

ADAPTERS

148, 149, 153, AND 3-WAY BRIDGING TYPES

IDENTIFICATION

1. GENERAL

1.01 This section provides the purpose, design features, schematics, application, and conversion of the following adapters:

- 148A (MD) and B
- 149A (MD) and B
- 153-type
- KS-19252, List 1, List 2, List 3, List 4, and List 5 3-way bridging types.

1.02 This section is reissued to:

- Add caution on assembly of metal hood on 153-type adapters
- Include KS-19252 L4 and L5 3-way bridging adapters
- Add Fig. 18 to show schematic of KS-19252 L5 adapter.

2. IDENTIFICATION

PURPOSE

- 148-, 149-, 153-, and KS-19252 type adapters connect plug-ended telephone sets to speakerphone equipment, externally mounted lamps and buzzers, and other auxiliary services.
- 153-type adapters are used to avoid cutting off connector cable ends when a multibutton telephone station is "downgraded" to single- or two-line service.

- KS-19252 type adapters permit multiplying of plug-ended telephone sets with A25B or B25A connector cables.

ORDERING GUIDE

- Adapter, 148A-49 (MD) or 148B-49 (MD) or 148B-87
- Adapter, 149A-49 (MD) or 149B-49
- Adapter, 153A, 153B, 153C, or 153D
- Adapter, Bridging, KS-19252 L1-49, L2-49, L3-49, L4-49, or L5-49.

DESIGN FEATURES

148A (MD) and 148B Adapters (Fig. 1)

- Consists of a 3-foot length of 39-conductor cord, terminated at one end in a Y-form molded sleeve attached to a 50-contact KS-16689 L2 plug and a KS-16690 L3 connector.
- Loose spade-tipped leads at the free end of the cord are arranged for connection to 44-type connecting blocks, including stayhook for anchoring.
- Pins 1 through 20 and 26 through 45 of the 50-contact plug are interwired by strapping to corresponding pins of the 50-contact connector through the Y arms of the cord (Fig. 2).
- The 19 electrically bridged leads have spade-tip insulators to prevent accidental short-circuiting when not terminated beneath connecting block screws.

NOTICE

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



Do not use long-nose pliers to pull off insulators. Insulators should be cut and carefully removed with electrical scissors or diagonal pliers.

- Connectors are held together by a retaining clip (Fig. 1) for protection during shipment.
- The 148B adapter is identical to the 148A (MD) adapter, except that the cordage incorporates the even-count color code. The 148B-87 adapter has replaced the 148B-49 (MD) adapter. The 148B-87 is identical to the 148B-49 (MD) except the 148B-87 is equipped with a satin-silver cord.

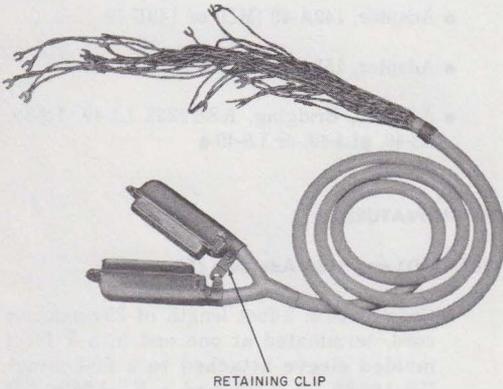


Fig. 1—148A (MD) or 148B Adapter

149A (MD) Adapter

- Has a removable polystyrene cover (Fig. 3).
- Two holes in the base provide a means for mounting.
- Consists of terminal block (Fig. 4), one KS-16671 L1 plug, and one KS-16672 L1 connector assembled on a metal base.
- Provides a locking screw assembly to secure telephone set mounting cord plug and cable connector to the adapter.
- The plug and connector are wired as shown in Fig. 5. Terminal strip A is wired to

pins of the connector, and terminal strip B is wired to pins of the plug.



Since pins 20, 23 through 25, 45, 48 through 50 are not common between plug and connector, it may be necessary to strap these leads through on the face of the terminal strip when features in the set use these leads. An example could be the common ringer leads.

- The wiring diagram is attached to the inside of the cover assembly.

149B Adapter

- Has a removable high-impact polystyrene cover (Fig. 6).
- Is similar to the 149A (MD) adapter except that wiring has been replaced by printed wiring, and the connector and plug are mounted on the face of the printed wiring board assembly (Fig. 7).
- Printed wiring board is mounted to a phenolic baseplate.
- Two holes in the baseplate and wiring board provide means for mounting the adapter.
- A reversible locking fixture attached to the inside of the cover (Fig. 6) secures an external plug (KS-16689 L1 plug-ended cord) to the KS-16672 L13 connector.
- The external connector (KS-16690 L1 connector on an A25B connector cable) is secured to the KS-16671 L10 plug by the inside surface of the cover assembly.
- When the cover assembly is put into position, both connectors and plugs are secured.
- The wiring diagram (Fig. 5) is also molded into the inner surface of the cover assembly (Fig. 6).

153A and 153B Adapters (Fig. 8)

- 153A adapter consists of a KS-16689 L6 plug with a terminal block fitted to the back of plug body (Fig. 9).

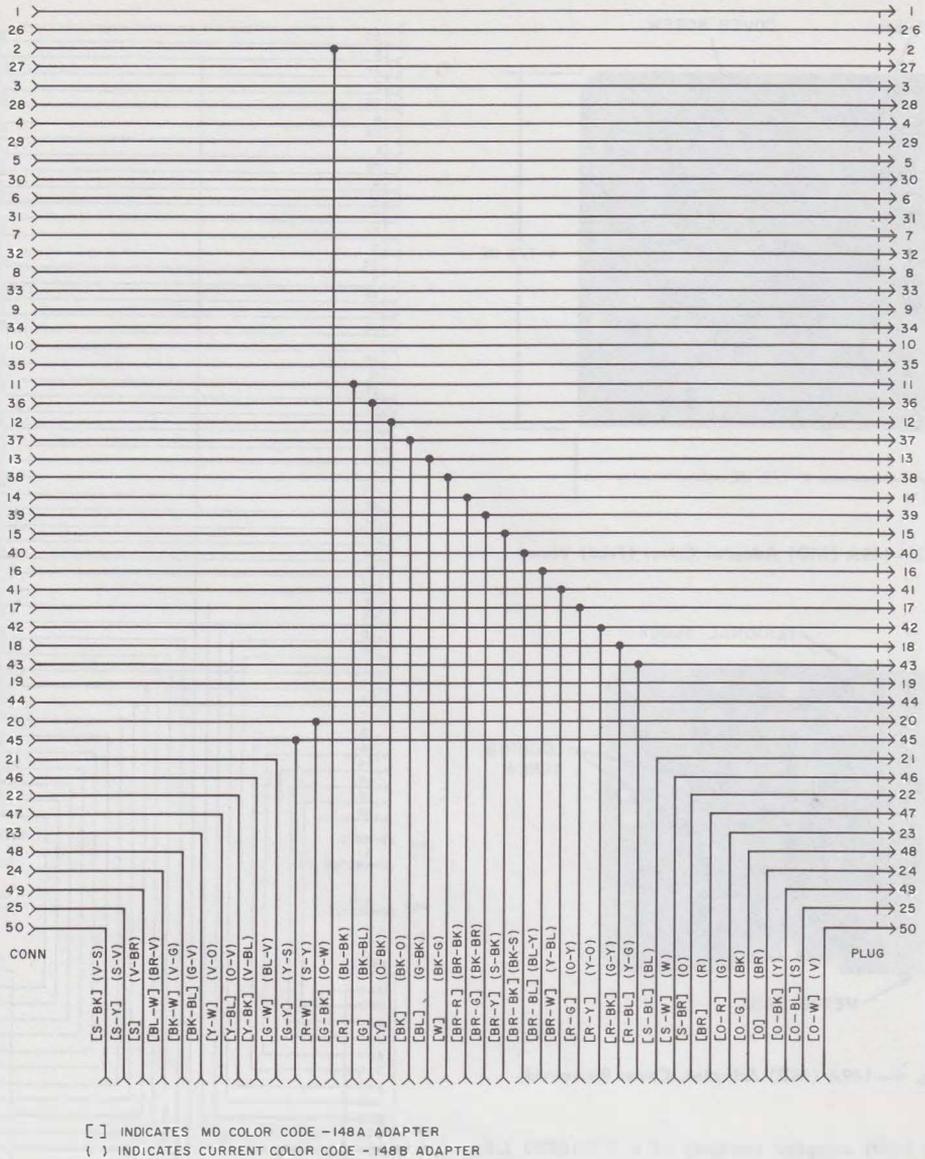


Fig. 2—148A (MD) and 148B Adapter, Schematic

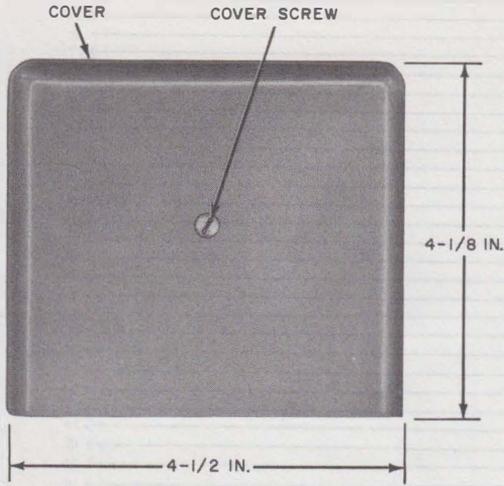


Fig. 3—149A (MD) Adapter Cover (Front View)

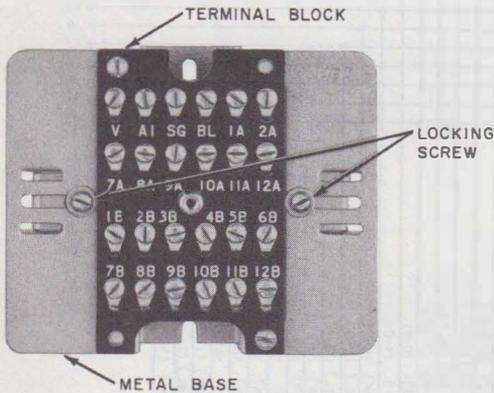


Fig. 4—149A (MD) Adapter, Cover Removed

- 153B adapter consists of a KS-16690 L4 connector with a terminal block fitted to the back of the connector body.
- The terminal block has eight screw-type terminals wired to terminals of the plug or connector. (See Table A.)

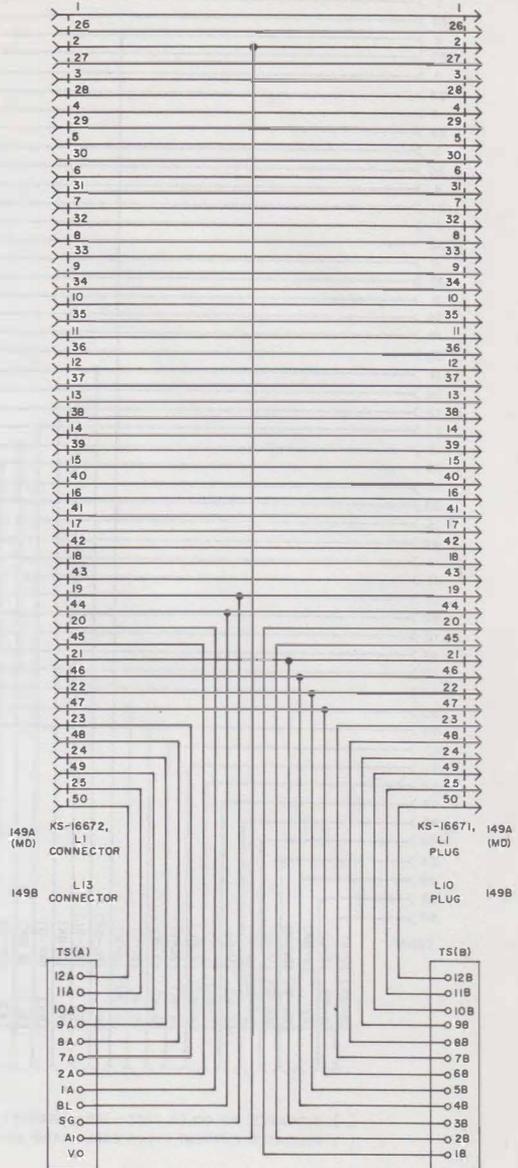


Fig. 5—149A (MD) and 149B Adapter, Schematic

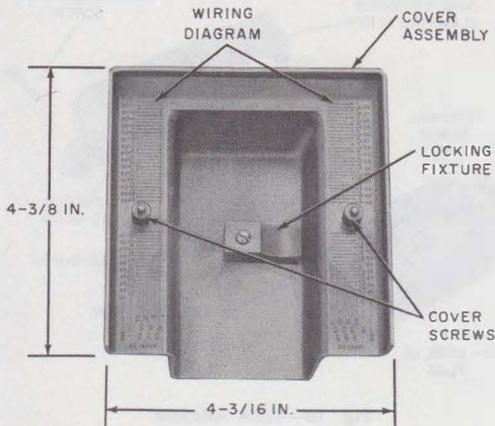


Fig. 6—149B Adapter, Inside Cover

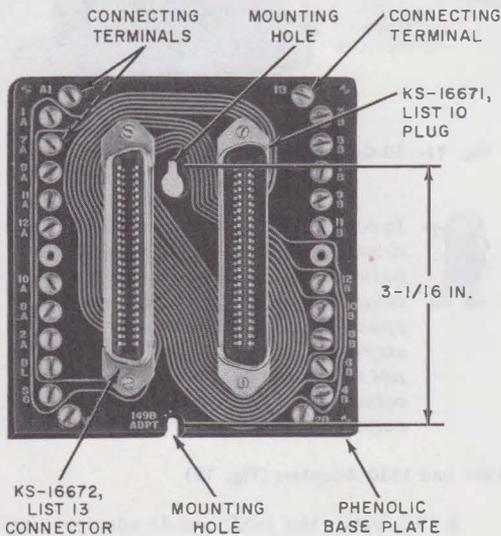


Fig. 7—149B Adapter—Printed Wiring Board Assembly

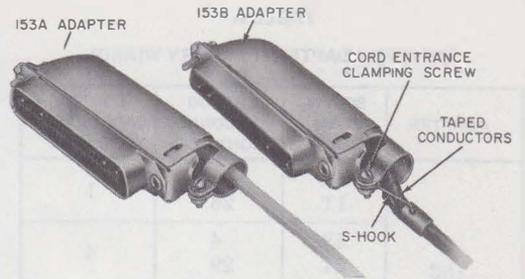


Fig. 8—153A and 153B Adapters

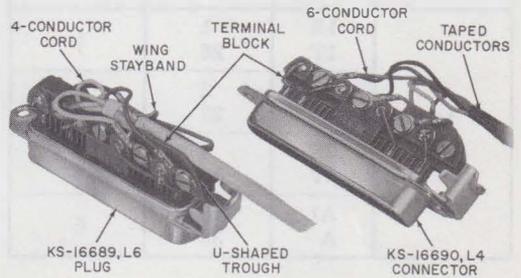


Fig. 9—153A and 153B Adapters, Hood Removed

- A U-shaped trough on top and at cord entrance end of the terminal block assembly (Fig. 9) serves to retain the wing-type stay band of cords so equipped.
- The hood has a cord-entrance clamping screw which is used to restrain S-hook terminated cords (Fig. 8), and cords of this design should have the conductors taped about 1-1/2 inches to improve appearance and protection (Fig. 8).
- A removable metal hood (Fig. 10) with a pressed-board liner contains and protects spade-tipped cord leads or wire conductors terminated beneath the screw terminals. If the liner is of early production design and has an opening in the top portion, a piece of vinyl tape placed over this opening will provide insulation between conductors and hood.

TABLE A
153-TYPE ADAPTER (FACTORY WIRED)

ADAPTER	SCREW TERM. DESIG.	KS-PLUG OR CONN. CONTACT	EQUIV. CABLE PAIR NUMBER
153 A&B	1R 1T	1 26	1
	2R 2T	4 29	4
	R B	20 45	20
	X1 X2	25 50	25
153 C&D	1R 1T	1 26	1
	A1 A	2 27	2
	2R 2T	4 29	4
	A1 A	5 30	5

Caution: ♦ To avoid damage to the wiring or insulation while assembling the adapter, lower the hood over the block approximately 1/4-inch from the assembled position and slide hood to the rear to engage holding tabs. Secure with hood anchoring screw. When removing hood, reverse procedure.♦

- The hood anchoring screw holds the ♦ hood ♦ in place. It in turn fastens into a threaded insert of a mating connector or plug to hold the two elements together.
- Early production 153A and B adapters had spare contact springs in the plug and connector. These unused contacts have been removed on later production adapters.
- Cords with up to ten conductors (Fig. 9 and 11) may be used with the 153-type adapter. Only eight spade tips can be terminated. Insulate and store extra spade tips. Due to limited space, use KS-19147 L1 cord tip insulator (Fig. 11).

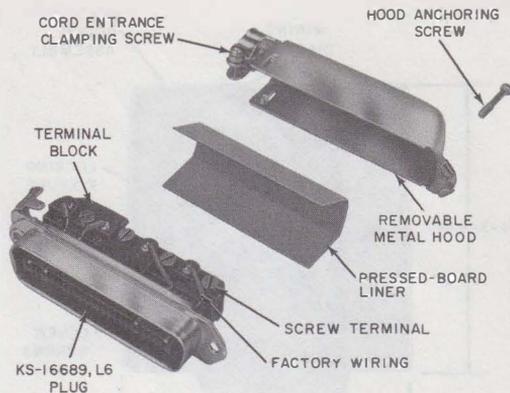


Fig. 10—153A Adapter

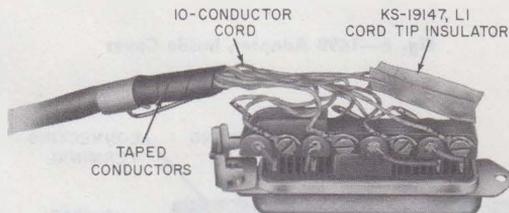


Fig. 11—10-Conductor Cord in 153-Type Adapter



In connecting leads to terminal screws, dress spade tips to prevent crosses between terminals. Care should be taken to permit possible contact of spade tips with only one wing of stayband on cord. Spade tips should not touch any exposed factory wiring, other spade tips, or metal part of the connector or plug.

153C and 153D Adapters (Fig. 12)

- Physically, the 153C and D adapters are the same as the 153A and B adapters ♦ and differ only in the electrical connections.♦
- The 153C adapter consists of a KS-16689 L9 plug and a terminal block which has screw

terminals electrically connected to pins 1, 26, 2, 27, 4, 29, 5, and 30.

- The 153D adapter consists of a KS-16690 L9 connector and a terminal block electrically connected to the same pins as the 153C adapter.
- Connection information for the 153C and D adapters is covered in Table A.

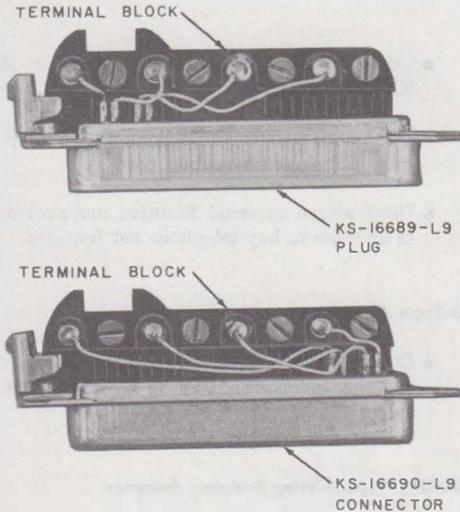


Fig. 12—153C and 153D Adapters

KS-19252 Type 3-Way Bridging Adapters

- Each adapter consists of a removable cover with spacer inserts and a base section containing interwired (bridged) 50-contact plug(s) and/or connector(s). The inserts may be removed and stored to accommodate deep-hood plugs. The plugs and/or connectors are wired standard point-to-point (except List 5, Fig. 18) at the factory and cannot be changed. (Refer to Table B.)
- The KS-19252 L1 is arranged for use with an A25B connector cable and two plug-ended sets (Fig. 17). It can be converted for use with an A25B and B25A connector cable plus a plug-ended set by pulling two inserts and storing. Normally, in early models, the connectors were positioned high enough to handle low-hood KS-16689 L1 plugs furnished on cords of telephone sets (Fig. 13 and 14).
- Field conversion of early models permits either or both of the two connectors to be lowered sufficiently to receive the high-hood KS-16689 L3 plug of B25A (extension-type) connector cables.

APPLICATION

148A (MD) and 148B

- Used with plug-ended key telephone sets.

149A (MD) and 149B

- Connects a D30B- or D50B-type cord to the KS-16672 L13 connector

TABLE B

3-WAY BRIDGING ADAPTERS

ADAPTER		COMPONENT ARRANGEMENT		
LIST NO.	INSERT POSITION			
KS-19252, L1	A and C	Connector	Plug	Connector
KS-19252, L2	B	Plug	Connector	Plug
KS-19252, L3	Storage	Plug	Plug	Plug
KS-19252, L4	Storage	Connector	Connector	Connector
KS-19252, L5	Storage	Plug	Connector	Plug

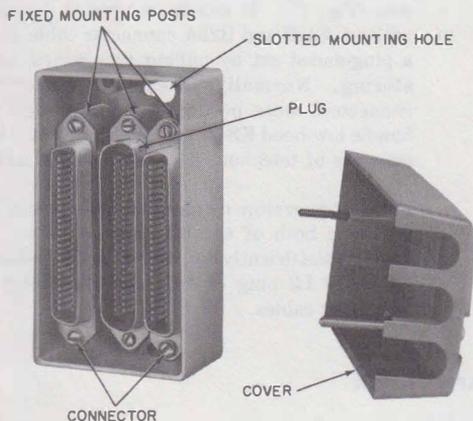


Fig. 13—KS-19252 Bridging Adapter, Nonconvertible

- Connects an A25B connector cable to the KS-16671 L10 plug
- Used with 6-button telephone sets equipped with plug-ended mounting cord
- Used where external features are provided in addition to key telephone set features.

153-Type Adapter

- Connects nonkey telephone sets to cabling systems involving A25B or B25A connector cables.

KS-19252 Type 3-Way Bridging Adapter

- Used to multiple service provided by plug-ended A- or B-type connector cables.
- The KS-19252 L5-type adapter (Fig. 18) is used in multiple installations of 2025 data sets to connect 830- or 2830-type telephone sets to 41A data mounting.

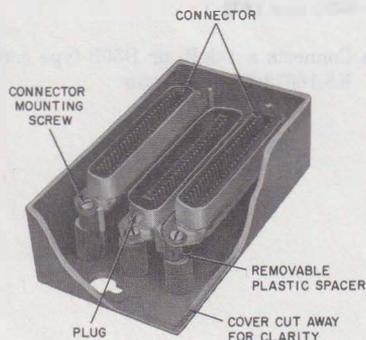


Fig. 14—KS-19252, List 1 Adapter Before Conversion (Early Model)



Circuit backup conditions could occur when these bridging adapters are used in key telephone system cabling. This could happen especially where individual station customer services such as station busy lamp, line exclusion, control cutoff key, pushbutton and buzzer, and speakerphone services are to be furnished. It is necessary, in this case, to open the bridged telephone set in order to disconnect and individually insulate and store some of these leads.

3. PROCEDURES FOR CONVERTING THE KS-19252 L1 ADAPTER

Adapter Using Spacers

3.01 The connector can be positioned deeper within the base of the adapter as follows:

- (1) Loosen connector mounting screws sufficiently to permit slipout of the two C-shaped plastic spacers (Fig. 14 and 15) which support the connector in base.
- (2) Remove spacers. Connector can then be depressed to its lowest mounting position to receive the B25A connector cable plug.
- (3) Place removed spacers on top of the connector end tabs (Fig. 16) and tighten connector mounting screws.

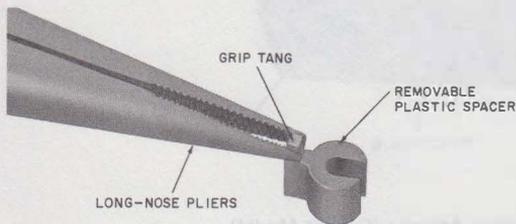


Fig. 15—Spacer

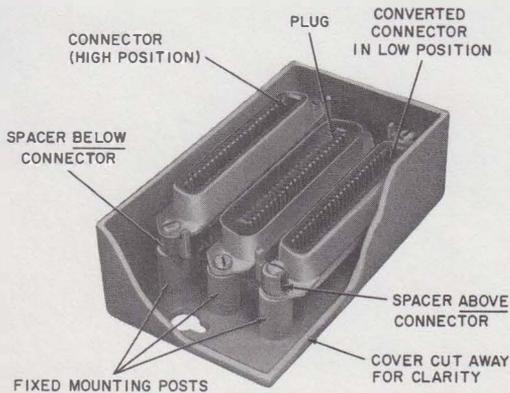


Fig. 16—KS-19252, List 1 Adapter After Conversion (Early Model)

Adapters Using Inserts

3.02 In the current model adapters, the connectors are stationary and inserts are placed in the cover pockets to accommodate low-hood plugs.

- (1) The List 1 (C-P-C) adapter is arranged to accommodate two low hoods and one high hood. Four inserts are used and are placed in the outside pocket positions (A and C) of the cover. See Fig. 17.
- (2) To convert a List 1 adapter to accommodate two high hoods, remove the inserts from A or C position and place in cover storage pocket.
- (3) In any assembly where a high hood is used, the inserts are not used in that connector position and should remain in the storage pocket.

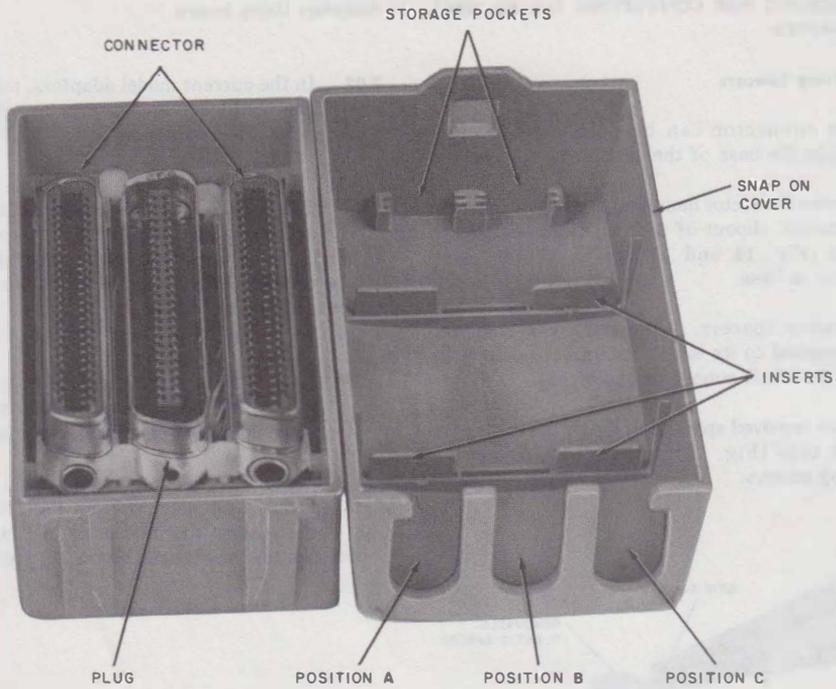


Fig. 17—KS-19252, List 1 3-Way Bridging Adapter (Current Model)

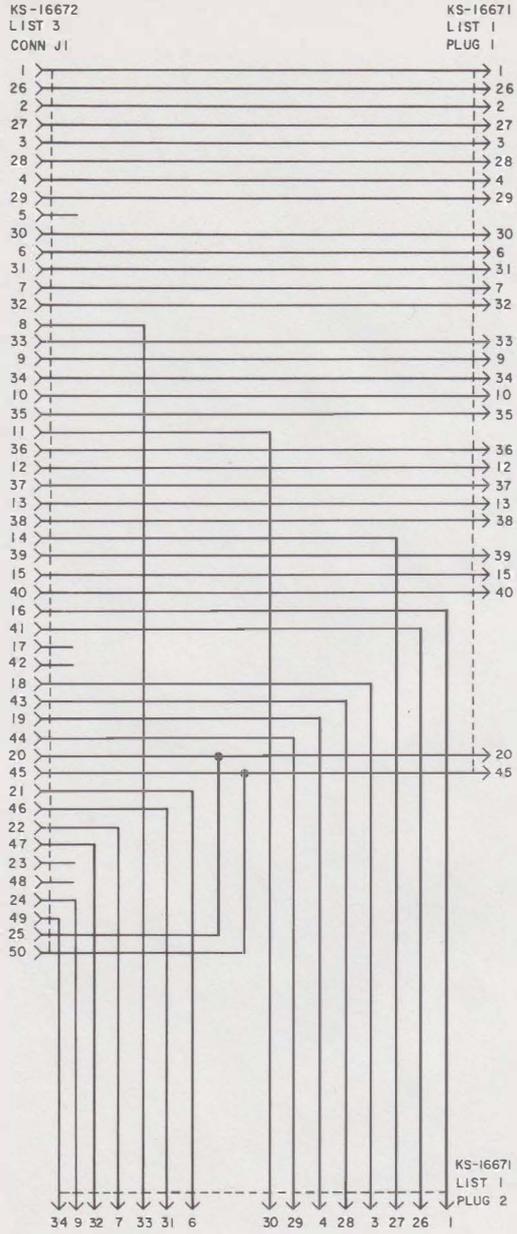


Fig. 18—KS-19252, List 5 3-Way Bridging Adapter, Schematic