

## 300-TYPE CONNECTORS AND ASSOCIATED PROTECTORS

### MAINTAINING PROTECTORS

#### 1. GENERAL

1.01 This section describes methods of maintaining protectors used with the 300-type connectors associated with main distributing frames.

1.02 This section is issued to include and update information previously contained in Section 201-205-302 pertaining to protector units used with the 300-type connectors.

1.03 Maintaining protectors and protector units other than the 1A1-type are covered in Sections 201-206-301 and 201-208-301.

1.04 If evidence is found or there is suspicion of abnormally high voltage conditions or contact between central office main frame terminations, observe the following precautions:

- (a) Notify the office supervisor and test center.
- (b) Notify other employees who may have occasion to work on the frame.
- (c) Avoid contact with associated frame terminations until authorized by the test center.
- (d) If the test center requests that the protector unit be inspected, wear insulating gloves and remove the protector unit from the frame with the KS-16567 tool.

**Note:** Insulating gloves shall be mechanically inspected immediately prior to use in accordance with Section 075-141-501.

1.05 The 300-type connector (Fig. 1) supersedes a similar arrangement, coded the 121-type protector. All references in this section to the 300-type connector shall be considered to apply to the 121-type protector except as indicated in 3.03.

#### 2. STORAGE AND USE OF HEAT COILS, PROTECTOR BLOCKS, AND PROTECTOR UNITS

2.01 Protector units and associated components shall be handled and stored carefully. They should be kept in either the original shipping cartons or in approved containers or cabinets.

2.02 When protector units are removed from equipment for any reason, they should be tested prior to reuse.

2.03 Before reusing heat coils, they shall be inspected for dirty or defective contact surfaces. Heat coils which show signs of having operated, loose connections or winding, or damaged contact pin shall not be reused.

#### 3. REMOVING, INSPECTING AND ASSEMBLING PROTECTOR UNITS

##### Removing Protector Units From 300-Type Connector

3.01 To remove protector units from circuits which *do not* have abnormally high voltages present, proceed as follows. Grasp the cap of the protector unit with thumb and forefinger and rotate 45° counterclockwise; then withdraw the protector unit. For ease in performing this operation, the KS-16567 tool should be used (Fig. 1).

3.02 When it is necessary to remove protector units from circuits which are suspected of having abnormally high voltages present, insulating gloves (note in 1.04) should be worn and the KS-16567 tool should be used in all cases.

##### Removing 121-Type Protector Units From 121-Type Protector

3.03 When protector units are removed from the 121-type protector, the cable conductors may be automatically grounded. Therefore, before removing these protector units from circuits which

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have potential on the cable side (telegraph loops, carrier circuits, etc), the associated equipment should be taken out of service. It may be necessary to disconnect the equipment from the cable pair to prevent damage to the equipment. For this reason the modified B test clip with the M2EM cord is not recommended for use with the protector units, on the 121-type protector.

**3.04** Disassemble the protector unit by holding the cap in one hand and the sleeve (Fig. 2) with the other hand. Withdraw the sleeve (containing the heat coil and protector blocks) from the cap.

**3.05** To remove the protector blocks from the sleeve, first withdraw the heat coil and then remove the blocks.

**3.06** Discard porcelain blocks (33A or 33B), carbon blocks (32B), or dummy blocks (34A1) where provided, having any of the defects listed below:

- (a) Chips or cracks
- (b) Carbon surfaces show evidence of glazing or pitting
- (c) Carbon inserts are loose
- (d) Carbon sparking areas which are scratched or show signs of soft or unduly roughened spots on those areas
- (e) There is a black deposit on the porcelain extending from the carbon insert to the raised edge of the block on the moat side.

**3.07** Inspect heat coils for the defects listed in 2.03. Heat coils may be removed from the protector unit without removing the sleeve from the cap.

**3.08** Do not attempt to clean the operating surfaces of porcelain and carbon blocks. Discard any blocks which are noisy or have grounded.

**3.09** Reuse porcelain and carbon blocks which do not have any evidence of the defects outlined in 3.06.

### Assembling and Placing Protector Units

**3.10** Place the protector blocks in the sleeve of the protector unit (Fig. 2) before the heat coil is installed.

**Note:** If the ends of the sleeve have been spread too far apart to hold the blocks in place, they may be squeezed together with the fingers before the blocks are placed in the sleeve.

**3.11** After the protector blocks (or dummy blocks) are in place, insert the heat coil so that the operating pin falls within the hole in the sleeve and the carbon or dummy block.

**3.12** Then place the assembled sleeve containing the protector blocks and coil in the cap so that the end containing the protector blocks is within the cap.

**Note:** It may be necessary to rotate the sleeve slightly before it will enter the grooves within the cap.

**3.13** The protector unit may then be held with fingers or with the KS-16567 tool and inserted into the 300-type connector. With the unit in place, twisting it 45° counterclockwise leaves it in the open position; pushing it in to the limit and twisting it 45° clockwise, leaves it in the cut-through position.

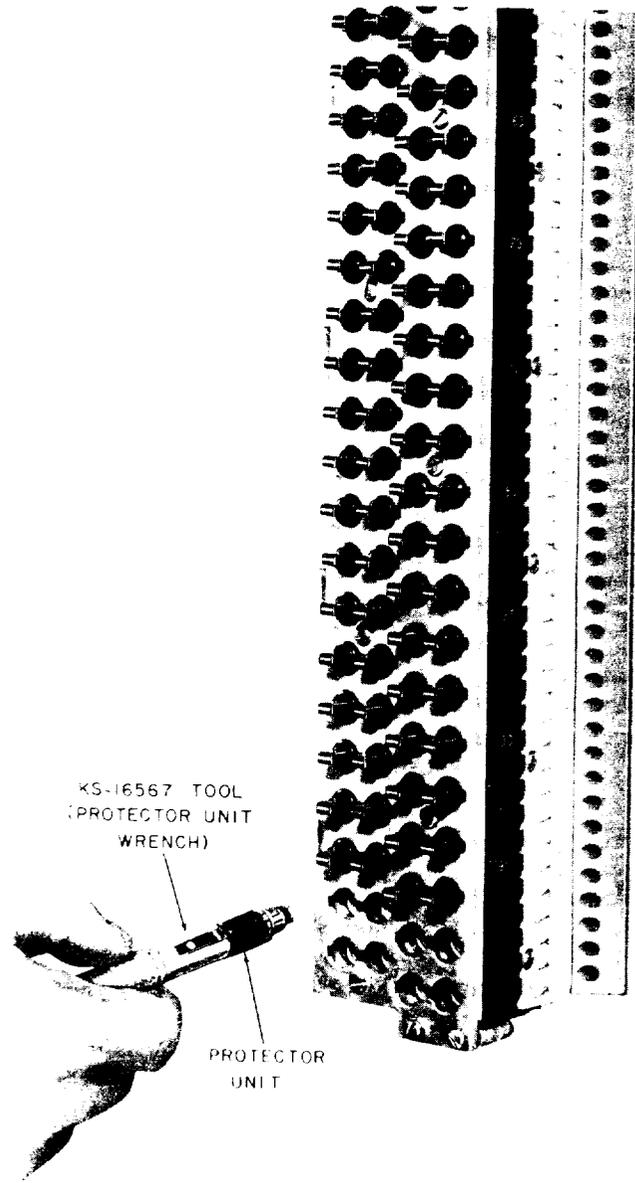


Fig. 1—Installing Protector Unit into 300-Type Protector Block With KS-16567 Tool

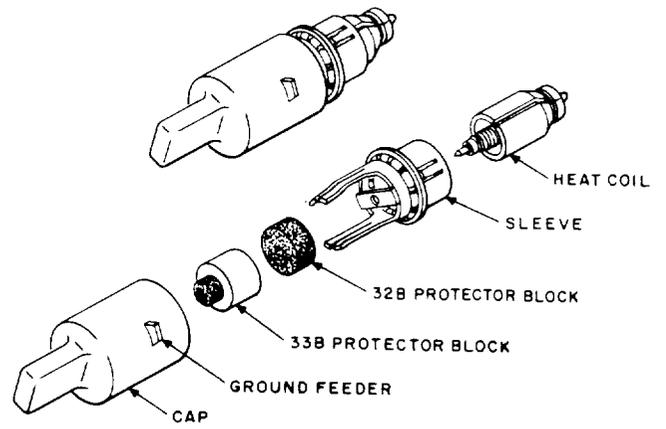


Fig. 2—1A1-Type Protector Unit and Components