transmitting Antenna Dissipator and Dummy Load,  
Model TER-5000-50U



## 1. PURPOSE

Transmitting Antenna Dissipator and Dummy Load, TER-5000/50U (figure 1) is a flat resistive termination used at transmitting sites as a dummy load for routine off-the-air tuning or as a termination for Rhombic, Sloping Vee, or other types of antennas to increase the efficiency and directivity of the antenna.

## 2. DESCRIPTION

The TER is capable of dissipating rf energy in the order of 5 kilowatts average (10 kilowatts PEP) over an rf frequency range of up to 30 megacycles.

The TER consists of three low reactance (glass) resistors housed in a fiberglass reinforced plastic case, and is designed for above-ground platform installation.

## 3. TECHNICAL SPECIFICATIONS

Frequency Range:	Up to 30 mc.
Average Power Dissipation:	5000 watts.
Peak Envelope Power Dissipation:	10,000 watts.
Typical VSWR Ratio:	1 to 1
Input Impedance:	50 ohms, unbalanced
Cooling:	Convection cooling by means of screened vent ports.
Input Terminal:	Single coaxial

### 3. TECHNICAL SPECIFICATIONS (Cont)

Operating Temperature:	-40 <sup>o</sup> C to + 75 <sup>o</sup> C ambient.
Resistors:	Special glass cylinders with resistive element electrofused into surface. Baked silicone protective coating. Fired on silver bands to assure positive connection. Resistor spiral cut to insure even heat dissipation.
Protection:	Internal spark gap for lightning protection.
Case Material:	Fiberglass reinforced plastic.
Size:	63-1/2 inches high x 47 inches wide x 27 inches deep.
Weight:	125 lbs. (approx.)
Volume:	60 cu. ft. (approx.)
Components and Construction:	All equipment manufactured JAN/MIL specifications wherever practicable.

### 4. INSTALLATION

The TER is shipped in one crate completely assembled. Each unit has been factory tested and is delivered ready to be placed into service. Preliminary adjustments are not necessary. Refer to Installation Diagram for proper mounting details and dimensions.

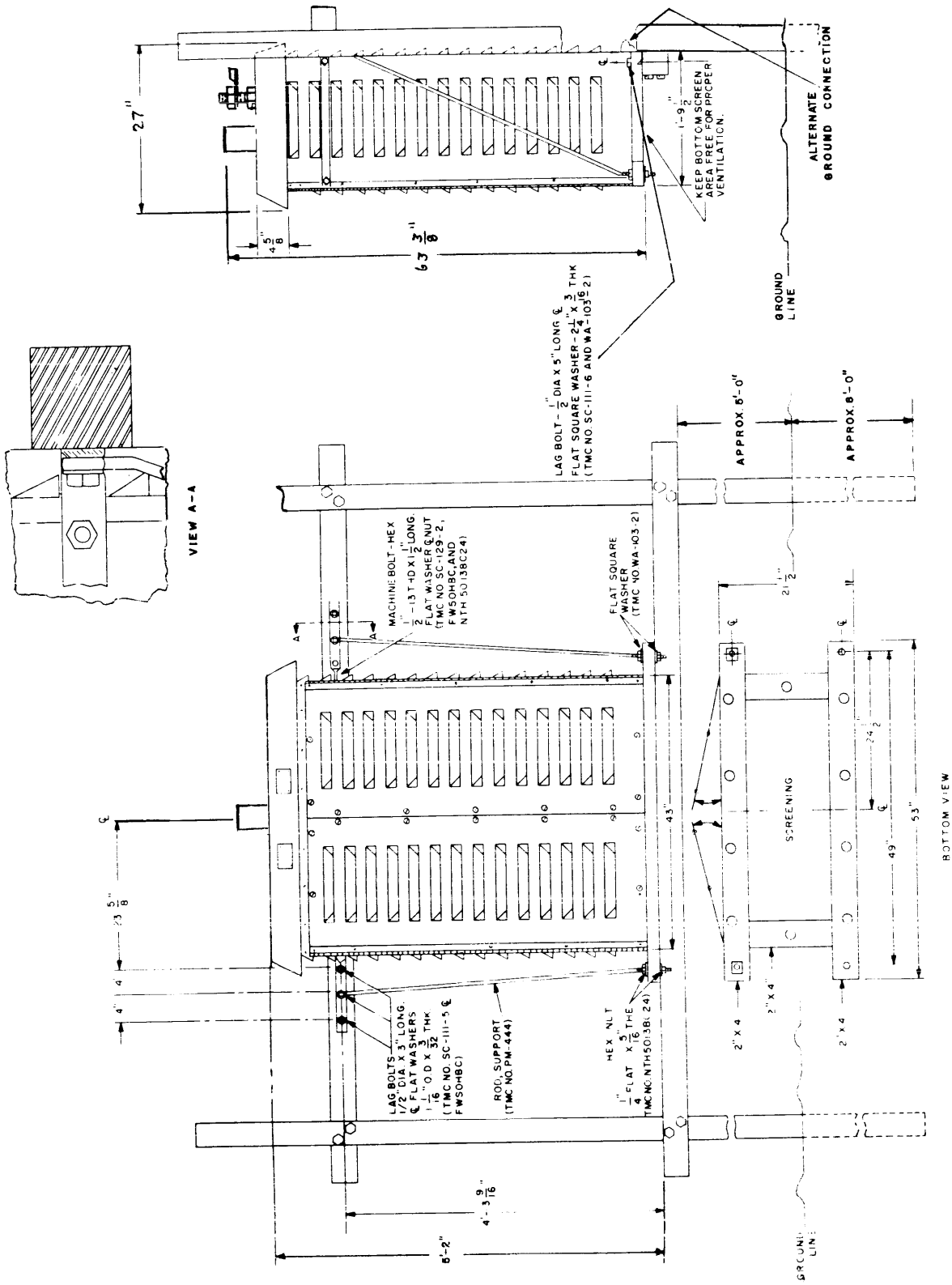


Figure 2. Installation Diagram

8009G-2

## 5. UNPACKING

When the unit is unpacked it should be inspected for any damage incurred in transit. Inspect all packing material for parts which may have been shipped as loose items.

With respect to damage to the equipment for which the carrier is liable, The Technical Materiel Corporation will assist in describing methods of repair and the furnishing of replacement parts.

## 6. TEST PROCEDURE

a. Inspect resistors for any signs of damage which may have incurred in transit.

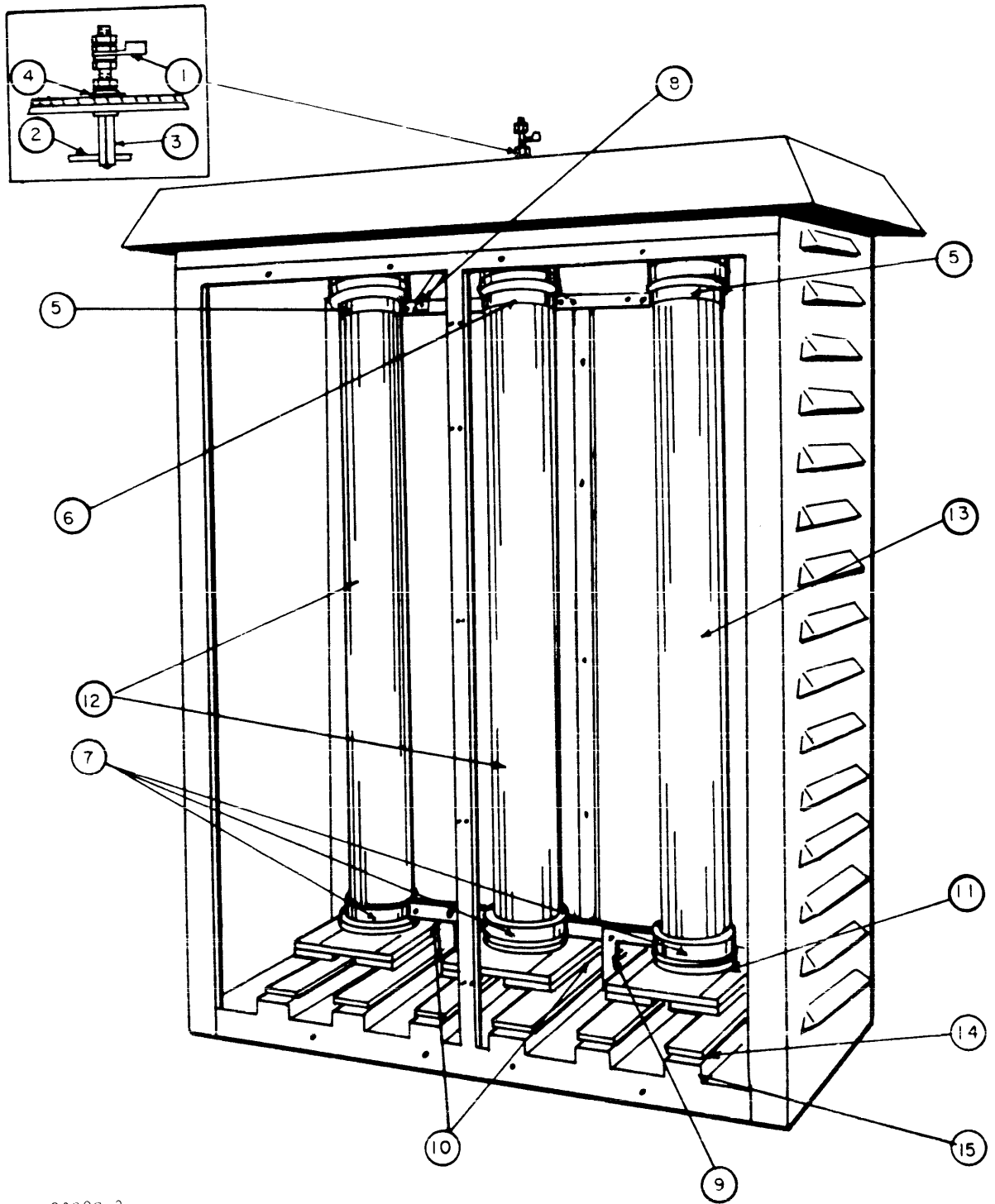
b. Check spark-gap for proper spacing of 1/8 inch.

c. Measure total resistance of the three resistors in parallel.

Total resistance measured should not exceed  $\pm 5\%$  of total rated resistance

## 7. MAINTENANCE

The TER normally requires no maintenance other than a periodic cleaning of electrical connections and a check that all external and internal connections are tight.



8009C-3

Figure 3. Model TER-5000-50U

## PARTS LIST

MODEL TER-5000-50U

ITEM (See figure 3)	DESCRIPTION	TMC PART NO.	QUANTITY PER UNIT
1	TERMINAL: solderless	TE-106	2
2	ROD, SPARK GAP: brass, cadmium plated.	PM-509	1
3	POST, SPARK ROD: brass, cadmium plated.	PM-532	1
4	GASKET: neoprene; 3/32" thk x 9/16" O.D. x 1/4" I.D. hole.	GA-104	1
5	STRAP ASSEMBLY: resistor top; copper, silver plated.	A-1586	2
6	STRAP ASSEMBLY: center resistor top; copper silver plated.	A-2367	1
7	STRAP ASSEMBLY: resistor bottom; copper, silver plated.	A-1585	3
8	CONNECTOR: lead, input.	MS-1372-3	2
9	GROUND: bottom lead.	MS-1373	2
10	LEAD: connecting.	MS-202-31- 3.50	3
11	SPRING: compression; beryllium copper; 2-1/2" long x t/8" O.D. (top).	SP-127-3	12
	SPRING: compression; beryllium copper (bottom).	SP-127-1	12

## PARTS LIST (CONT)

MODEL TER-5000-50U

ITEM (See figure 3)	DESCRIPTION	TMC PART NO.	QUANTITY PER UNIT
12	RESISTOR AND CAP ASSEMBLY: fixed; 140 ohms, +5%; 3000 watts. (R R 120-14)	A-1632	2
13	RESISTOR AND CAP ASSEMBLY: fixed; 140 ohms, +5%; 3000 watts. (R R 20-170)	A-2356	1
14	INSULATOR: bottom pedestal.	PX-362	6
15	SUPPORT: pedestal; electrical equipment.	MS-2853	6

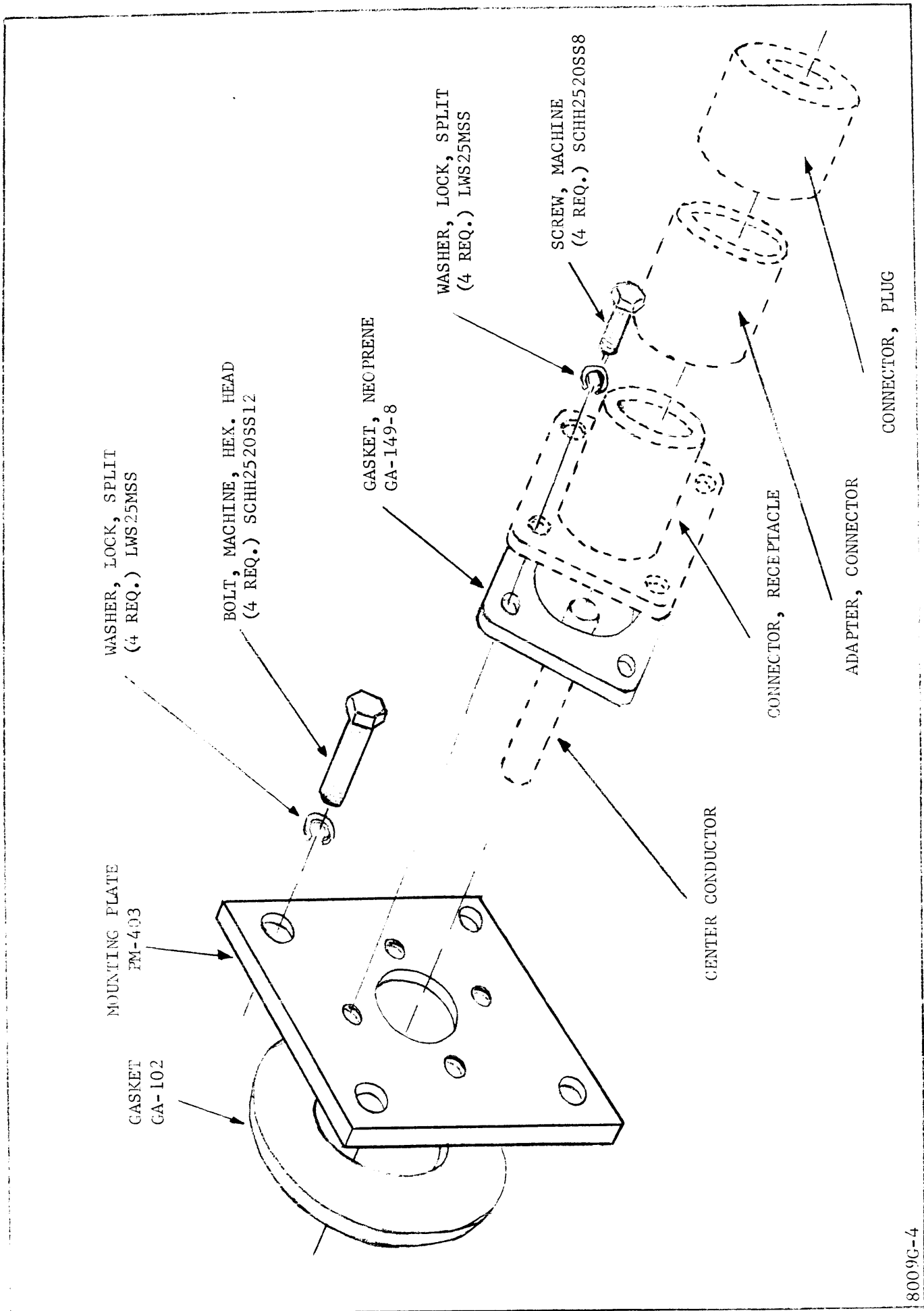


Figure 4. Mounting Plate Connector, AX-273 QDL