

**C-, E-, AND SIMILAR TYPE PROTECTORS
INCLUDING 444-TYPE JACKS
PIECE PART DATA AND REPLACEMENT PROCEDURES**

1. GENERAL

1.01 This section provides information necessary for ordering parts required for maintenance of the 68A, 68B, 69A, 78A, C50, C52, E50, and E52 protector mountings and corresponding protectors, and 444-type jacks used on central office main distributing frames. It also covers piece part information for the 10-type, 64A, 77A, and 77B protector mountings which are rated manufacture discontinued.

1.02 This section is reissued to change the title and to include piece parts data and replacement procedures for the 444-type jacks previously covered in Section 032-354-801.

1.03 Since this reissue is a general revision, arrows normally used to indicate changes have been omitted.

1.04 Part 2 covers the piece-parts which can be replaced in the field. These parts are identified on illustrations which show the parts together with their piece-part numbers and corresponding names. Due to the many types of heat coils available for protector mountings, piece part numbers are not shown. See Section 201-220-102 for protector blocks and heat coils.

2. PIECE-PART DATA

2.01 The figures included in this part show the various parts in their proper relation to the other parts of apparatus. The piece-part numbers of the various parts are given together with the names of the parts listed by the Western Electric Company Merchandise Department. Where these names differ from those in general use in the field, the latter names in some cases are shown in parentheses. Unless otherwise specified, the piece parts are common for all apparatus.

2.02 When ordering parts for replacement purposes, give both the piece-part number and the name of the part: for example, P-135316 contact spring. Do not refer to the section number or to any information in parentheses following the ordering information.

2.03 Parts for protectors rated manufacture discontinued are not available on order from the Western Electric Co. in the regular manner and, therefore, should be obtained from protectors removed from service.

2.04 Information enclosed by parentheses is not ordering information. This information may be references to notes, parts referred to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

3. REPLACEMENT PROCEDURES

3.01 List of Tools

CODE OR SPEC NO.	DESCRIPTION
32	1/4-Inch Hex. Single-End Socket Wrench (2 required)
46	3/8-Inch Hex Single-End Socket Wrench (for 78A Protector Mounting)
447A	17/64-Inch Hex Single-End Socket Wrench (two required)
	Sharp Knife

3.02 Due to the simplicity of protector mountings, details of replacement procedures of component parts are not given except for the 444-type jack.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

444-Type Jack

3.03 Before replacing any components on the 444-type jack, tag and remove the leads connected to the two horizontal rows of terminals on which the replacements are to be made in accordance with approved procedures. Remove excess solder from the terminals in order to facilitate the removal of the parts.

3.04 After making any replacement of parts on a 444-type jack, the two horizontal rows of terminals on which replacements are made shall meet the readjust and contact alignment requirements as specified in Section 201-206-701. After making any necessary replacements and adjustments, connect the leads to the proper terminals.

3.05 No replacement procedures are specified for screws and other small parts where the replacement consists of a simple operation.

3.06 *Clamping Plate:* Remove the four clamping plate mounting nuts with the two 32-wrenches. Remove the lockwashers or small clamping plate if furnished. If the clamping plate under the mounting nuts is to be replaced, remove it and substitute the new part. Remount the lockwashers, clamping plate between jacks (if furnished), and mounting nuts. Tighten the nuts securely taking care not to tighten them too tight or the mounting screw may be damaged. If the clamping plate under the heads of the mounting screws is to be replaced, remove the clamping plate under the mounting nuts and the mounting screws. Remove the clamping plate and substitute the new plate. Insert the mounting screws and

remount the other clamping plate. Remount and tighten the lockwashers and nuts that were removed as described previously.

3.07 *Insulators, Terminals, and Contact Springs:* To replace an insulator or spring in a horizontal row of terminals, remove the two clamping plates as covered in 3.06. Insert the mounting screws through the bushings in the horizontal row of terminals on which the replacement is not to be made. Mount the lockwashers and mounting nuts loosely on the mounting screws. This will prevent the associated assembly from becoming loose while the replacement is being made on the other pile-up.

3.08 In making the following replacements, completely disassemble the pile-up and replace the bushing. This is necessary since the bushings may have been distorted during assembly of the parts under pressure in the shop and in disassembling the parts it may be necessary to mutilate the bushing.

3.09 Remove the insulators and springs from the bushings, tagging the parts to facilitate reassembly. Take care not to damage the insulators. Remove the bushings from the mounting plate and substitute new ones. Use bushings 1-3/8 inch long, cutting them off to this length, if necessary, with a sharp knife. Remount the insulators and springs in the reverse order from which they were removed, substituting new parts for defective parts. Remount the clamping plates, mounting screws, lockwashers, and mounting nuts as covered in 3.06.

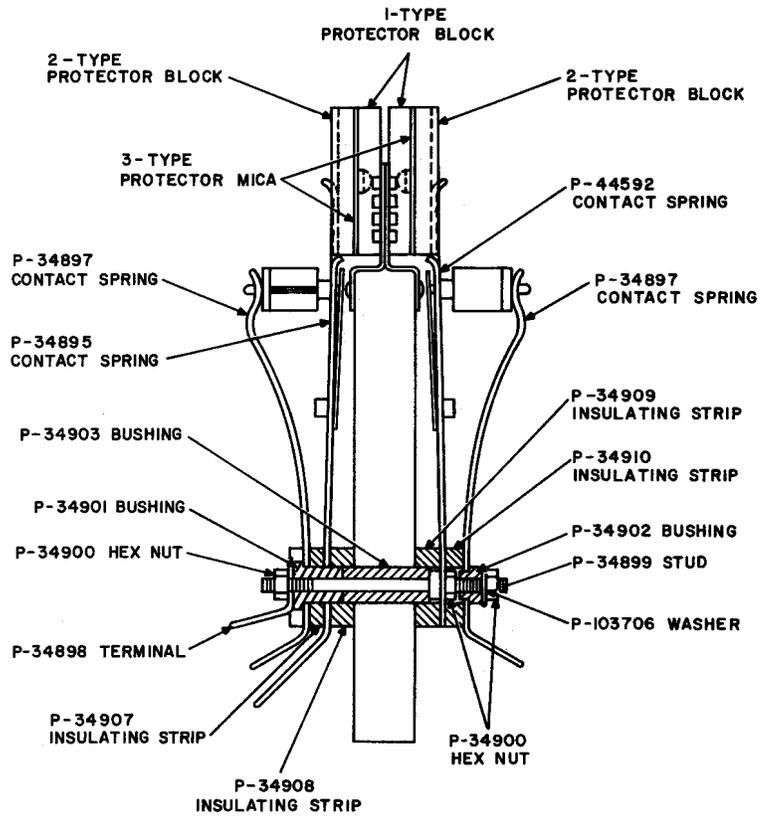


Fig. 1—4A and 4C Protectors—10-Type Protector Mounting

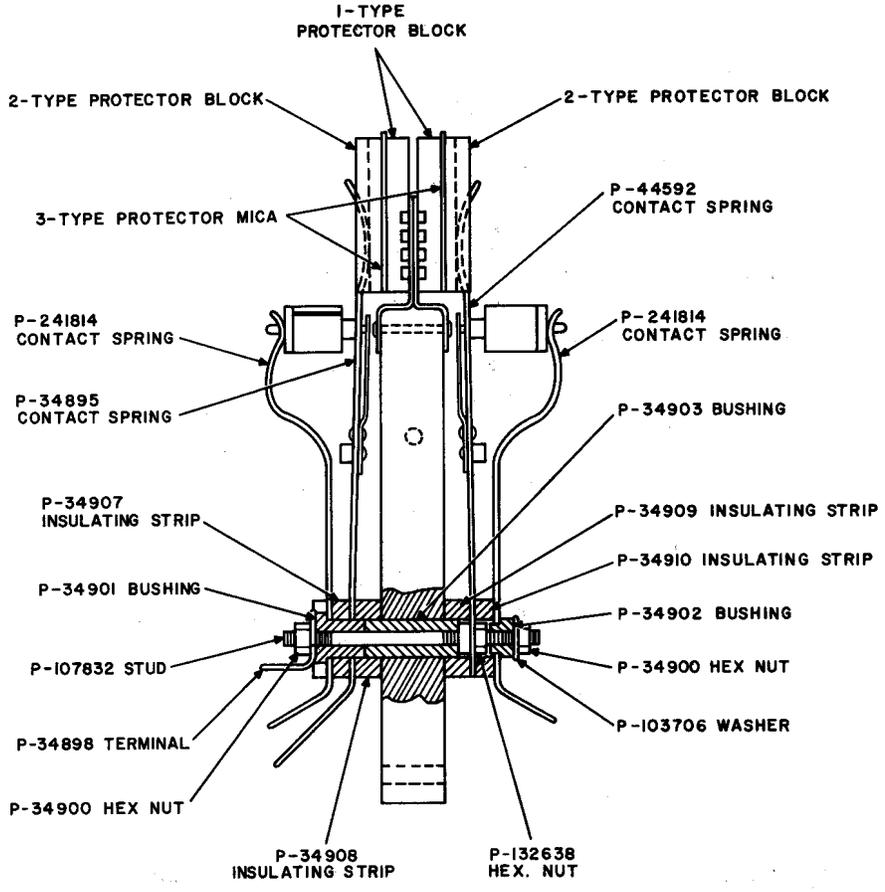
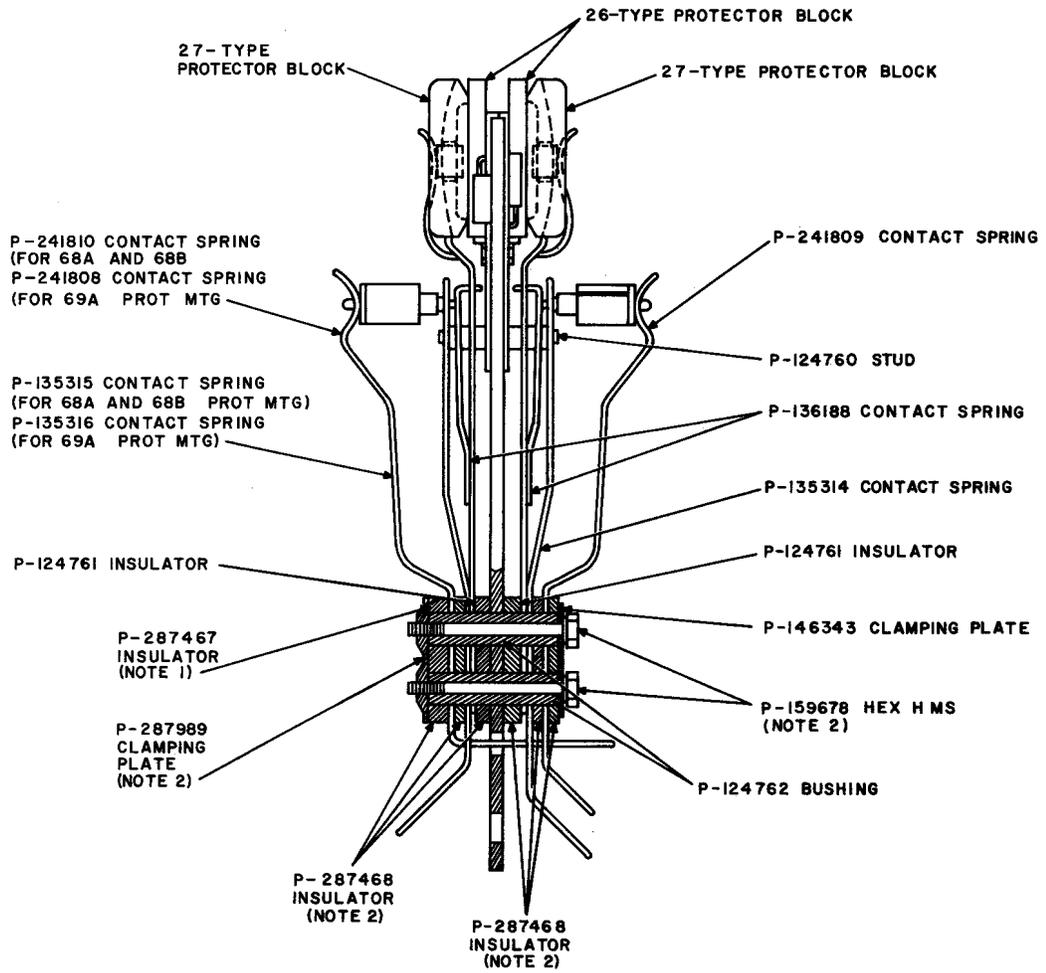


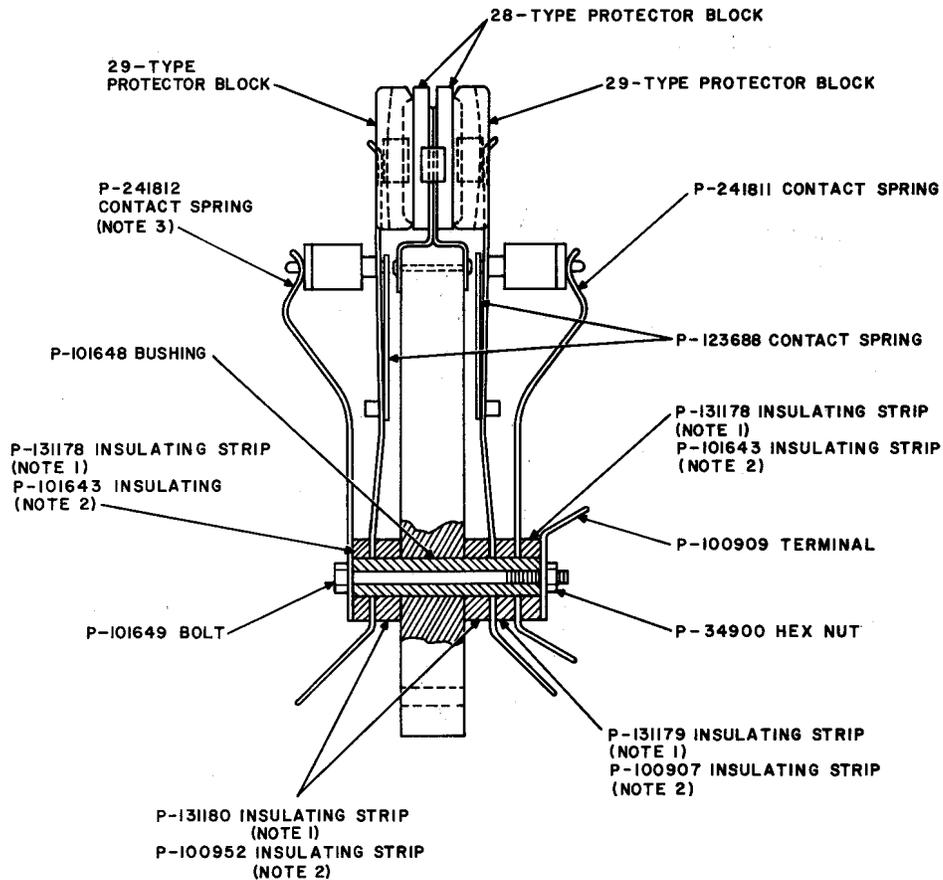
Fig. 2—87AA and 87BA Protectors—64A Protector Mounting



NOTES:

1. WHEN NECESSARY, USE INSULATOR P-287467 UNDER CLAMPING PLATE P-287989 TO CARE FOR LOOSE SPRINGS.
2. THE P-159678 HEX H MS REPLACES THE P-285943 RH MS, THE P-287989 CLAMPING PLATE REPLACES THE P-126153 HEX NUT AND ASSOCIATED P-146343 CLAMPING PLATE, AND THE P-287468 INSULATOR REPLACES TWO P-124761 INSULATORS, USED ON EARLIER PROTECTOR MOUNTINGS.

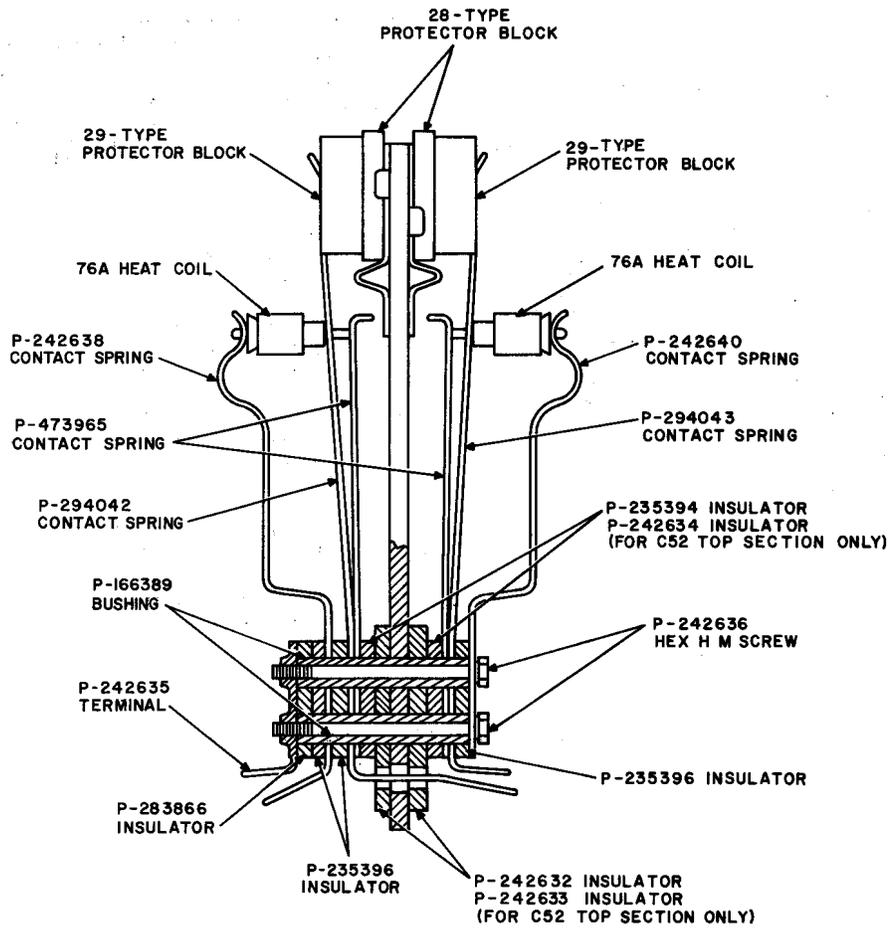
Fig. 3—1268A, 1268B, and 1269A Protectors—68A, 68B and 69A Protector Mountings



NOTES:

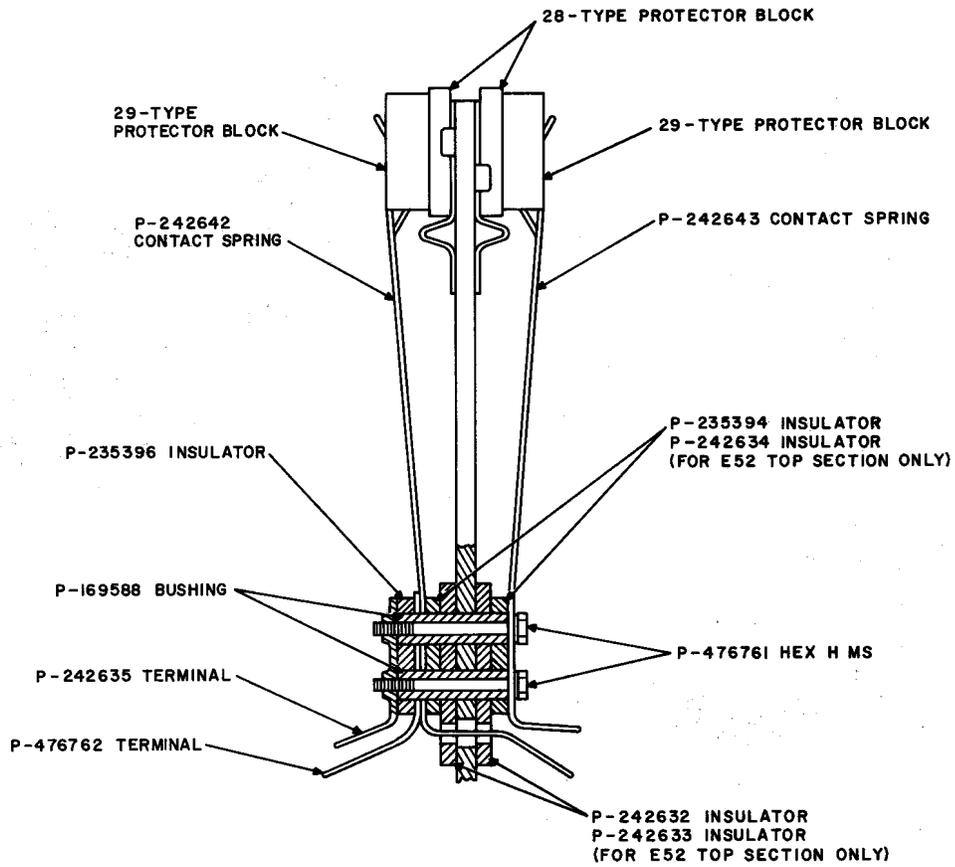
1. INSULATING STRIP FOR TOP AND BOTTOM SECTIONS OF MOUNTING BAR.
2. INSULATING STRIP FOR MIDDLE SECTIONS OF MOUNTING BAR.
3. FOR BOTTOM ASSEMBLY OF MOUNTING BAR, USE P-243524 CONTACT SPRING WITH A P-234751 CLAMP UNDER THE P-101649 BOLT.

Fig. 4—1177A and 1177B Protectors—77A and 77B Protector Mountings



NOTE:
ADDITIONAL INSULATORS P-235455 MAY
BE USED BETWEEN P-283866 AND
P-235396 INSULATORS TO CARE FOR
LOOSE SPRINGS.

Fig. 6—C50A and C52A Protectors—C50 and C52 Protector Mountings



NOTE:
ADDITIONAL INSULATORS, P-235455 MAY
BE USED UNDER TERMINAL, P-242635,
TO CARE FOR LOOSE SPRINGS.

Fig. 7—E50A and E52A Protectors—E50 and E52 Protector Mountings

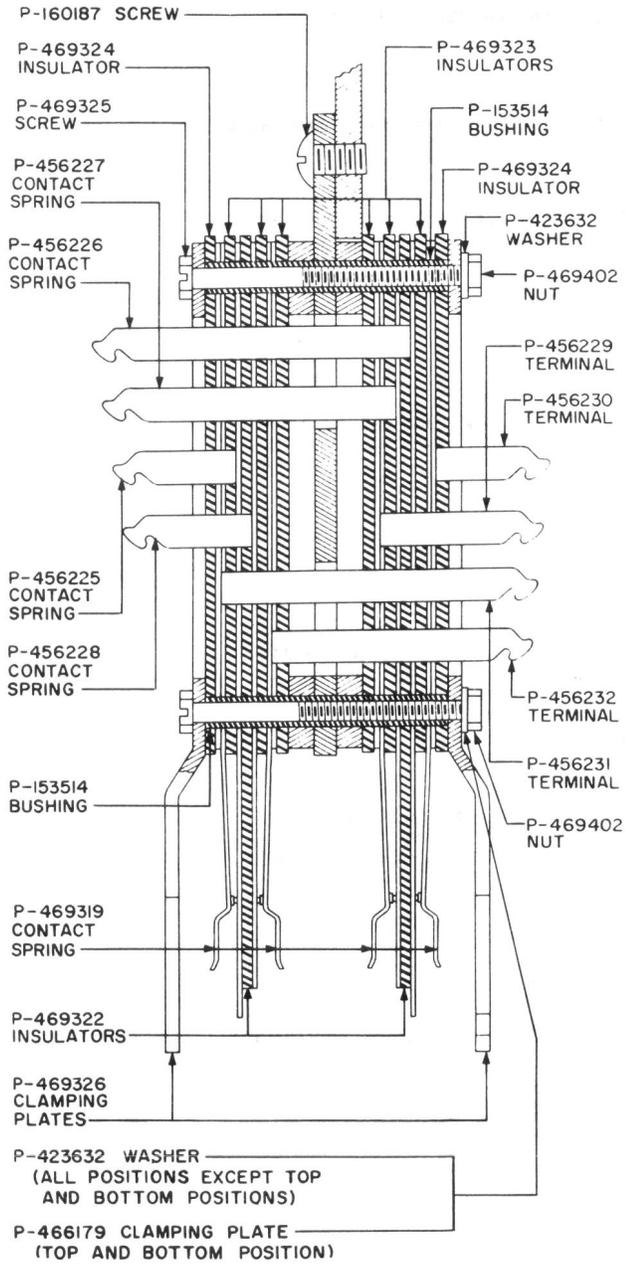


Fig. 8—Cross-Section of 444-Type Jacks

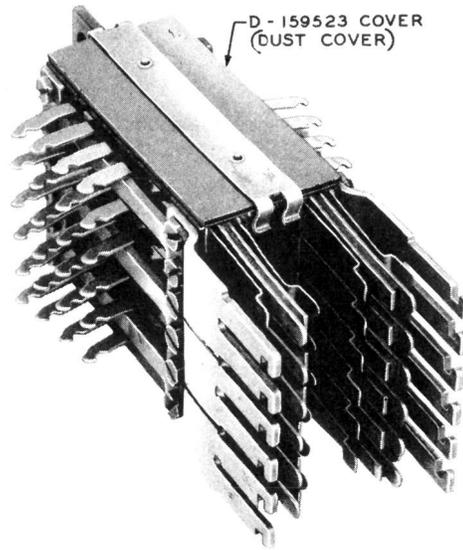


Fig. 9—Cover Mounted on 444-Type Jack

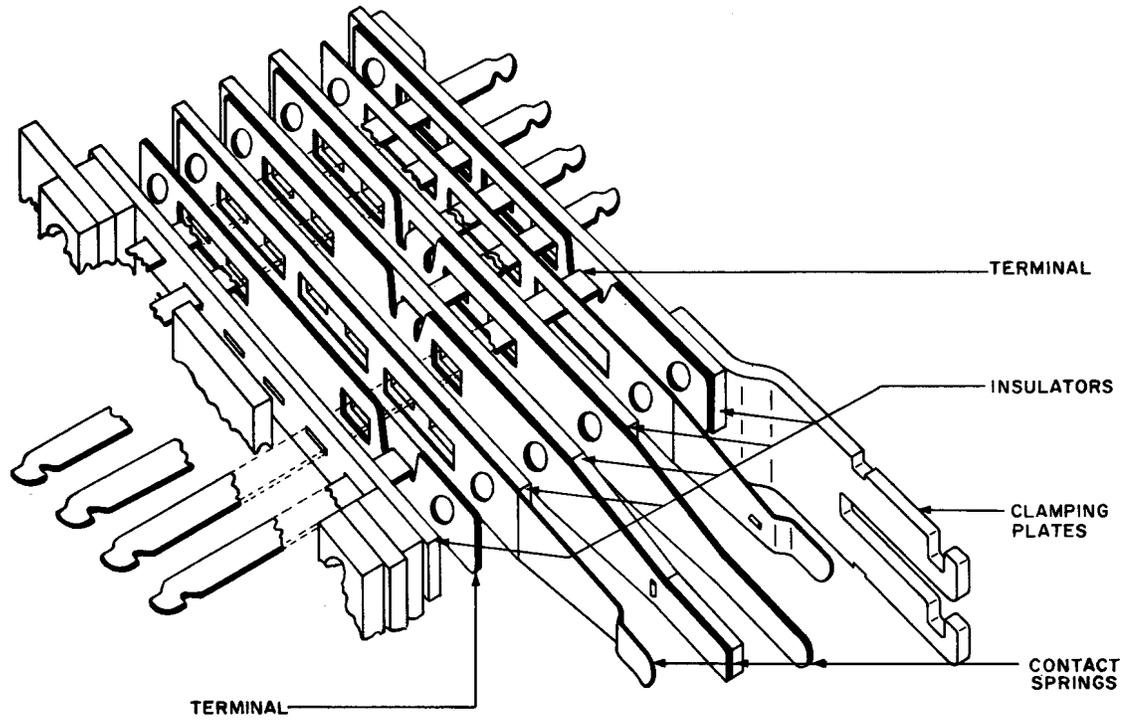


Fig. 10—Partial Assembly of 444-Type Jack (viewed from bottom)