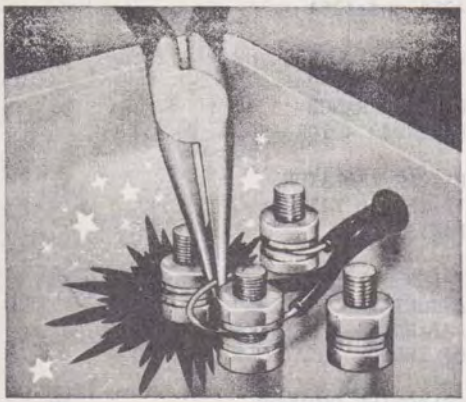
SECTION 460-110-100
Issue 4, December 1966
AT&TCo Standard



DON'T BE A SHORT CIRCUIT ALARMIST

SPECIAL SAFEGUARDING MEASURES (SSM) And SPECIAL SERVICE PROTECTION (SSP)

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1. GENERAL

1.01 This section provides information about protective devices used on special service circuits requiring special service protection or special safeguarding measures.

1.02 This section is reissued to add:

- C clip terminal insulator
- D clip terminal insulator
- Warning Marker, Form E-5190
- Protection for 300-type connectors
  - (a) KS-16576, List 5 designation plate
  - (b) KS-16576, List 6 designation plate
  - (c) P-16E564 heat coil cap (red)

2. SPECIAL SERVICE PROTECTION

2.01 Special service circuits require special protection to insure that plant functions do not interfere with their operations. These circuits are of a nature that momentary shorts, opens, or accidental contact may cause serious reaction in customer relations.

2.02 Binding post insulators and caps, pair indicators, and PBX frame guards are provided for field forces to place in terminals, PBX frames, and bridging locations where special service circuits appear. In addition to physical protection, these markings and protective devices are an indication that ***approval from the Serving Service Center is necessary before doing any work on these circuits.***

3. SPECIAL SAFEGUARDING MEASURES

3.01 The same protection used for Special Service Protection (SSP) is required for Special Safeguarding Measures (SSM) and in addition locked terminals, unbridged pairs, wire in conduit, and cable in lieu of drop wire are required. Engineering authorization is required to establish SSM.

3.02 Special Safeguarding Measures are primarily used on services involving National Security.

4. WORK ORDERS

4.01 The special service order and/or the toll circuit layout order is noted "SSP" or "SSM" alongside the circuit number. In addition, Form E-4106 (Fig. 1) is used to notify the field forces where to place or remove protection when SSP or SSM is involved.

SPECIAL SERVICE PROTECTION

BINDING POST INSULATORS (TERMINALS) — PROTECTOR GUARD DEVICES (DISTRIBUTING FRAMES)

CENTRAL OFFICE: SHERWOOD DUE DATE: 8-15-60 SERVICE ORD. NO.: 4073
DATE ISSUED: 8/12 BY: LR WORK ORD. NO.: ✓ TRANS. NO.: ✓
COPY FOR: FIELD FOR INFORMATION CALL: 742-8163

PLACE AND OR REMOVE SPECIAL SERVICE PROTECTION AT LOCATIONS LISTED

CABLE	PAIR	BP	TERMINAL LOCATIONS	PROTECTION PLACE	PROTECTION REMOVE
21	228		F 310 STYLES	X	
(	)		F 437 HARMON AV.	X	
)	(	13	R 42 CAROL RD.	X	
)	(	9	R 48 " "	X	
)	(	5	R 54 " "	X	
)	(	14	R 76 " "	X	

WORK COMPLETED BY _____ DATE _____ O.K. NO. _____

Fig. 1 — Facsimile of Form E-4106

4.02 Typical circuits requiring SSP and/or SSM are:

(a) Program transmission and television circuits.

(b) Telephotograph, telautograph, and facsimile transmission facilities.

(c) Private line signal channel or radiotelephone circuits.

(d) Telegraph and teletypewriter leased lines.

(e) TWX lines.

(f) Clock or ADT lines that operate on closed or series circuits.

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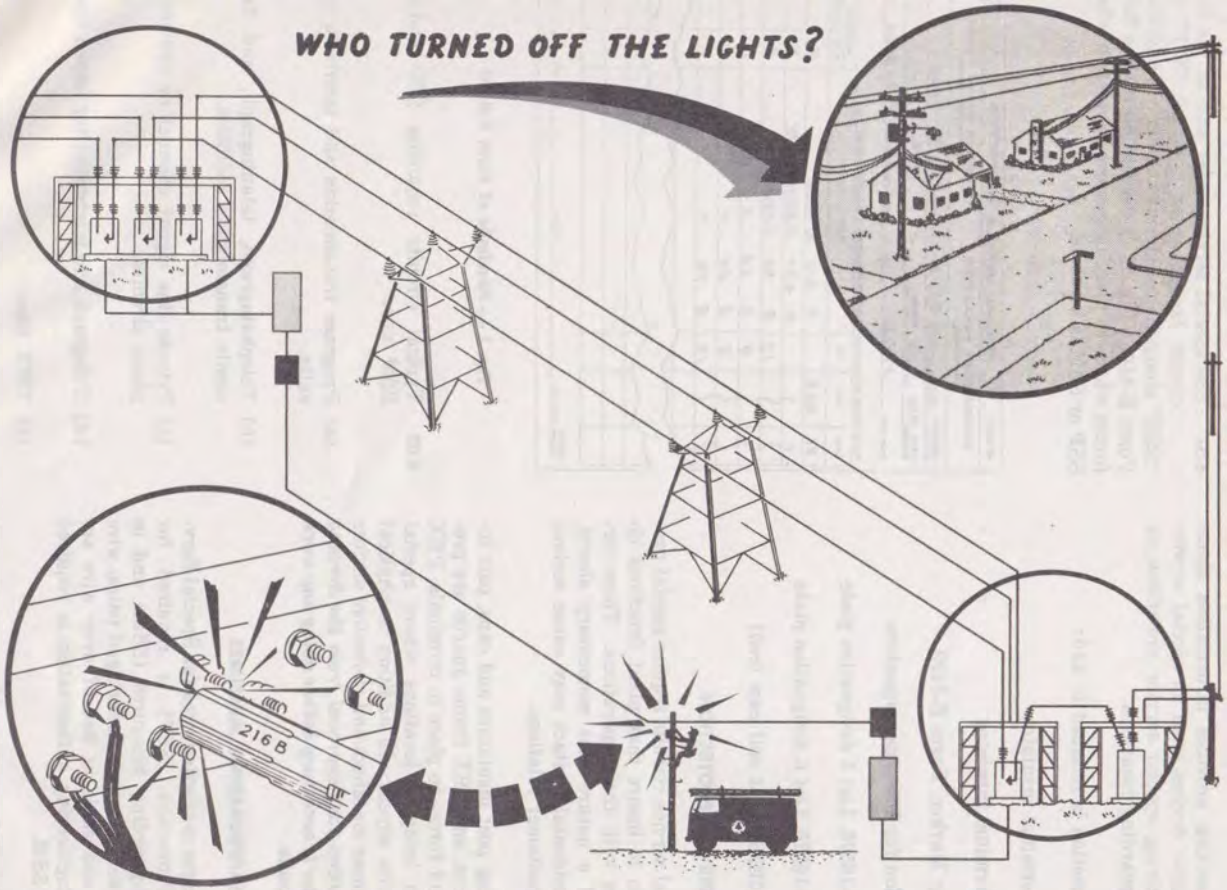

Fig. 2 — Who Turned Off the Lights

BSP 460-110-100-i04_1966-12-03.jpg Scanned by Frank Harrell, (Cowboy Frank) Castle Rock, Colorado Feb 29, 2012 21:52:21

(g) Remote control, signaling, metering, data circuits, and alarm circuits for fire, police, burglar, and watchman.

(h) Special facilities for defense or major disaster.

(i) Civil air defense warning network.

(j) Power company remote control circuits.

(k) Airway communication circuits.

(l) PBX battery and generator supply for hospitals, police, and fire department or agencies who perform emergency service for the general public.

5. HOW TO AVOID DIFFICULTIES!

- Obtain authorization ***before working*** on a special circuit.
- Use SSP and/or SSM when required.
- Use hand test set with capacitor in line (monitor) when first going across a pair.
- Do not short terminals when trying to locate a pair (Fig. 2).
- Exercise care to avoid accidental contact with other lines.
- Obtain authorization before removing any SSP and/or SSM.

6. PROTECTIVE DEVICES

6.01 Common protective devices used on special service circuits are shown in Fig. 3 through 18.

6.02 Indicator KS-6660 is a red plastic ring, 1/2-inch in diameter. This indicator must be placed on wires before they are terminated. It is used to identify special service circuits. A KS-6660 indicator is shown in Fig. 3

6.03 Indicator KS-16847 is a red cellulose-acetate spiral ring, 3/8-inch in diameter. This indicator is also used to identify circuits. The split-ring feature of this indicator permits placing or removing indicator on terminated wires (see Fig. 4).

Fig. 3 — Indicator KS-6660

Fig. 4 — Indicator KS-16847

6.04 Binding post caps, Fig. 5 through 11, are neoprene caps for use on cable and wire terminals as protection against accidental contacts on special service lines, and as a means of minimizing faceplate leakage in distribution cable terminals. Binding post caps are supplied in red and black. Red caps are intended for use on special service lines and the black caps are for general use.

- The B binding post caps, Fig. 5, are for use on nonworking posts of N, T, and 61-type cable terminals.

Fig. 5 — Binding Post Cap B

- The C binding post caps, Fig. 6, are for use on working posts of N, T, and 61-type cable terminals.
- The D binding post caps, Fig. 7, are for use on 7A fuses installed in L-type fuse chambers.
- The E binding post caps, Fig. 8, are for use on 49-type cable terminals.

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Fig. 6 — Binding Post Cap C

Fig. 7 — Binding Post Cap D

Fig. 8 — Binding Post Cap E

- The F binding post caps, Fig. 9, are for use on terminals equipped with insulation crushing washers such as B buried cable terminals, and 30-2, 57B, and 59A-type connecting blocks.

Fig. 9 — Binding Post Cap F

- The G binding post caps, Fig. 10, are for use on 30-type connecting blocks.

Fig. 10 — Binding Post Cap G

- The H binding post caps, Fig. 11, are for use on 31-type connecting blocks.

Fig. 11 — Binding Post Cap H

6.05 The KS-14539 guard protector, Fig. 12, is a red plastic hood designed to cover the heat coils and springs on C50 protected-type frames.

Fig. 12 — Guard Protector KS-14539

6.06 Binding post insulators are open-ended fiber insulators for use on binding posts to prevent accidental contacts. These insulators are designated No. 1, 2, 3, and 6, and are shown in Fig. 13. Binding post insulators have a red enamel finish.

- No. 1 insulators, Fig. 13, are for use on binding posts having 3/8-inch hexagonal nuts, and on 7T fuses.
- No. 2 insulators, Fig. 13, are for use on binding posts having 7/16-inch hexagonal nuts, and on 7A fuses.

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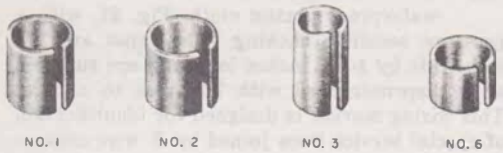

Fig. 13 — Binding Post Insulators

- No. 3 insulators, Fig. 13, fit the screw binding posts of BD, BE, BF, and BG cable terminals.

- No. 6 insulators, Fig. 13, are for use on terminations of the alarm and contactor circuits in T pressure contactor-terminals and 3-pair gas-tight terminals.

6.07 Terminal punching insulators are open-ended fiber insulators for use on terminal punchings to prevent accidental contacts. These insulators are designated No. 4, 5, and 7 and are shown in Fig. 14. Terminal punching insulators have a red enamel finish.

Fig. 14 — Terminal Punching Insulators

- No. 4 insulators, Fig. 14, are 1/2 inch in length and are used on terminal strips.

- No. 5 insulators, Fig. 14, are 5/8 inch in length and are also used on terminal strips.

- No. 7 insulators, Fig. 14, are for use on cable conductor terminating lugs of the C- and E-type protector mountings.

6.08 The B coil spring insulator (MD) is a fiber insulator designed for use on the 70-type connecting block (Fig. 15). When installed, one B insulator will protect two coil springs, "Tip and Ring," that are mounted on the face or station side of this block. This insulator has a red enamel finish.

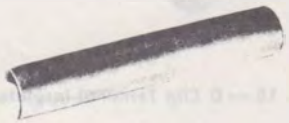

Fig. 15 — B Coil Spring Insulator (MD)

6.09 The B clip terminal insulator is a red plastic insulator, Fig. 16, designed to protect one row of terminals on the 66-type connecting block. This insulator may be cut with diagonal pliers to fit all clip-type connecting blocks.

Fig. 16 — B Clip Terminal Insulator

6.10 The C clip terminal insulator is red plastic, Fig. 17, and is designed for identification and mechanical protection of two terminals on 66G-type connecting blocks. The insulator is approximately 1/2-inch long with closed ends.

Fig. 17 — C Clip Terminal Insulator

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6.11 The D clip terminal insulator is red plastic, Fig. 18, and is designed for identification and mechanical protection of two terminals on 66H-type connecting blocks. This insulator is approximately 7/8-inch long with closed ends.

Fig. 18 — D Clip Terminal Insulator

6.12 The 12A guard is shown in Fig. 19. It is designed to protect special service lines appearing on frames that are equipped with 444A test jacks.

Fig. 19 — 12A Guard

6.13 The 12B guard, Fig. 20, is the same as 12A guard with-addition of a locking screw for maximum security.

Fig. 20 — 12B Guard

6.14 The Warning Marker Form E-5190 is red waterproof plastic cloth, Fig. 21, with a pressure sensitive backing. The tapes are 1/4 inch wide by 1-1/2 inches long and are supplied on a dispenser card with 36 tapes to a card. This wiring marker is designed for identification of special service lines joined by B wire connectors.

Fig. 21 — Warning Marker Form E-5190

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6.15 The KS-16576, List 5 designation plate, Fig. 22, is a red plastic hood designed to cover the wire-wrap terminals on the jumper wire side of 300-type connectors.

Fig. 22 — KS-16576, List 5 Designation Plate

6.16 The KS-16576, List 6 designation plate, Fig. 23, is a red plastic hood designed to cover the test-terminals on the cable side of 300-type connectors.

Fig. 23 — KS-16576, List 6 Designation Plate

6.17 The P-16E564 heat coil cap (red), Fig. 24, is used in place of the black heat coil caps on protected 300-type frames.

Fig. 24 — P-16E564 Heat Coil Cap

7. INSTALLING AND REMOVING SSP

7.01 Special service protection may be installed or removed upon receipt of Form E-4106 (Fig. 1). Install SSP as shown in the following figures.

Fig. 25

Install binding post caps as follows:

(1) Clean faceplate.

(2) Place cap over binding post and push until seated against faceplate.

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Fig. 26

Slip the KS-6660 indicator over end of wire, as shown in Fig. 26. Split-ring feature of KS-16847 indicator permits placing or removing indicator on terminated wires.

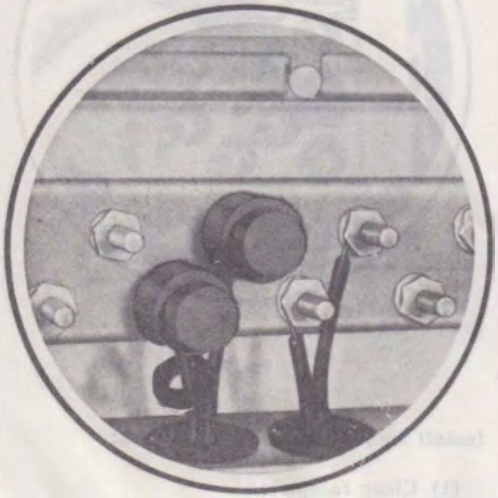

Fig. 27

SSP used in N-type cable terminals, wiring terminals, or fuseless protected terminal blocks.

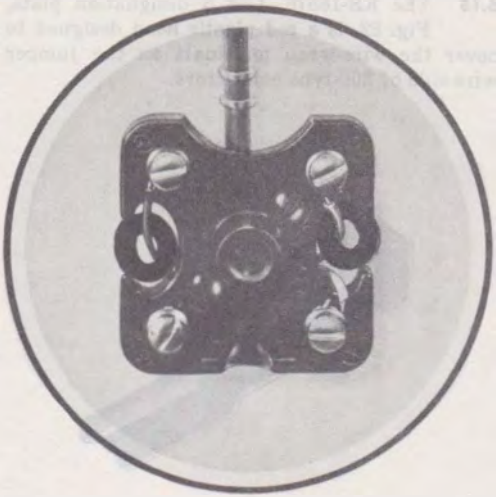

Fig. 28

SSP used with 42A connecting block.

Fig. 29

SSP used with 44A connecting block.

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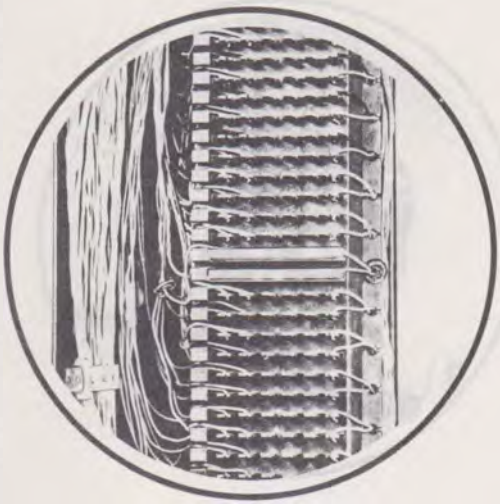

Fig. 30

B clip terminal insulators installed on 66-type connecting block.

Fig. 32

D clip terminal insulators installed on 66H-type connecting block.

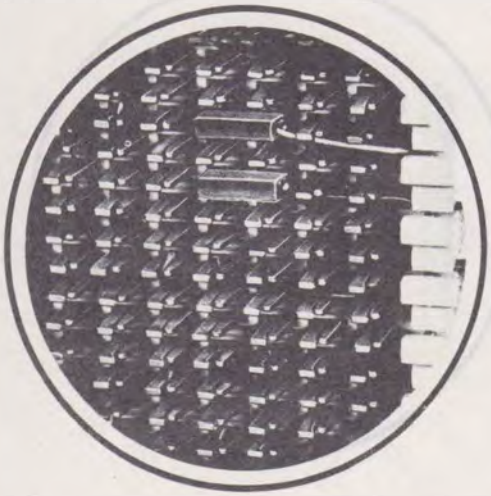

Fig. 31

C clip terminal insulators installed on 66G-type connecting block.

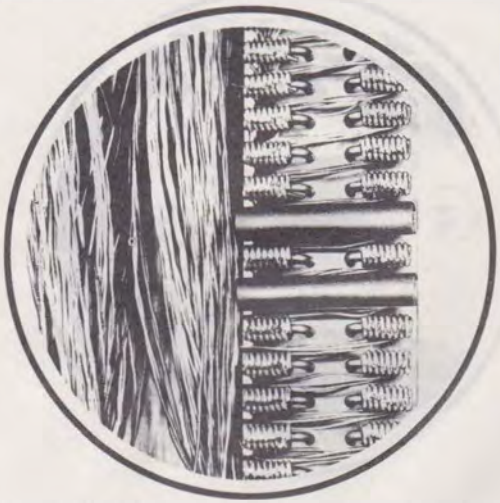

Fig. 33

B coil spring insulators (MD) installed on 70-type connecting block.

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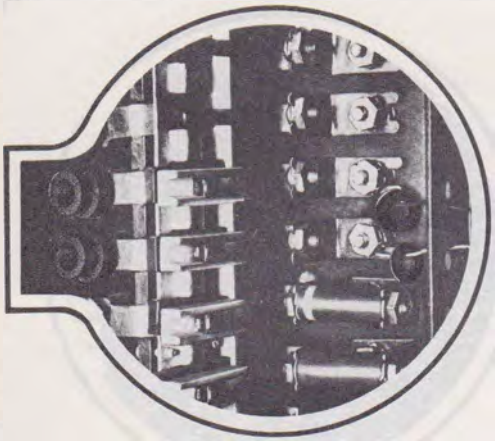
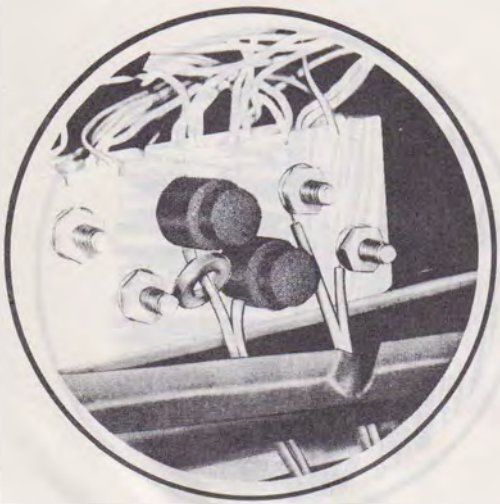


Fig. 34

D binding post caps installed in L-Type fuse chamber.

Fig. 36

Indicator used with station protector 123A1A. The 150A cover (shown cut away) gives added security.



E binding post caps and indicators used with 49A cable terminal.

Fig. 37

No. 3 binding post insulators installed in BD-type cable terminal. ***Remember*** — SSP is required at both ends of cross-connecting wires.

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Fig. 38

A 30-type connecting block with SSP.

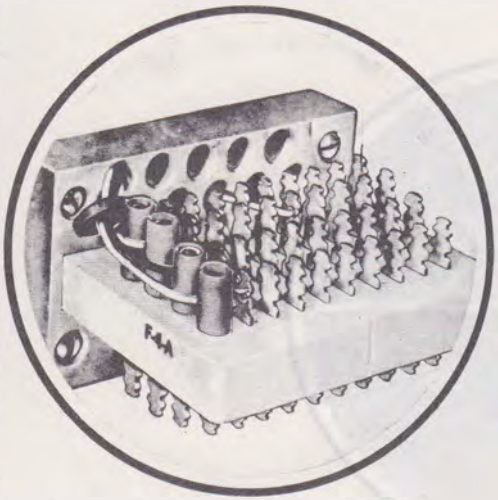

Fig. 39

Typical terminal strip with SSP. Terminal punching insulators shown here are No. 4 (short) and No. 5.

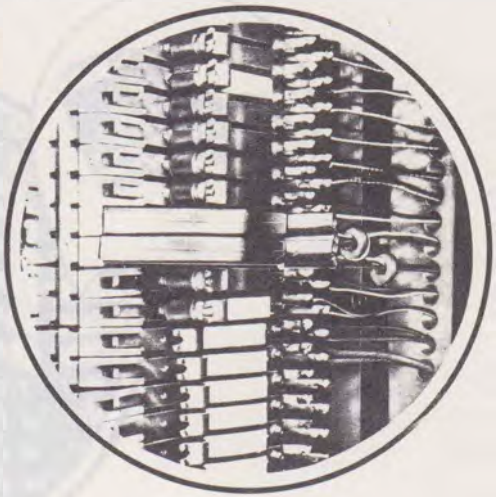

Fig. 40

C50 type frame with KS-14539 guard and terminal punching insulators. ***Protect each special circuit appearing on frame. Place SSP on each end of jumper wire.***

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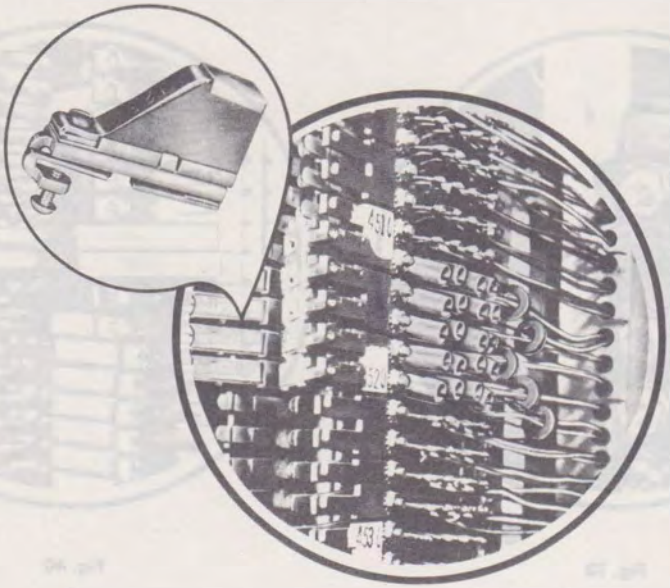

Fig. 41

SSP on frame equipped with 444A test jacks or 401 connector.

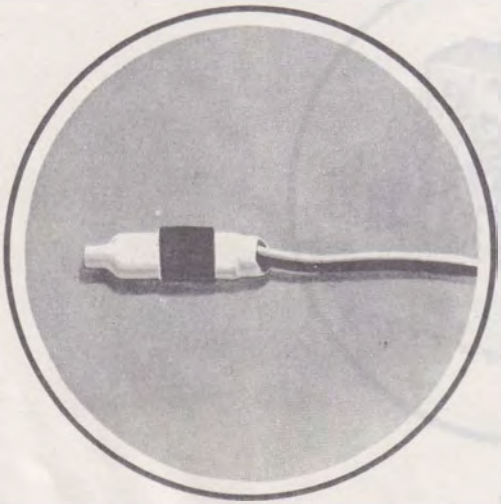

Fig. 42

Warning marker Form E-5190 installed on B wire connector.

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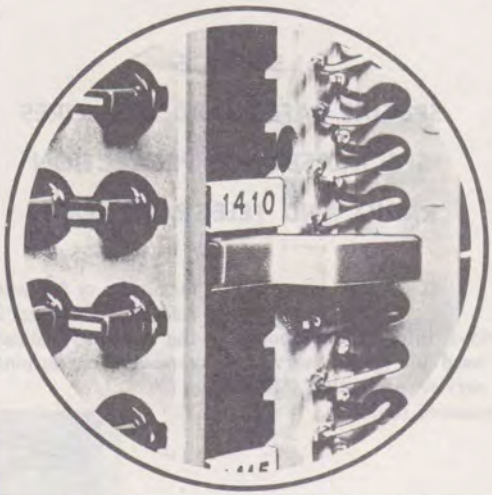

Fig. 43

Protected 300-type connector (jumper wire side) on frame protected with KS-16576, List 5 designation plate.

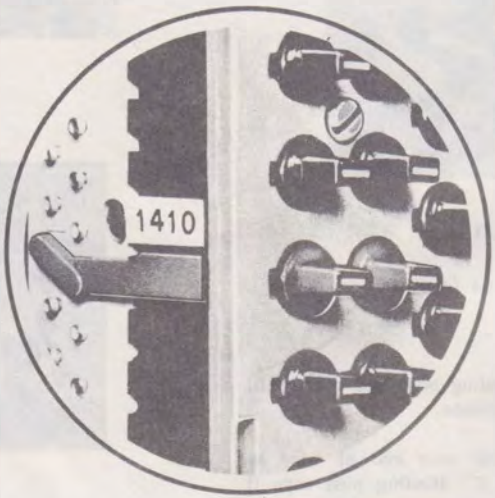

Fig. 44

Protected 300-type connector (test-terminal side) protected with KS-16576, List 6 designation plate.

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