

## TELEPHONE SETS—MODULAR TYPE

### 1. GENERAL

**1.01** This section provides general information on the modular concept of telephone sets.

**1.02** This section is reissued to:

- Revise figures
- Add figures
- Add 625S, 625T, new 630A4, 635A, 635B, and 74D connecting blocks
- Add 616E, 616H, 616J, 616JK, 616T, 616TY, 623E4, 623D6, 623P6, and 623T6 jacks
- Add 153AM, 153BM, 227B, 228B, 229B, 230B, 231B, and 267A adapters
- Add D6AL, D6AM, and D6AP cords
- Add 191C backboard

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

**1.03** The modular telephone set is the same as the standard telephone set except the telephone set base and handset are jack equipped to accept a plug-ended mounting cord (desk set) and handset cord (wall and desk sets.) Modular wall sets are equipped with a plug to mount on a 630A6 (MD) or 630A4 connecting block.

**1.04** Modular and partially modular telephone sets are available assembled (less cords) or as components (housing, handset, telephone set base, etc.). See Tables A through D.

**1.05** This section provides for the installation of connecting blocks, modular telephone sets, and modular components; conversion and/or repair of nonmodular telephone sets and nonmodular components.

### 2. IDENTIFICATION

**2.01** When installing modular telephone sets or converting sets to modular, various items of the following auxiliary apparatus will be required:

#### (1) *Connecting Blocks:*

**Note:** All connecting blocks will accept modular mounting cords, however, the 630A4 is used primarily for wall sets with 523A- or 523B-type plugs.

- 625A—Surface mounted for new installations (includes 42-type terminal block, Fig. 6).
- 625B—Flush-mounted for new installation with associated mounting hardware and coverplate (Fig. 7).
- 625C—Same as 625A less 42-type terminal block (Fig. 6).
- 625F—Flush-mounted for new installations, or for replacement of existing 47D or 47F connecting blocks and 548A jack (Fig. 8).
- 625S—Surface-mounted for new installations, (includes 42-type terminal block, Fig. 9).
- 625T—Same as 625S less 42A terminal block.
- 635A—Series connecting block (650A jack, Fig. 15).
- 635B—Series bridged connecting block (651A jack).
- 630A—Surface mounted for wall set mounting (accepts 523-type plug and attaches set to wall, Fig. 10).

(2) **Handset Cord Jacks (slip-on):** Used for conversion of telephone bases and telephone set bases (H4DU cord).

### NOTICE

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

- 616B jack for TOUCH-TONE® wall sets and TOUCH-A-MATIC® sets
- 616C jack for rotary wall sets
- 616D jack for rotary and TOUCH-TONE general purpose desk, single line, 2-line, and multiline (key) set bases
- 616E jack for CALL DIRECTOR® sets
- 616J for Multibutton Electronic Telephone (MET) sets and TOUCH-A-MATIC (16) repertory dialer
- 616JK jack for key telephone sets (jack with 963-type connector on leads)
- 616T jack for 10/20 button key telephone sets and multibutton wall sets
- 616TY jack for TRIMLINE® desk and wall set bases.

(3) **Handset Jacks for Handset Cord (H4DU):**

- 616W jack for G15A handsets equipped with 840402598 cup assembly and for K1-type handsets
- 616WG jack with short leads for G6- and G7-type handsets
- 616H jack for LED version of TRIMLINE handsets.

(4) **Telephone Set Base Jacks for Mounting Cords (D4BU, D6AL, D6AM, and D6AP):**

- 623D3 jack for rotary and TOUCH-TONE general purpose desk sets, without options (factory supplied in 500DM and 2500DM telephone sets and 500D2M and 2500D2M telephone set bases).
- 623D4 jack for rotary and TOUCH-TONE general purpose desk sets, with options (used for field conversion).
- 623E4 jack for Transaction telephone sets

- 623P4 jack for PRINCESS® sets, and DESIGN LINE® sets

\*Trademark AT&TCO

- 623T4 jack for TRIMLINE desk and wall bases
- 623D6 jack for 2-line general purpose sets and/or sets with options requiring up to 6 conductors
- 623P6 jack for 2-line PRINCESS sets
- 623T6 jack for TRIMLINE desk and wall bases with options requiring up to 6 conductors.

(5) **Plug for Wall Sets:**

- 523A3—three conductors
- 523A4—four conductors
- 523B—for 960A01M and 2960A01M repertory dialers. (Converts desk sets to wall sets.)

(6) **Adapters for Plug-in Mounting of Nonmodular and Modular Wall Sets (must be combined with a 523A-type plug):**

- 228A or 228B adapter for 554-, 555-, 556- 557-, 558-, and 559-type telephone sets
- 229A or 229B adapter for 2554-, 2555-, and 2558-type telephone sets
- 230A or 230B adapter for AC1-type telephone bases.

**Note:** A coded adapters have screws shipped loose but B coded adapters have screws driven into the adapter.

**Note:** In modular wall telephone set and telephone set base codes, no distinction is made between apparatus which include adapters and newer apparatus whose base pans do not require adapters. The wiring and function of the two assembled configurations are identical.

**(7) Modular Cords:**

- H4DU (handset cord) available in 6-foot (standard) and 12-foot (long) lengths
- D4BU (mounting cord) available in 6-foot (standard), 14-foot (long), and 25-foot (extra long) lengths
- D6AM-29 (mounting cord) available in 6-, 14-, and 25-foot lengths for options requiring up to six conductors
- D6AL or D6AP (mounting cords) are a twisted conductor cords and should be used in lieu of a D6AM if there is a problem of cross-talk between lines. These cords are also available in 6-, 14-, or 25-foot lengths.
- M4AR-3, test cord, 15-1/2 inches long with a 4-conductor modular plug on one end, and spade tips on the other for testing modular jacks and connecting blocks.

**(8) Adapters:**

- 224A—D4BU or D6AM (as applicable) cord to 541- and 551-type jacks (Fig. 21)
- 225A—D4BU cord to 548- and 549-type jacks (Fig. 22)
- 227B—H4DU cord to 220A or 2220B hand telephone sets
- 231B—H4DU cord to TRIMLINE base
- 248A—D4BU cord (pins 2 and 5) to 2012 transformer (Fig. 24 and 25).
- 267A—for connecting two 4- or 6-conductor modular cords to a modular connecting block (Fig. 26)
- 153AM1—male miniature ribbon connector for modular cord to 25 pair cable connector, with 6-conductor modular jack (Fig. 28)
- 153AM2—similar to 153AM1 except equipped with 4-conductor jack
- 153BM1—female miniature ribbon connector for modular cord to 25 pair cable connector, with 6-conductor modular jack, (Fig. 28)

- 153BM2—similar to 153BM1 except equipped with 4-conductor jack.

**(9) Apparatus Blanks (Fig. 20):**

- 123A—fills in jack notch in 500D2 and 2500D2 modular housing when using spade-tipped cords.
- 124A—fills in jack notches in 2554B2, 702B2 and 2702B2 modular housings, when using spade-tipped cords.

**(10) Tools:**

- 797A tool, used with 788A1 tool (handle), for terminating station wire leads on 630A4 connecting block (Fig. 17).
- 798A tool for notching nonmodular housings to retain slip-on jacks (Fig. 18).
- 799A tool (Fig. 19), a template used to determine notching location on housings.

- (11) There are adhesive protective labels available to place over the jack opening of unused connecting blocks. The 841011802 labels are used on 625A or 625C blocks and the 841011810 labels on 625B or 625F blocks.

- 2.02** Refer to Tables A through D for ordering information.

**3. INSTALLATION****Connecting Blocks**

- 3.01** Connections to both 625- and 630-type connecting blocks are made according to Table E to insure compatibility of service. Wiring changes for party line service are made within the set and not at the connecting block.

- 3.02** The 625-type connecting block provides a termination for station wire and the mounting cord as follows:

- (a) The 625A is intended for new installations of modular desk sets using a surface mounted connecting block.

- (b) The 625C used to convert existing 42A connecting blocks to accept plug-ended mounting cords. Dress leads as shown in Fig. 6.
- (c) The 625F (Fig. 8) is intended for new installations requiring flush-type connecting block or replacement of 548A jack. Install in same manner as 548A jack (Sections 460-630-100 and 461-630-400).
- (d) The 625B assembly (Fig. 7) includes 625F connecting block, 43B bracket, faceplate, and six screws.

**Note:** The plug entrances of the 625A and/or 625C connecting blocks should be positioned facing downward if at all possible (maintaining sufficient clearance so modular cord can be plugged into jack) or to the right or left, never facing upward. This prevents foreign matter and cleaning fluids from entering the jack (Fig. 6). If notch is required in cover of 625A or 625C to provide entrance for station wiring, break out appropriate notch using long nose pliers.

- (e) The 625S (Fig. 9) is similar to the 625A except that it has a customer operable spring-loaded cover which protects the interior telephone line contact springs from contamination. It is intended for use in areas subject to high humidity and condensation or locations exposed to dripping, washing, mopping, or foreign matter. It contains a 42-type terminal block.
- (f) The 625T has the same spring-loaded cover of the 625S and is used to convert existing 42A or 625A connecting blocks where this protection is needed.



**Check for continuity on each lead by inserting M4AR-3 cord and connecting hand test set.**

**3.03** The 630A4 connecting block (Fig. 11), includes a 1034A mounting plate, two 800413577 (P-41357) 3/16-inch screws, two 840705008 5/16-inch screws, and two 841065529 1-1/8 inch screws. The 1-1/8 inch screws are used to attach the connecting block to a box or bracket and either the 3/16- or 5/16-inch screws are used to attach the 1034A mounting plate. The connecting block is intended

to mount directly to the wall surface (surface mounted) and various brackets as follows:

- (1) To mount the connecting block, use the fasteners indicated in Table F. In all cases, the connecting block should be flat against the wall. It may be necessary to break off the rest ears on early production models to achieve this (Fig. 11). If a previous installation used a KS-19407 or KS-20502 bracket, remove it and install the connecting block over opening.

- (2) Plumb connecting block. Tighten screws. In some cases, such as when mounting hardware is underflush, the connecting block will distort if screws are too tight. In such cases tighten screws until just tight enough to make the assembly tight on the wall once mounting plate is attached.



**The 630A4 does not recess into wall and may be used with exposed as well as concealed station wire. Exposed wire should enter from the bottom.**

**Note:** Wire that is larger than 22 gauge or which has heavily insulated conductors may cause difficulty in installation and/or damage to the connecting block. Retermination at the same connector slot is unreliable.

- (3) Make connections as shown in Table E using the following procedure:
  - (a) Do not strip conductors, (unless using excessively large conductors).
  - (b) Dress the conductors in such a way that they will not be crossed over each other and/or pinched.
  - (c) Insert conductors snugly into bottom of slots with the lead insertion tool (Fig. 14 and 17). Do not twist or rock the tool, and allow generous slack. Do not insert more than one conductor in each slot.

**Note:** The blade of this tool is plastic and is a throwaway item. It should be replaced after 100 to 200 operations or sooner if wear is excessive.

- (d) Trim (not on looping terminations) and dress leads as shown in Fig. 14.



**Clipped conductor ends shall be bent toward the mounting surface so they will not contact the mounting plate and cause trouble on the line. Approximately 1/4-inch of wire should be left for bending over.**

**Note:** The connecting block has four quick-connect terminals, each providing three station wire terminations. Access test points on each terminal are also provided (Fig. 11).

(4) Attach the mounting plate (Fig. 10). The mounting plate may be easier to install with 5/16-inch screws, but in some cases of surface mounting they protrude into the wall behind the connecting block when fully tightened. When they cannot be completely tightened due to interference with the wall, the 3/16-inch screws should be used.

(5) Check for continuity on each lead by inserting M4AR-3 cord and connecting hand test set.

**Note:** 630A4 connecting blocks manufactured after 3-77 will be received from the factory with a plastic protective wrapper folded around the quick-connect terminals. To connect station wire, fold out the front and side flaps, make connections and dress leads per step (3), and refold wrapper across terminals. This wrapper protects the terminals from foreign matter and also prevents wire ends from making contact with 1034A mounting plate. If a 630A4 connecting block, without this protective wrapper, is used, insulating tape should be applied to the inside surface of the 1034A mounting plate to prevent any wire ends from making contact with the plate.

**3.04** A 635A connecting block (Fig. 15) may be used for series type service or when exclusion is provided. The 635A connecting block is designed to be used with an 8-conductor modular cord. Connections for the 635A connecting block are shown in Table F.

**3.05** The 74D connecting block contains a 6-conductor modular jack and was designed for use with the two-line PRINCESS telephone sets. It may also be used for mounting ringer isolators or other ringer coupling devices used with modular type telephone sets when the devices can not be mounted within the sets or whenever 5 or

6 conductors are required. Connections for the 74D connecting block are shown in Table G.

### Backboards

**3.06** A 191-type backboard (Fig. 16) may be installed by snapping over the 630A4 connecting block. Its use in this manner is optional, for decor purposes. The 191C backboard incorporates the features of the 182B and 191B backboards. All holes have knockouts that conceal the holes not being used. Also the code numbers of the sets used with this backboard are molded into the back, adjacent to the appropriate holes for each set.

### Telephone Sets

**3.07** Install assembled modular telephone sets and bases as follows:

- (1) Install appropriate connecting block for a desk (3.02) or wall (3.03) set.
- (2) Plug handset and mounting cords (desk sets) into the handset and telephone set base.
- (3) For desk sets, plug mounting cord into connecting block and test for proper operation.
- (4) When connecting set to wall, proceed as follows to prevent damage to 523-type plug or to receptacle in 630A-type connecting block:
  - (a) Begin with slight engagement of plug in receptacle.
  - (b) Raise set (with plug slightly engaged) and push toward wall to engage studs in corresponding holes in base of set. (The plug will slide up and down in the base of the set.)
  - (c) Pull set downward until firmly seated.
  - (d) Gently tug on the top and then on the bottom of the set. If one of the studs is not engaged, that end of the set will move away from the wall. In that case, push up to remove the set and repeat the procedure.
  - (e) Test set for proper operation

- (5) Provide modular station number card E-6417 for rotary set and E-6418 for TOUCH-TONE sets (letter M is located above the area code).

**3.08** Install and assemble modular telephone sets and components as follows:

- (1) When assembling the following sets, make any required wiring changes (see Part 4) before installing housing.
- (2) Install appropriate connecting block if required.
- (3) On 500D2M and 554B2P (Fig. 31), install dial parts as required for dial being used.
- (4) Install housing (including faceplate for 2500D2 housing).
- (5) Mount set (wall sets only) on 630A4 connecting block [3.07(4) or Fig. 29].
- (6) Install handset, handset cord, and mounting cord (desk set only) as shown in Fig. 1 through 5.

**Note:** When installing H4DU handset cord on some TRIMLINE telephone bases, it is necessary to use 231B (base) and 227B (hand telephone set) adapters.

- (7) Test for proper operation.
- (8) Provide modular station number card.

### **Special Purpose Handsets**

**3.09** Where required, the G15A handset used with these sets can be replaced with other types. Remove handset cord jack and leads from terminals in telephone set or base and install special purpose handset. Refer to Division 501 for connections of these handsets. Except for 554BM telephone sets, installation of handsets with spade-tipped cords will require the use of apparatus blanks (3.11).

- For shoulder rest—G4
- For impaired hearing—G6
- For weak speech—G7
- For noisy locations—G8 or D-180413

**Note:** The G6-, G7-, and G8-type handsets are now available in modular versions and are coded G6BM, G7BM, and G8BM, respectively.

**3.10** Special purpose transmitters for use with G15A handset are the KS-16664L3 (high noise level) and KS-20043L2 (low noise level). For installations requiring 238-, 276-, or 277-type amplifier, install amplifier on G15A handset transmitter cup to terminals shown for handset leads in Section 501-226-100.



**When nonmodular components must be replaced during installation or repair visits, refer to Part 4.**

### **Apparatus Blanks**

**3.11** The 123A or 124A apparatus blank (Fig. 20) is a one-piece slip-on blank which is required whenever a modular plan housing (notched for jacks) is used with a spade-tipped handset and/or mounting cord. Refer to 3.09 for usage.

**3.12** The 123A apparatus blank slips on the baseplate flange (Fig. 32), and fills the housing notch for handset cord and/or mounting cord in the 500D2 and 2500D2 housings.

**3.13** The 124A apparatus blank has two faces. The higher face is used to fill and conceal the notch in the 2554B2 housing (Fig. 34). The lower face fills and conceals the notches in the PRINCESS set housings. The blank is slipped on the housings so that its unused face is inside the housings and the three grooved edges, of the used face, mate with the edges of the housing hole.

### **Adapters**

**3.14** The 224A and 225A adapters are intended for use when it is not desirable to replace existing jacks. The 227- and 231-type adapters are used with TRIMLINE sets.

- (a) The 224A adapter (Fig. 21) is used to adapt D4BU mounting cord to the 541A and 551A jacks (12 pin jack).
- (b) The 225A adapter (Fig. 22) is used to adapt D4BU mounting cord to 404B (MD), 493A (MD), 497A (MD), 548A, and 549A jacks (4 pin).

**Note:** 541A, 548A, 549A, and 551A jacks should not be mixed with 625-type connecting blocks where portable telephone service is required.

(c) The 227A (MD) or 227B adapter (Fig. 4) is used to adapt H4DU handset cord to 220A or 2220B hand telephone set.

(d) The 231A (MD) or 231B adapter (Fig. 4) is used to adapt H4DU handset cord to AD2M or AC1M bases.

**3.15** The 248A adapter will connect to a dial light transformer (Fig. 25) and has a jack that accepts one end of a modular mounting cord. The other end of the cord would plug into an unused 625- or 630-type connecting block, or a 267A adapter to provide power for dial/night lights. Power is provided on pins 2 and 5. The 248A is also used with a 2012B transformer to provide power to 16-button TOUCH-A-MATIC telephone sets.

***Danger: When providing power for illuminated station sets, two or more transformers should never feed the same inside wiring pair. If one transformer is unplugged while the secondary terminals of that transformer are being energized through the inside wiring, by another transformer, the exposed terminal blades of the unplugged transformer would be energized with approximately 110 volts ac. Installations of multiple transformers connected to the same inside wire pair should be avoided and corrected if encountered in the field.***

**3.16** The 267A adapter (Fig. 26), is a modular TEE adapter with two 6-conductor modular jacks designed to plug into a modular connecting block and will accept D4BU, D6AM, D6AL, or D6AP modular cords. Fig. 27 shows a wiring schematic of the 267A and outlines some of the applications in which it may be used.

**3.17** The 153AM1 and 153BM1 adapters (Fig. 28) are miniature ribbon connectors for connecting one line to a 25 pair cable connector or bridging point. The 153AM1 is a male connector and the 153BM1 is a female connector. Both adapters pick up pin terminals 1-26, 2-27, and 25-50 in a 25 pair connector and may be used to connect a single line set to key system cable. Wiring is available in

these adapters to allow modification to pick up pins 4-29, 5-30, and 20-45 in a 25 pair connector.

**3.18** The 153AM2 and 153BM2 adapters are equipped with a 4 pin modular jack and will pick up pin terminals 1-26 and 2-27 in a 25 pair connector.

#### 4. CONVERSION

##### 4.01 Convert telephone set as follows:

(1) Remove housing, handset, and spade-tipped handset cord. If wall set, disconnect inside wire. If desk set, remove spade-tipped mounting cord.

**Note:** If a current version of the G3 handset is being used (modular type cord opening in handset), it may be converted to a G15 handset per Section 501-210-103.

(2) On rotary dial sets requiring housing color change, remove fingerwheel, finger stop, and dial number plate.

(3) On 7-type dials, remove the protrusion of the finger stop support (part of the dial frame) in such a manner that the remaining stop surface shall not project above the lip of the frame. Install the universal number plate, using the 840699979 lock ring and two 802108100 RHM screws, and the 840161285 finger stop. Provide modular station number card and install fingerwheel.

(4) For sets equipped with 9C-type dial, install universal number plate, finger stop, and 811152974 (P-11E297) lock ring. For sets equipped with a 9CA-type dial, install universal number plate and 840158372 finger stop—lock ring not required. Install 811714229 (P-17A422) ring assembly over edge of number plate. Provide modular station number card and install fingerwheel.

(5) For wall telephone set, inspect base pan of telephone set. If there is an opening for a 523A plug, install as follows:

(a) The end of the plug marked "TOP" shall be oriented toward the top of the base pan. One side of the plug should be engaged in the track first. Then the plug should be rolled in toward the pan to snap in the opposite side.

- (6) If base pan of wall set does not have the previous feature, install and connect the correct adapter (228, 229, or 230) and the 523A-type plug (Fig. 23). Install handset cord jack per Table B or C.



*When a 523A-type plug is used with an adapter, care must be taken to prevent shorting or grounding the plug leads. If the leads bent directly over the top of the stay hook and routed straight back through the base pan, they are exposed to a shearing or abrasive action when the plug moves in the adapter slot. In order to eliminate the problem, a slack loop should be formed in the plug leads directed upward from the plug stay hook then down through the base pan slot in an arc of roughly 1/2-inch diameter (Fig. 23).*

- (7) For desk telephone sets, modify base pan of telephone set base where required and install handset and/or mounting cord jacks per Fig. 36 through 45.
- (8) Connect plug and/or jack leads per specific telephone set practices. Insulate and store unused conductors. Dress all leads to avoid ringer gongs, moving parts of ringer and line switch, and interference with other components when set is assembled.
- (9) On sets requiring no housing change, install notched housing. If a notched housing is not available, punch housing per Fig. 46, 47, and 48 except for AC- and AD-type telephone bases which require no housing modification.
- (10) Mount the wall telephone set base on the 630A4 connecting block (Fig. 29).
- (11) Install handset, handset cord, and (desk set only) mounting cord.
- (12) Provide modular station number card E-6417 and/or E-6418.

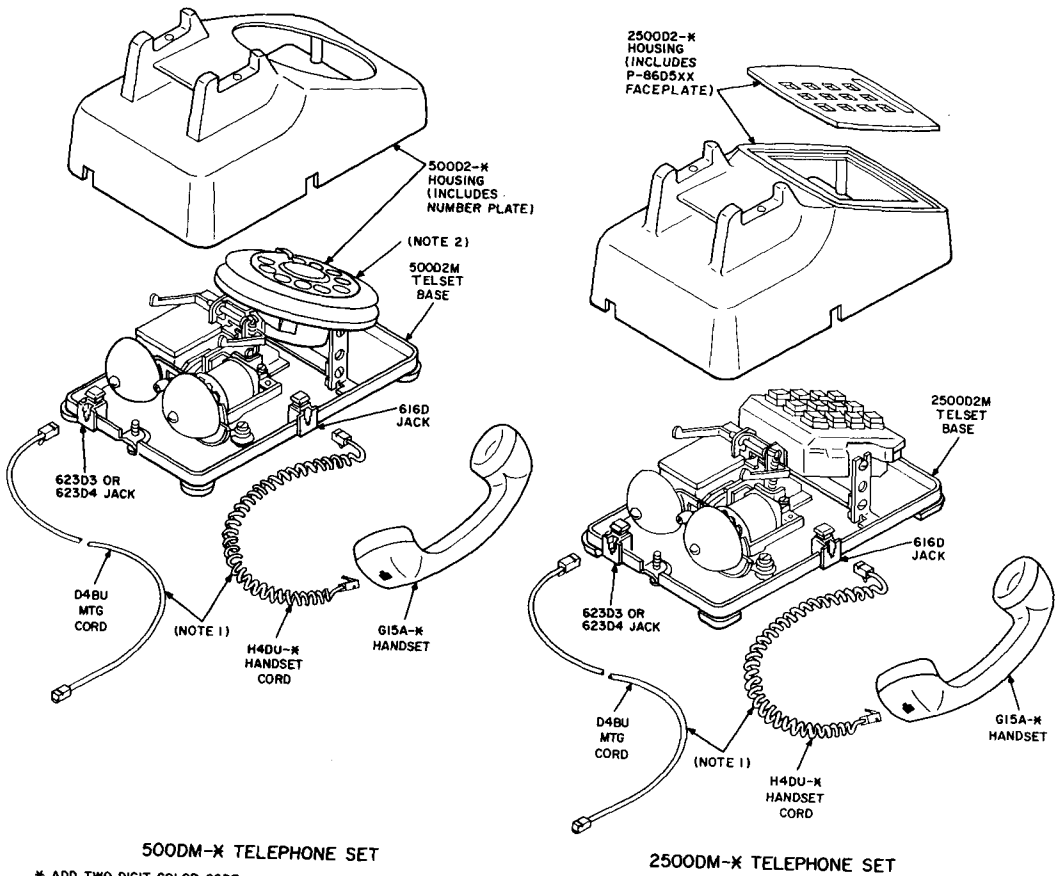
## 5. CONNECTIONS

**5.01 Bridged Ringing Standard:** All modular telephone sets will be supplied connected for bridged ringing.

**5.02 Polarity Guards:** Refer to appropriate Reference section in Division 502 for ordering and installation information.

## 6. MAINTENANCE

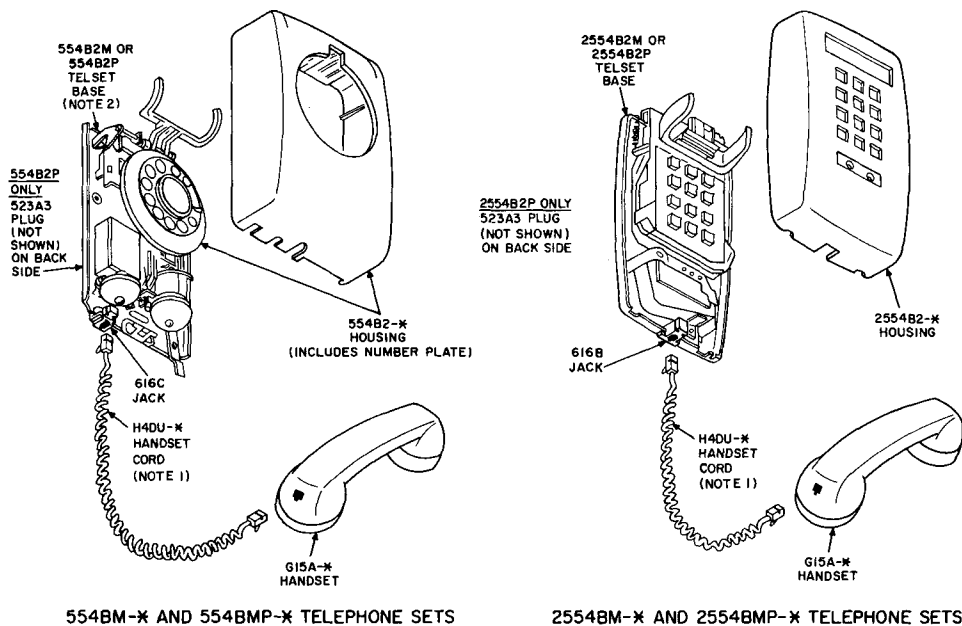
**6.01 Replaceable Items:** Standard replaceable items such as ringers, dials, receiver units, etc. can be replaced or maintained in accordance with sections covering the particular item.



## NOTES:

1. CORDS SHOWN ARE NOT INCLUDED WITH TELEPHONE SETS AND MUST BE ORDERED SEPARATELY.
2. DIAL NOT FULLY ASSEMBLED ON SEPARATE TELEPHONE BASES.

Fig. 1—500DM and 2500DM Telephone Sets



\* ADD TWO DIGIT COLOR CODE.

NOTES:

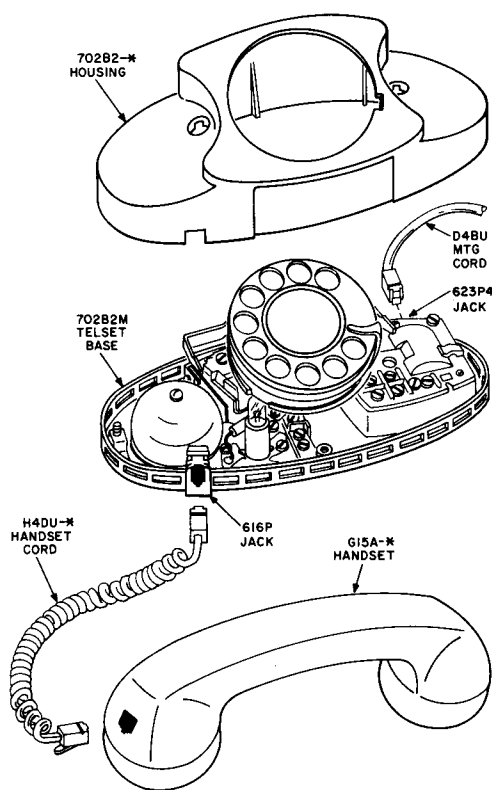
1. H4DU-\* CORDS MUST BE ORDERED SEPARATELY.
2. DIAL NOT FULLY ASSEMBLED ON SEPARATE TELEPHONE BASES

Fig. 2—554BM, 554BMP, 2554BM, and 2554BMP Telephone Sets

TABLE A  
COLOR ORDERING GUIDE

TEL SET, HOUSING, HANDSET, AND HANDSET CORD		COORDINATED FACEPLATE* TOUCH-TONE DIAL		UNIVERSAL NUMBER PLATE ROTARY DIAL*	
Black	-03	Charcoal	-70	840200034	-03
Ivory	-50	Muted Ivory	-80	840200505	-50
Green	-51	Light Green	-71	840200513	-51
Red	-53	Muted Red	-69	840200539	-53
Yellow	-56	Light Yellow	-72	840200562	-56
White	-58	Light Gray	-73	840200588	-58
Beige	-60	Muted Beige	-75	840200604	-60
Aqua Blue	-62	Muted Blue	-76	840200620	-62

\*Faceplates same color as housing are MD.

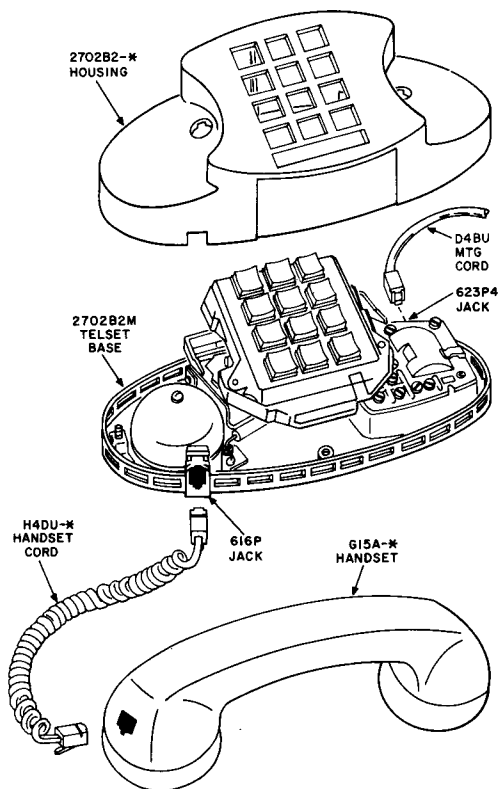


702BM TELEPHONE SET

\* ADD TWO DIGIT COLOR CODE.

## NOTE:

CORDS SHOWN ARE NOT INCLUDED WITH TELEPHONE SETS AND MUST BE ORDERED SEPARATELY.



2702BM TELEPHONE SET

Fig. 3—702BM and 2702BM Telephone Sets

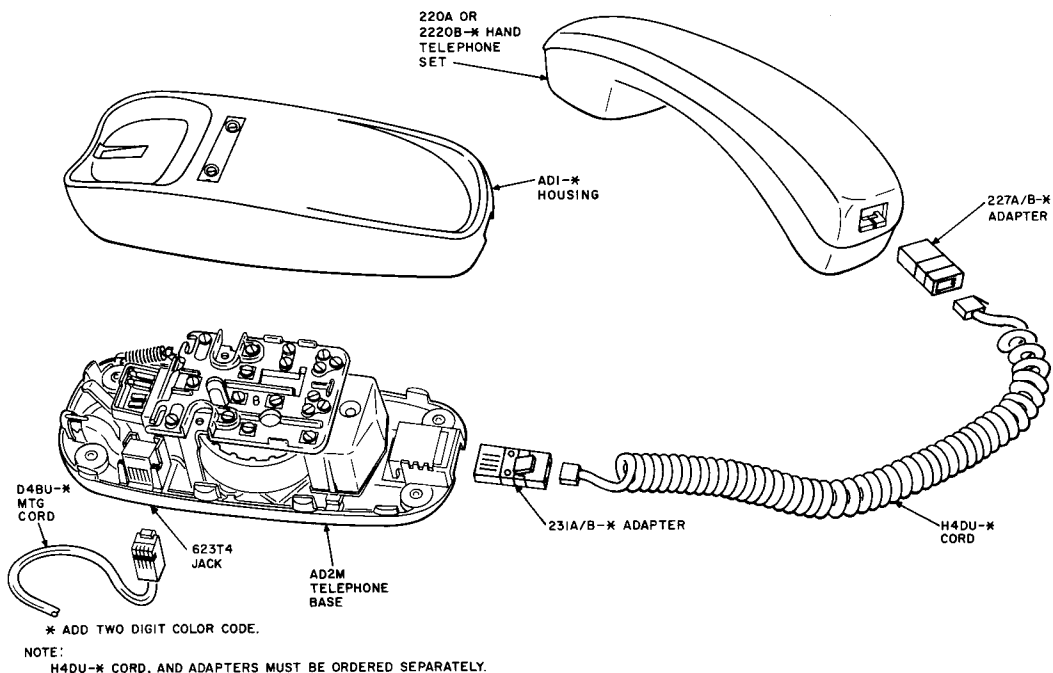
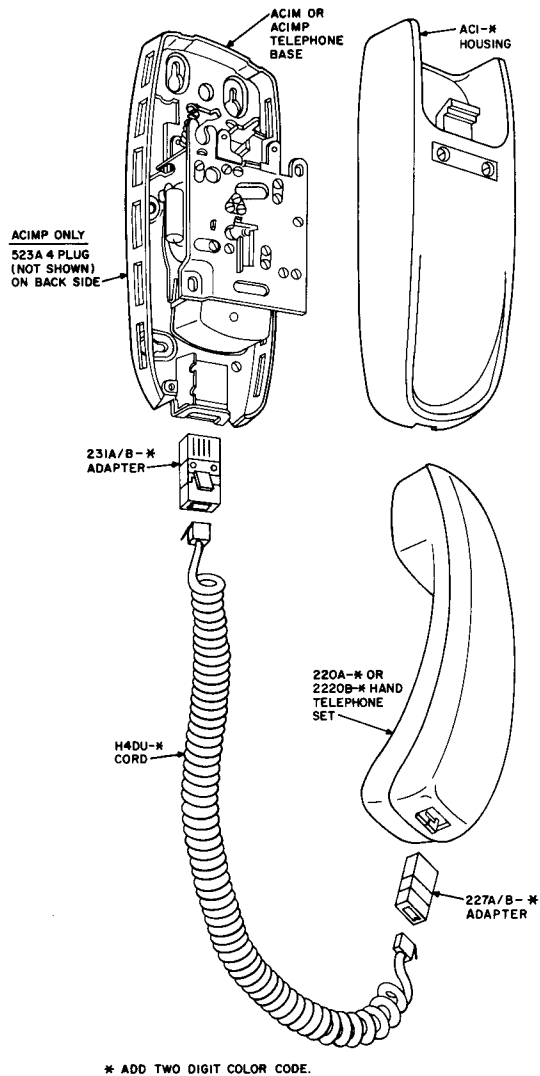


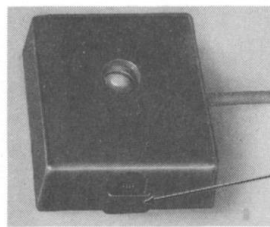
Fig. 4—AD2 Telephone Base With 220A or 2220B Hand Telephone Set



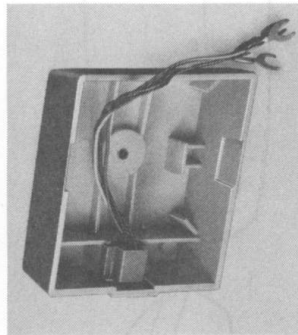
## NOTE:

ADAPTERS AND CORD SHOWN ARE NOT INCLUDED WITH EITHER HAND TELEPHONE SET OR TELEPHONE BASE AND MUST BE ORDERED SEPARATELY.

Fig. 5—AC1 or AC1P Telephone Base With 220A or 220B Hand Telephone Set

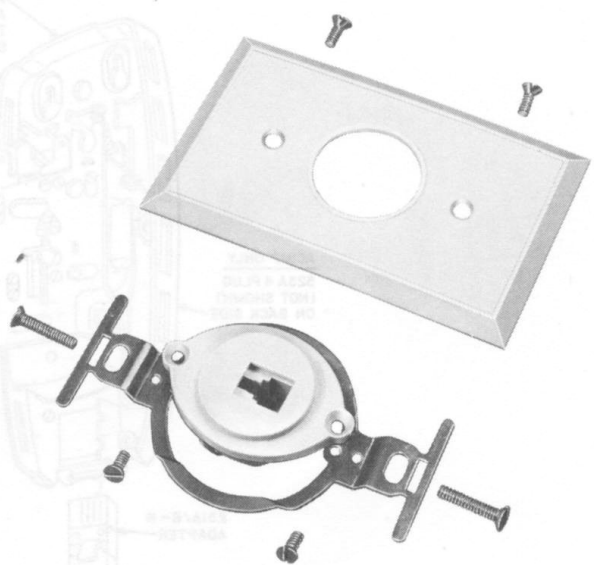


625A CONNECTING BLOCK



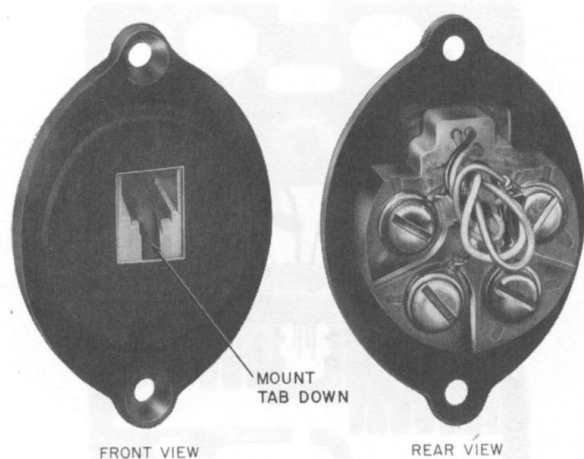
625C CONNECTING BLOCK

**Fig. 6—625A and 625C Modular Connecting Blocks**



- 4 CONTACTS
- FLUSH MOUNTED:  
FOR USE IN STANDARD ELECTRICAL OUTLET BOX
- NOTE:  
MOUNTING SCREWS, BRACKET, AND  
FACEPLATE PROVIDED
- MATES WITH D4BU MOUNTING CORD PLUG
- FOR NEW INSTALLATIONS OR MODULAR  
REPLACEMENT OF 548-TYPE JACKS

**Fig. 7—625B Connecting Block Assembly**



- 4 CONTACTS
- FLUSH MOUNTED:  
USING 63-TYPE OR KS-20502,L2 BRACKET  
AND I6A FACEPLATE OR IN STANDARD  
ELECTRICAL OUTLET BOX USING 43B  
BRACKET OR IN WOODWORK USING  
1-1/4 INCH HOLE
- MATES WITH D4BU MOUNTING CORD PLUG
- MOUNTING SCREWS SUPPLIED
- FOR NEW INSTALLATIONS OR MODULAR  
REPLACEMENT OF 548-TYPE JACKS

Fig. 8—625F Connecting Block

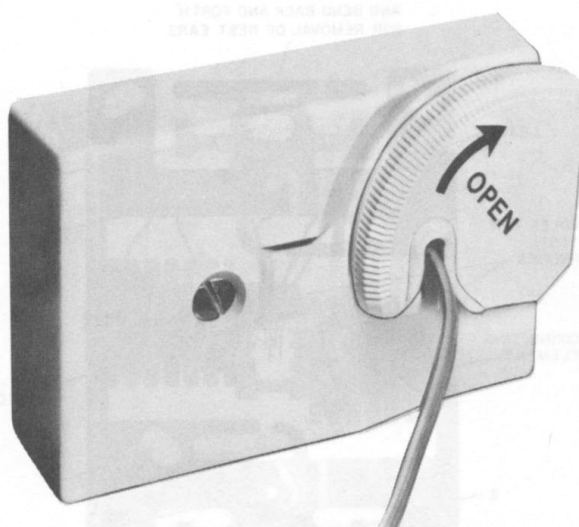


Fig. 9—625S Connecting Block With D4BU Cord Inserted.

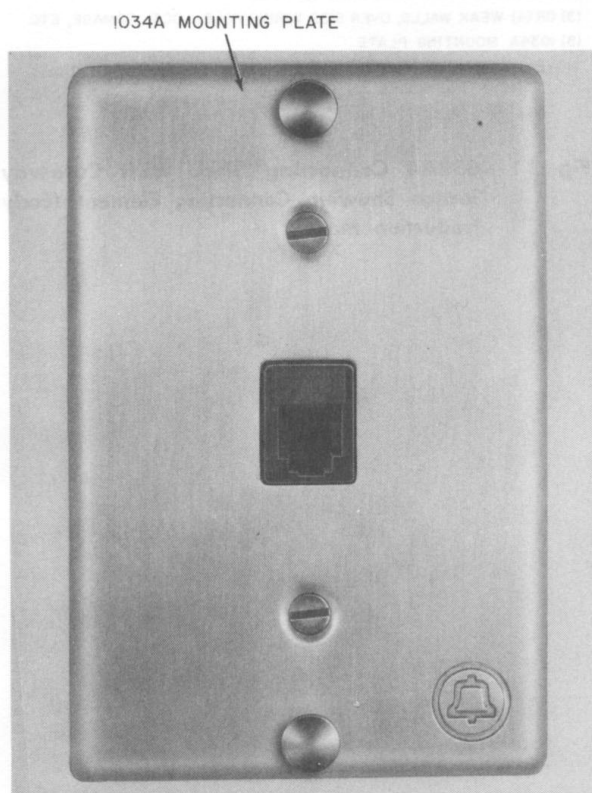
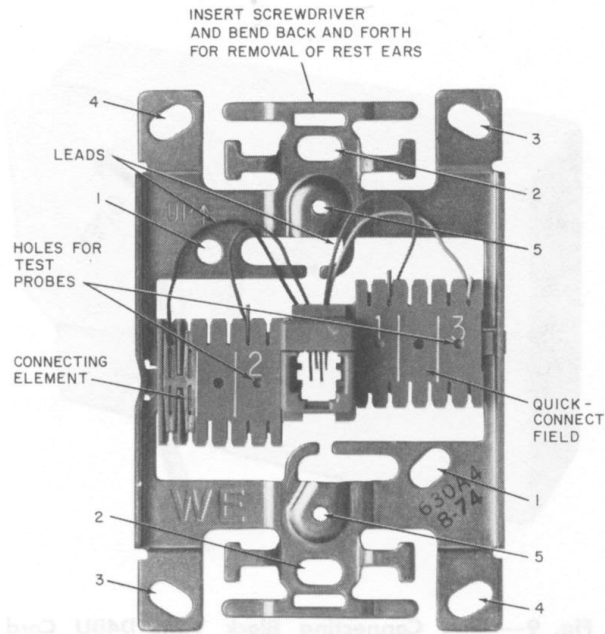


Fig. 10—630A4 Connecting Block

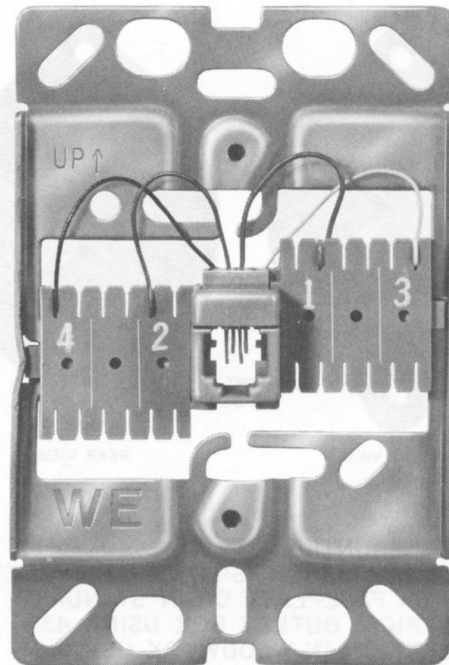


MOUNTING HOLES PAIR USES (SEE NOTE)

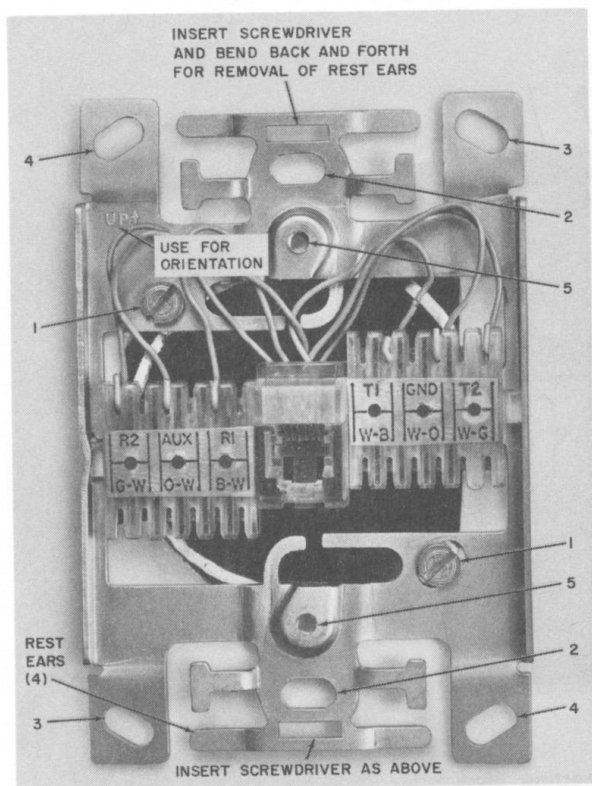
- (1) 63-TYPE, OR KS-19407, LI (MD) BRACKET
- (2) GEM BOX AND NORMAL WALL SURFACE
- (3) OR (4) WEAK WALLS, OVER SIZE WIRING HOLE, LOCAL DAMAGE, ETC.
- (5) IO34A MOUNTING PLATE

NOTE: IF MORE THAN 2 FASTENERS ARE USED, USE ADDITIONAL MOUNTING HOLES AS REQUIRED.

**Fig. 11—630A4 Connecting Block With Cutaway Section Showing Connecting Element (Early Production Model)**

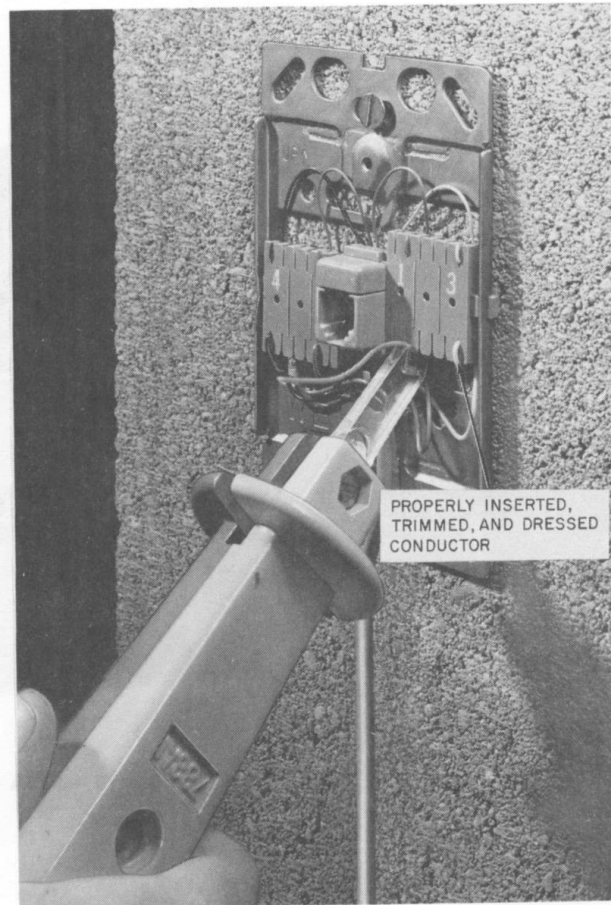


**Fig. 12—630A4 Connecting Block With Newer Bracket  
- Refer to Fig. 11 For Mounting Instructions**



MOUNTING HOLE PAIR USES:  
 1-63-TYPE BRACKET  
 2-DEVICE BOX, NORMAL WALL SURFACE, PLASTER RING  
 3 OR 4-WEAK WALLS (OVERSIZE WIRING HOLE,  
 LOCAL DAMAGE, ETC.)  
 NOTE:  
 IF MORE THAN 2 FASTENERS ARE USED,  
 USE ADDITIONAL HOLES AS REQUIRED  
 5-1034A MOUNTING PLATE

**Fig. 13—630A6 Connecting Block Mounting Arrangement**



**Fig. 14—Connecting Wire With Lead Insertion Tool**

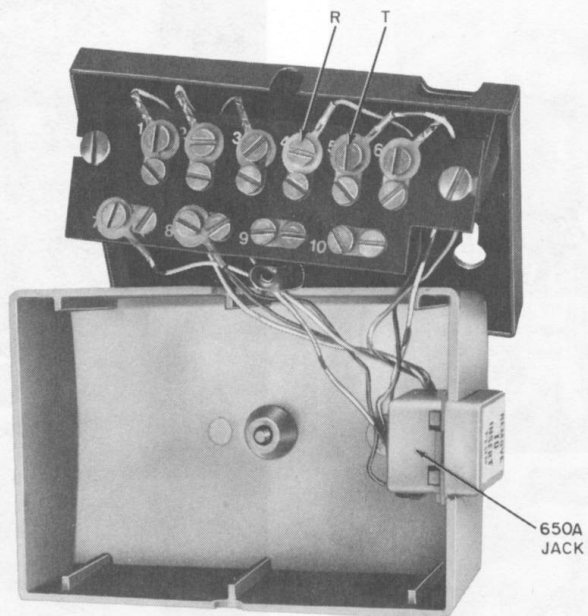


Fig. 15—635A Connecting Block

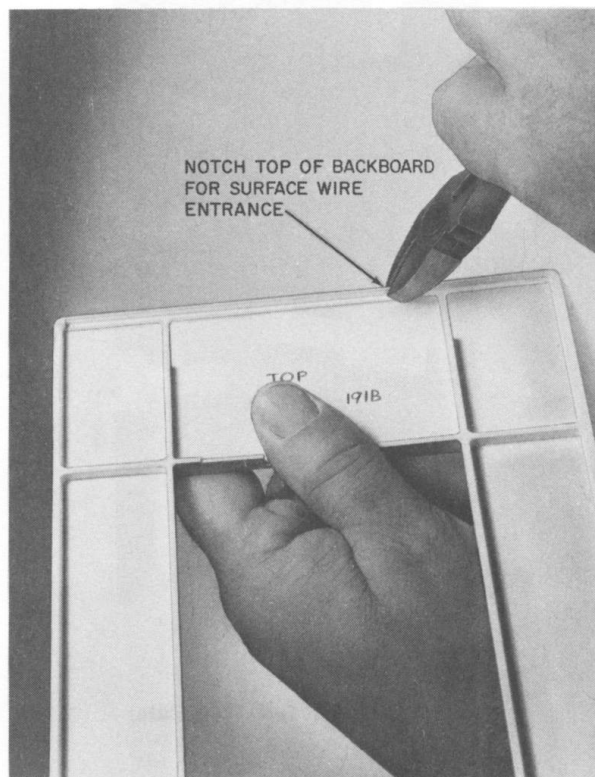
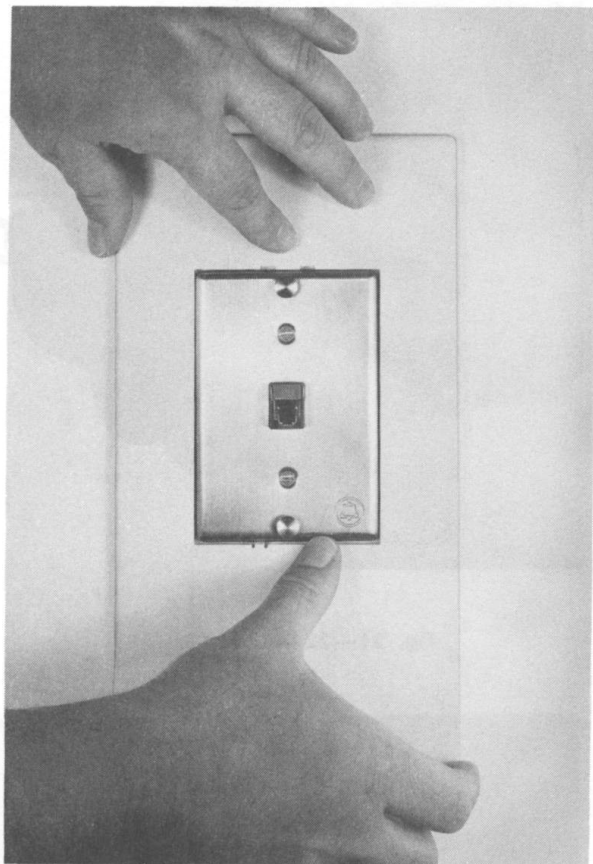


Fig. 16—191-Type Backboard

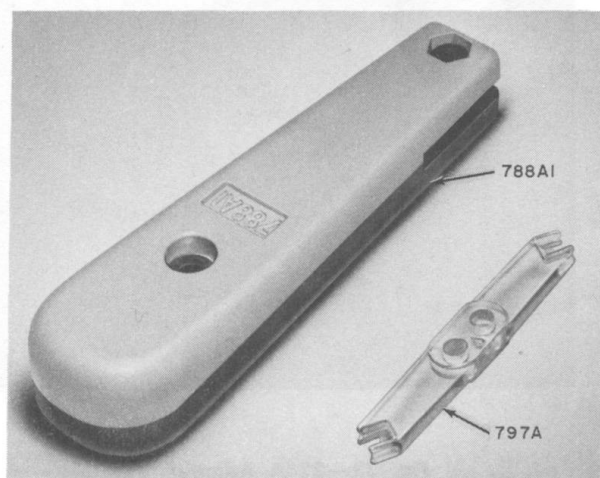


Fig. 17—Lead Insertion Tool

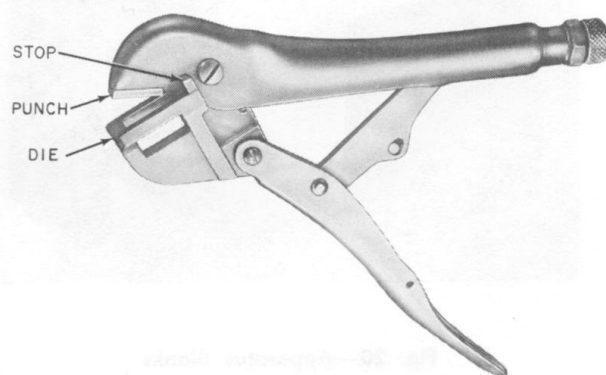


Fig. 18—798A Notching Tool

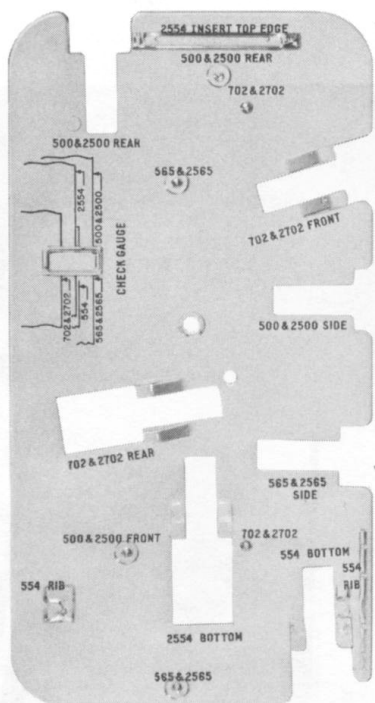


Fig. 19—799A Tool (Template)

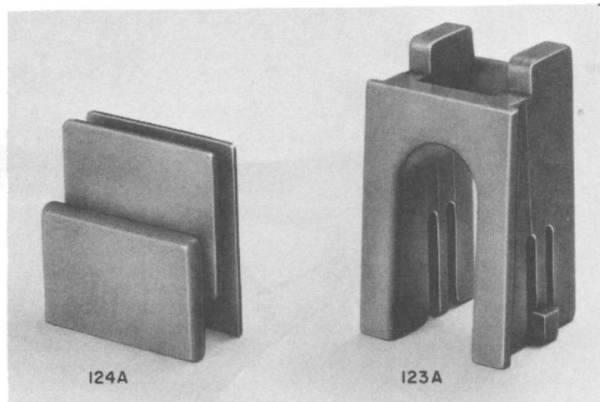


Fig. 20—Apparatus Blanks

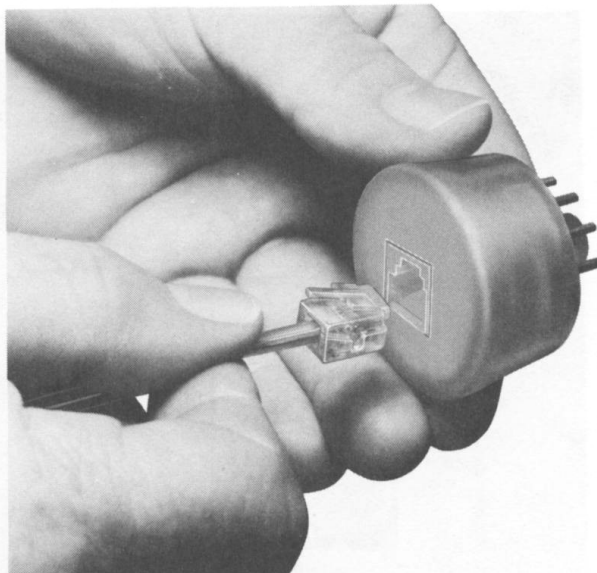


Fig. 21—224A Adapter

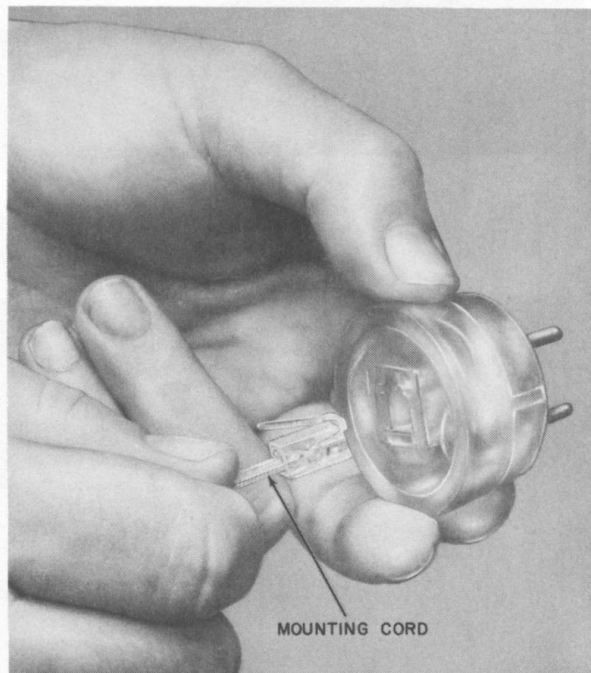


Fig. 22—225A Adapter

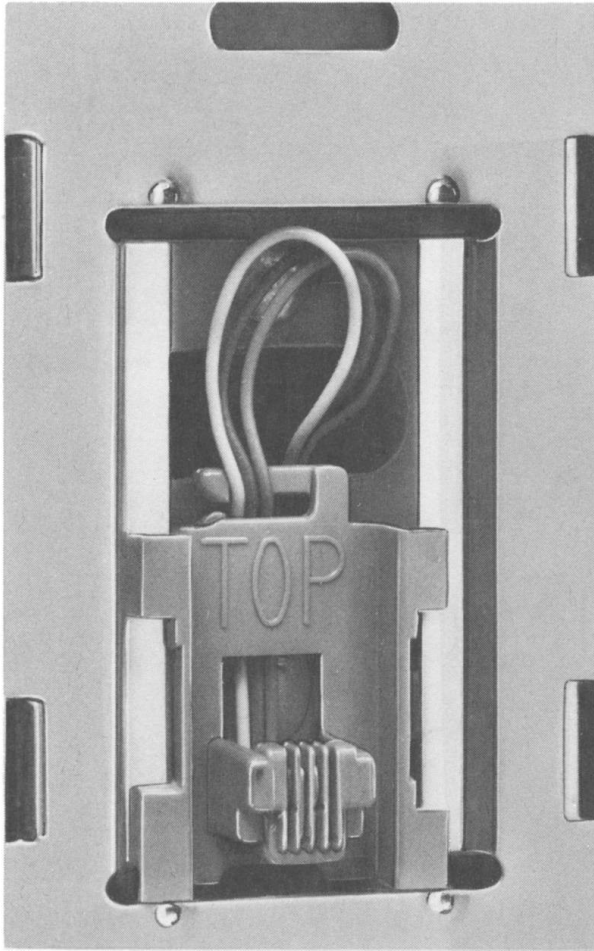


Fig. 23—Partial View of 228-Type Adapter With 523A3 Plug, Showing Slack Loop in Plug Leads

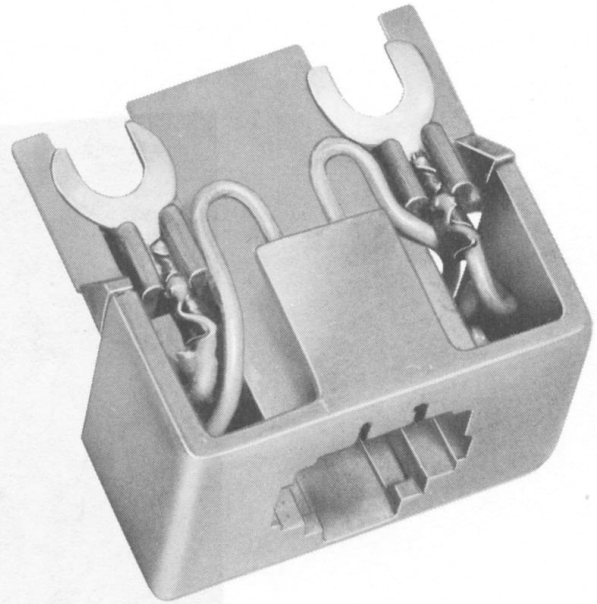


Fig. 24—248A Adapter

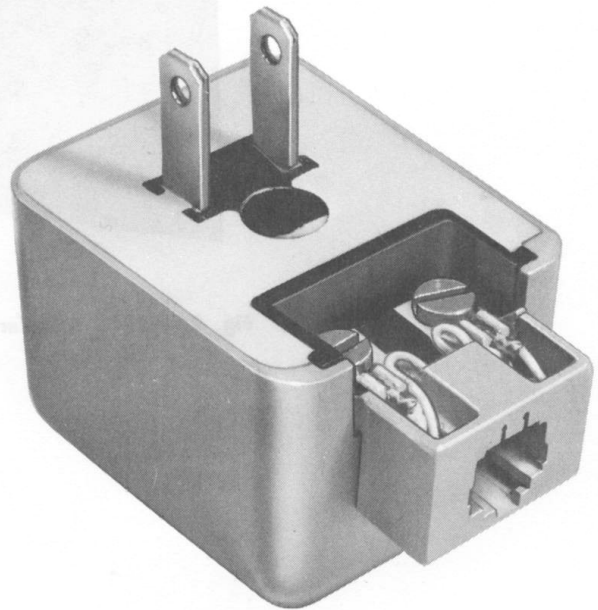


Fig. 25—248A Adapter as Used With 2012 Transformer

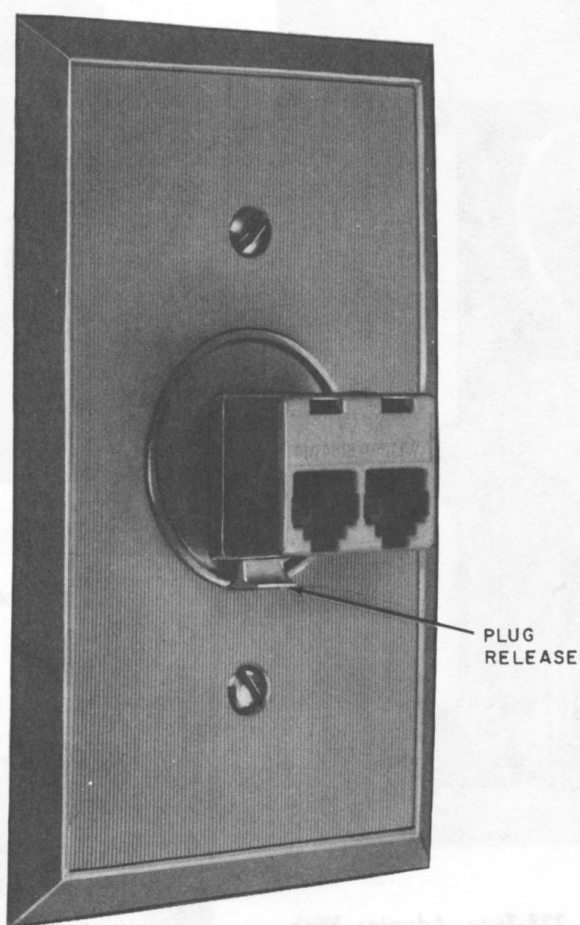


Fig. 26—267A Adapter Plugged into 625B Connecting Block

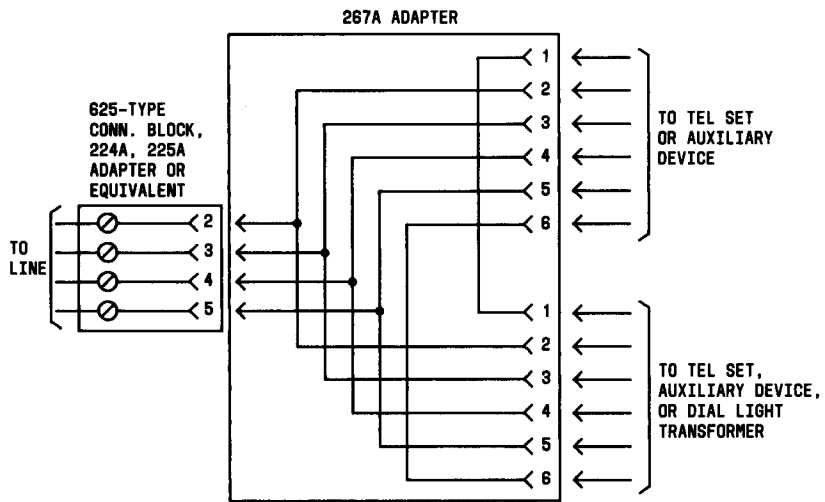


Fig. 27—Schematic of 267A Adapter

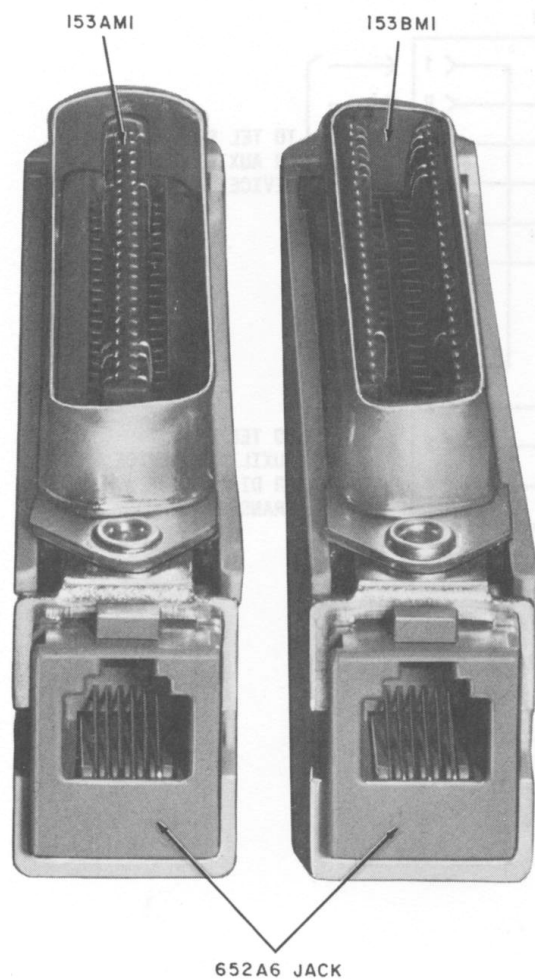
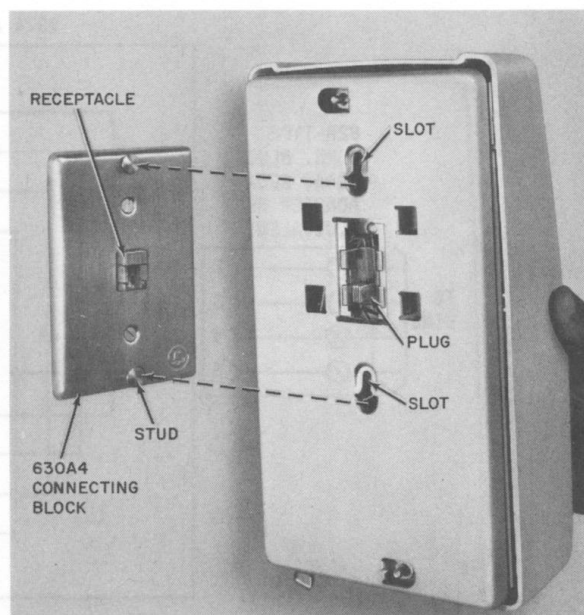


Fig. 28—153AM1 and 153BM1 Adapters



MOUNTING WALL SETS ON 630A4

- (1)—BEGIN WITH SLIGHT ENGAGEMENT OF PLUG IN RECEPTACLE
- (2)—RAISE SET (WITH PLUG SLIGHTLY ENGAGED) AND PUSH TOWARD WALL TO ENGAGE STUDS IN CORRESPONDING SLOTS OF WALL SET ADAPTER OR BASE PAN. (THE PLUG WILL SLIDE UP AND DOWN IN THE BACK OF THE WALL SET).
- (3)—PULL SET DOWNWARD UNTIL FIRMLY SEATED.

Fig. 29—554BMP Telephone Set With 630A-Type Connecting Block

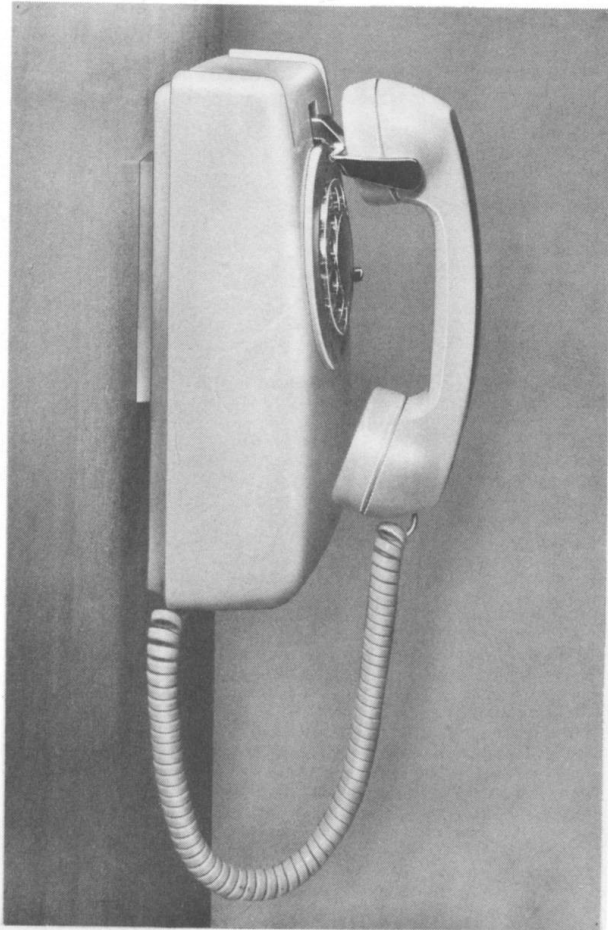


Fig. 30—554BMP Telephone Set on 630A-Type Connecting Block

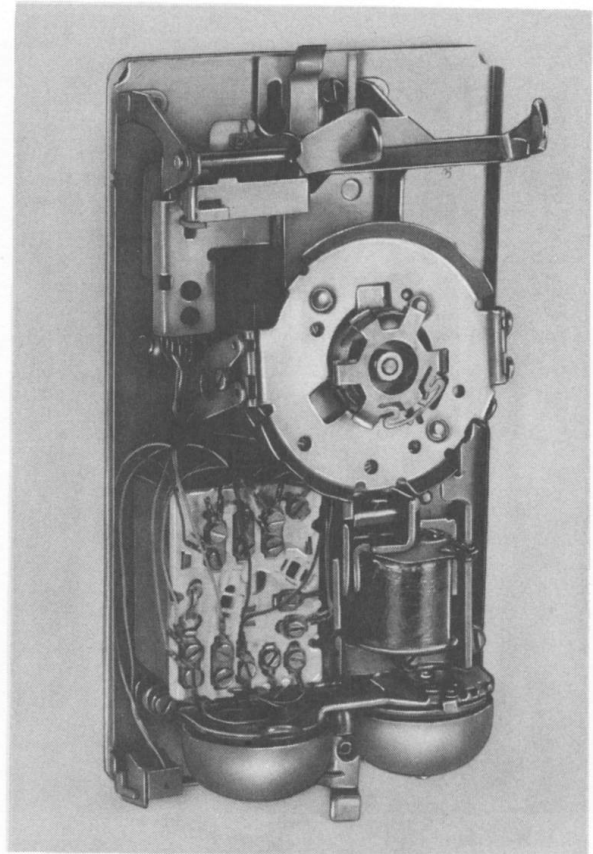


Fig. 31—554B2P Telephone Set Base

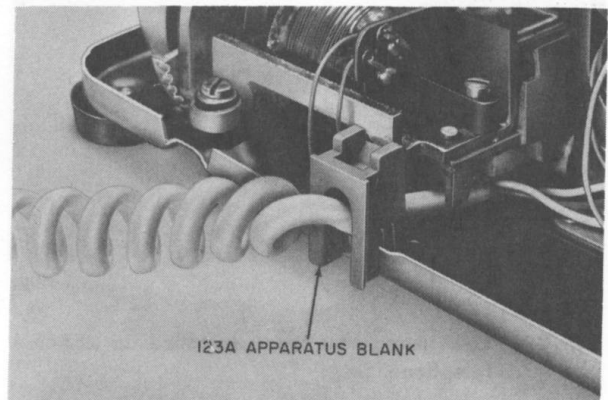


Fig. 32—123A Apparatus Blank Installed on 2500D1M Telephone Set Base

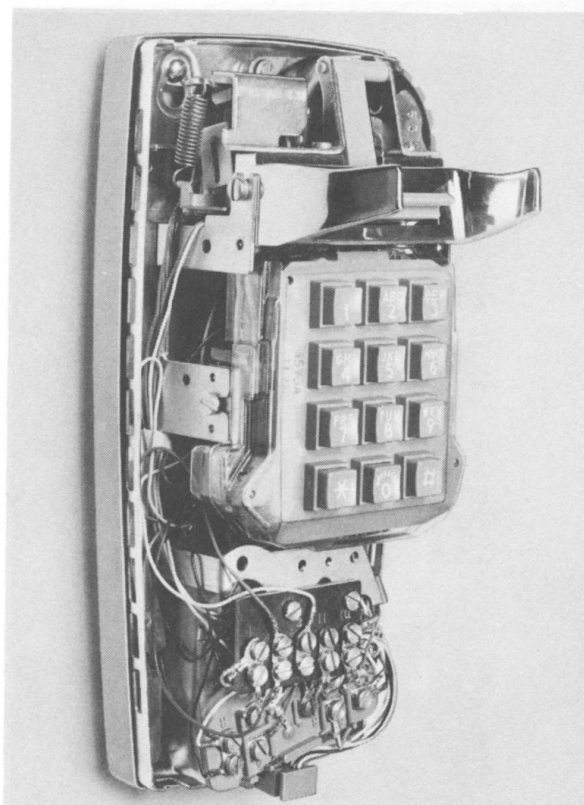


Fig. 33—2554B2P Telephone Set Base

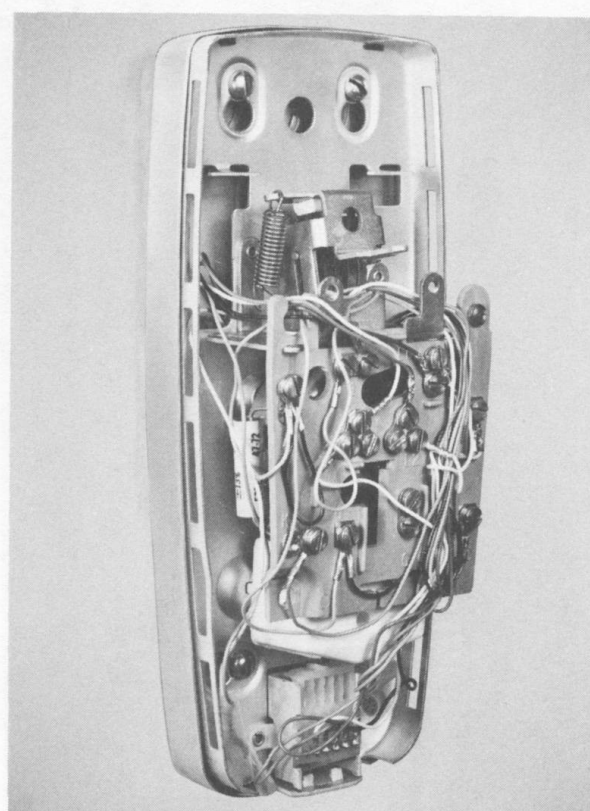


Fig. 35—AC1MP Telephone Base

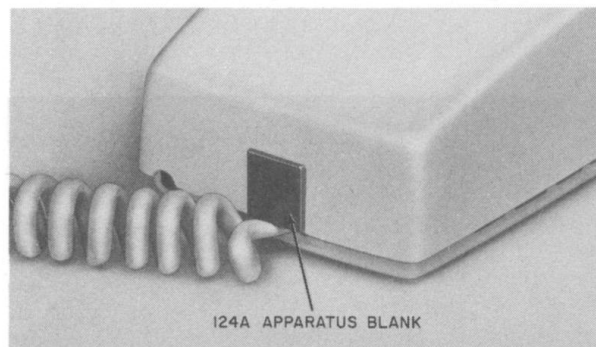


Fig. 34—124A Apparatus Blank Installed on 2554BM Telephone Set

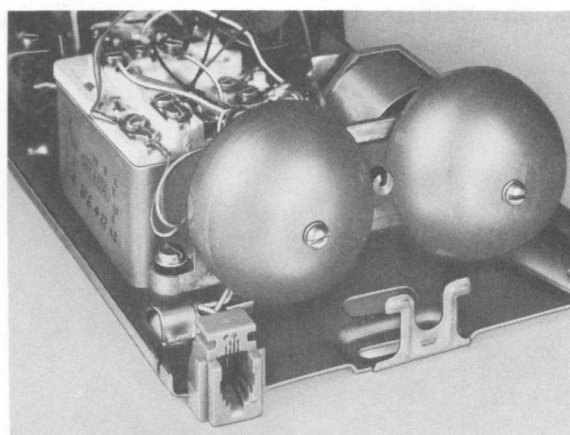


Fig. 36—554B2P Telephone Set Base With Handset Cord Jack Installed

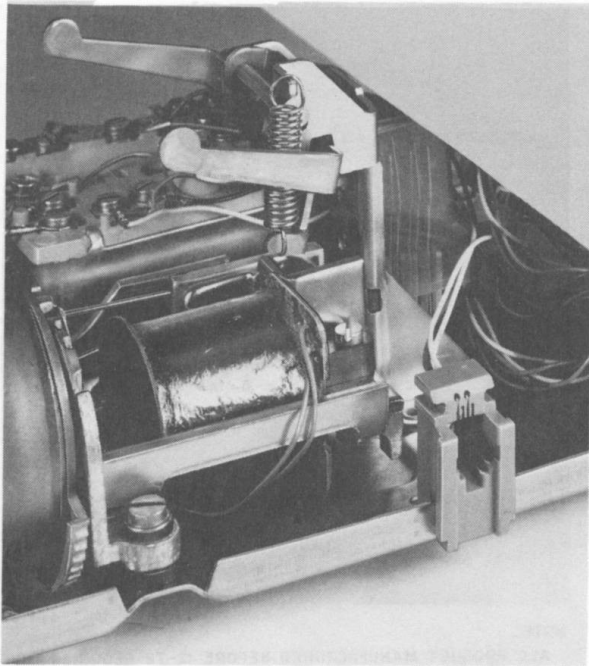


Fig. 37—500D2M or 2500D2M Telephone Set Base With Handset Cord Jack Installed

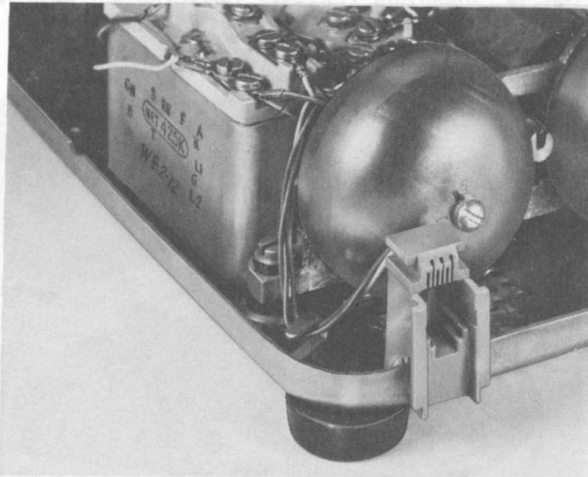


Fig. 38—2500D2M Telephone Set Base With Mounting Cord Jack Installed (500D2M Telephone Set Base is Similar)

NOTE:

ALL PRODUCT MANUFACTURED BEFORE 12-72 REQUIRES THIS MODIFICATION. CHECK FIT OF 623P4 JACK BEFORE REMOVING TAB IN PRODUCT MANUFACTURED BETWEEN 12-72 AND 3-73. PRODUCT MANUFACTURED 4-73 OR AFTER DOES NOT REQUIRE MODIFICATION.

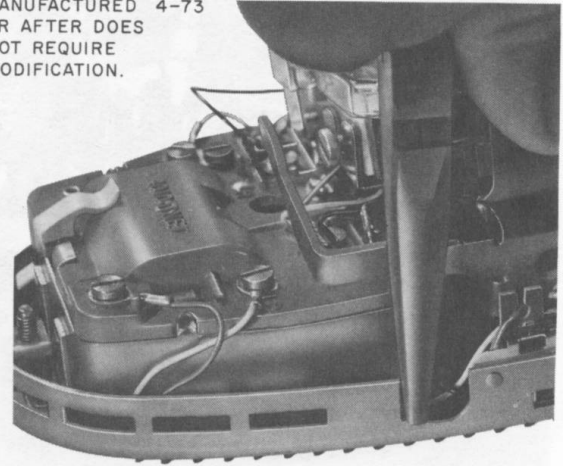


Fig. 39—Modifying PRINCESS Telephone Set Base to Accommodate Mounting Cord Jack

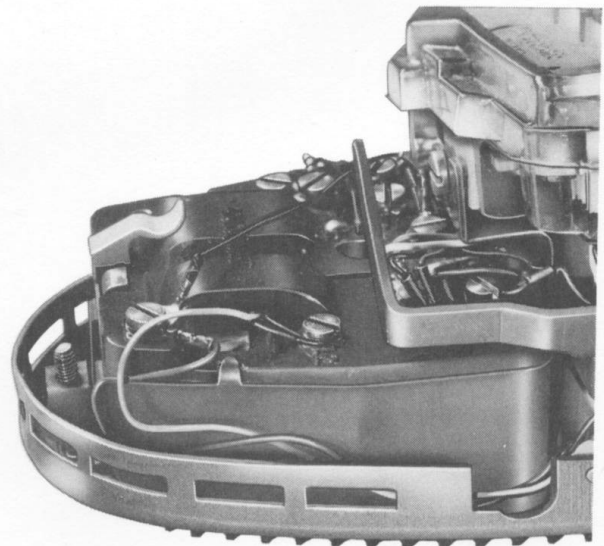
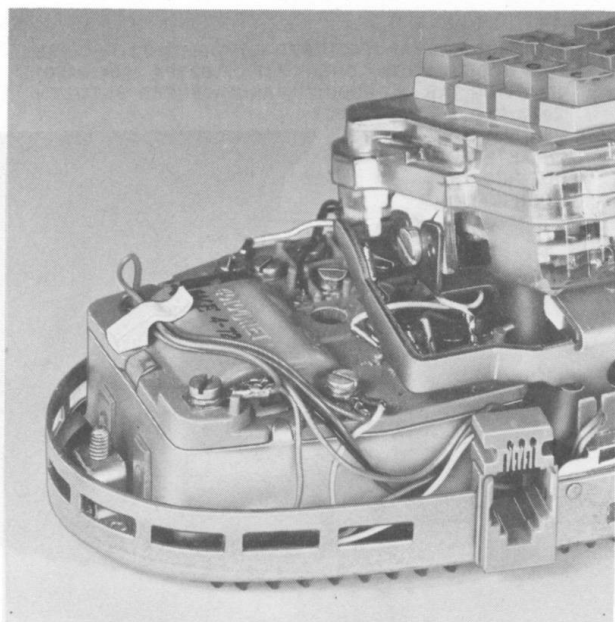
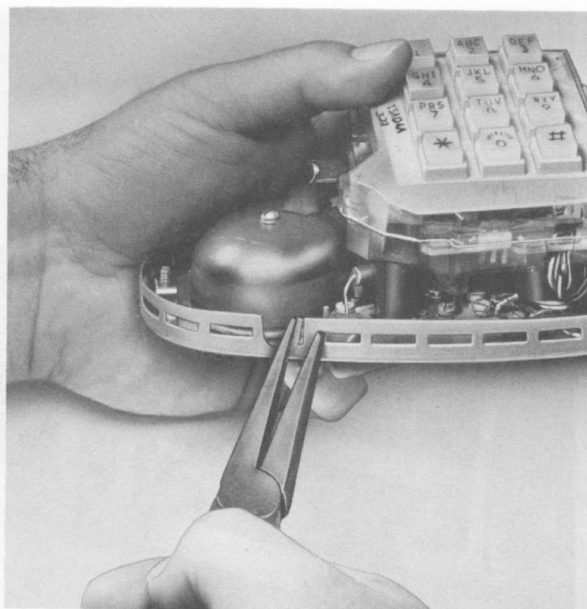


Fig. 40—PRINCESS Telephone Set Base Modified to Accommodate Mounting Cord Jack



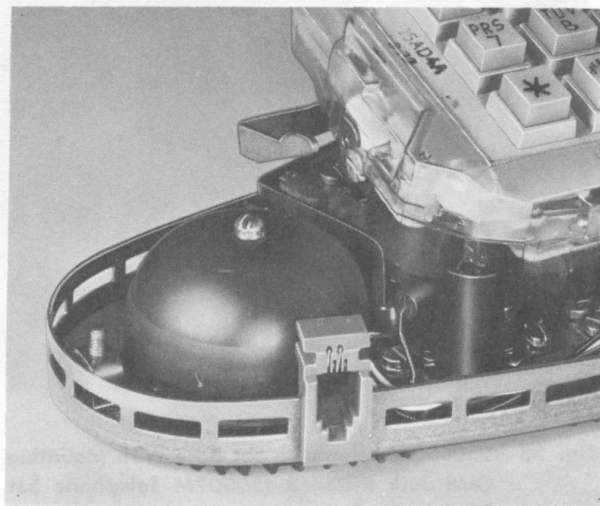
**Fig. 41—PRINCESS Telephone Set Base With Mounting Cord Jack Installed**



NOTE:

ALL PRODUCT MANUFACTURED BEFORE 12-72 REQUIRES THIS MODIFICATION. CHECK FIT OF 616P JACK BEFORE BENDING TAB IN PRODUCT MANUFACTURED BETWEEN 12-72 AND 3-73. PRODUCT MANUFACTURED 4-73 OR AFTER DOES NOT REQUIRE THIS MODIFICATION.

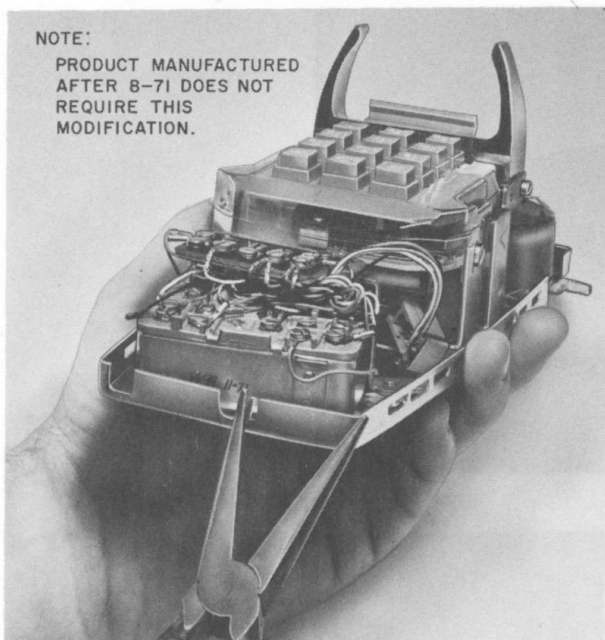
**Fig. 42—Modifying PRINCESS Telephone Set Base to Accommodate Handset Cord Jack**



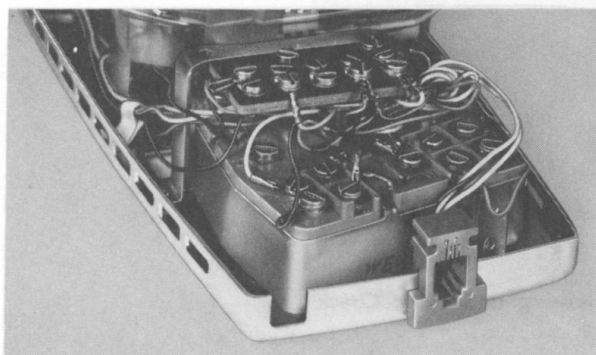
**Fig. 43—PRINCESS Telephone Set Base With Handset Cord Jack Installed**

NOTE:

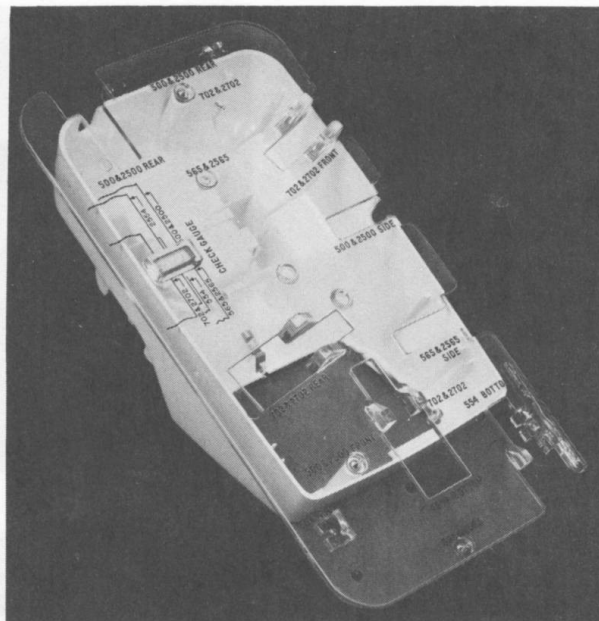
PRODUCT MANUFACTURED  
AFTER 8-71 DOES NOT  
REQUIRE THIS  
MODIFICATION.



**Fig. 44—Modifying 2554B1M Telephone Set Base to Accommodate Handset Cord Jack**



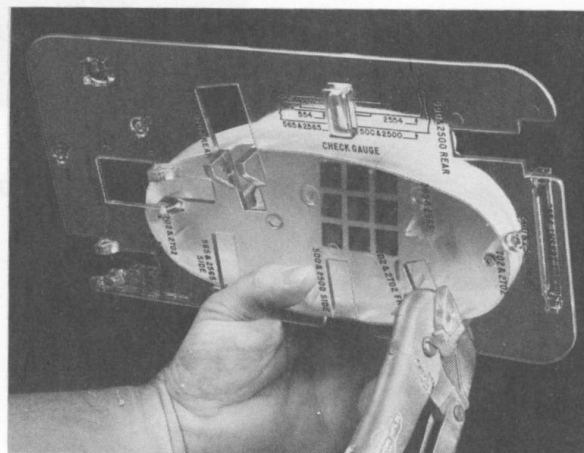
**Fig. 45—2554B2M Telephone Set Base With Handset Cord Jack Installed**



NOTE:

ON SOME HOUSINGS IT WILL BE NECESSARY TO REMOVE ANY HOUSING RIBS THAT INTERFERE WITH PUNCHING TOOL. RIBS SHOULD BE CLIPPED OUT WITH DIAGONAL CUT PLIERS. ON THICK HOUSINGS IT MAY BE NECESSARY TO PUNCH HOUSING USING SUCCESSIVE BITES WITH HOUSING PUNCH.

**Fig. 46—2500D1 Housing on Template**



**Fig. 47—Positioning Notching Tool (2702B1 Housing on Template)**

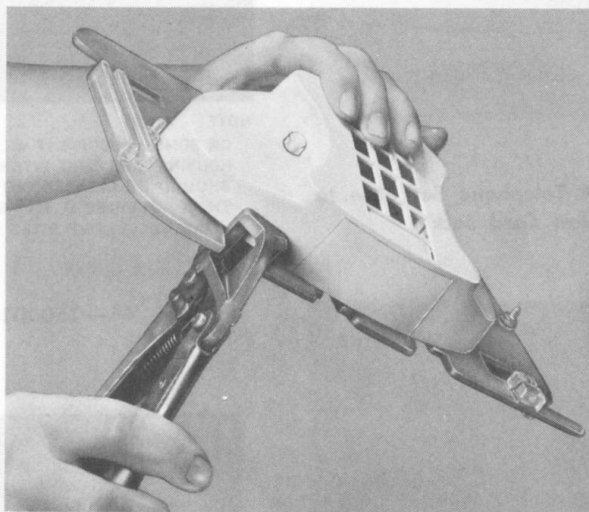
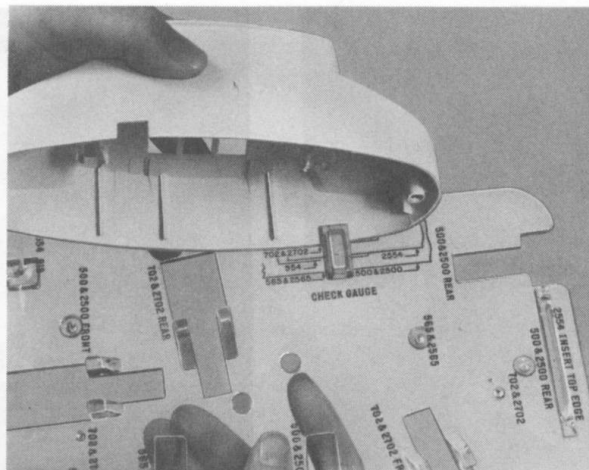


Fig. 48—Notching 2702B1 Housing and Using Check Gauge

TABLE B

## MODULAR AND PARTIALLY MODULAR TELEPHONE SETS

TELEPHONE SET*†	TELEPHONE SET COMPONENTS			CORDS		TELEPHONE SET BASE FEATURES											
	HOUSING†	HANDSET†	TEL SET BASE	HANDSET† CORD	MTG CORD	PLUG	MTG CORD JACK	HANDSET CORD JACK	RINGER	NET.	DIAL						
500DM	500D2§	G15A	500D2M	H4DU	D4BU		623D-3¶	616D	C4A	425E or 4228A	7-type or 9-type**						
2500DM	2500D2		2500D2M							425K or 4228B	35A3A 35Y3A 35Y3D						
554BM‡	554B2§		554B2M§							425E or 4228A	7-type or 9-type**						
554BMP	554B2§		554B2P			425E or 4228A											
2554BM‡	2554B2		2554B2M§				4010D or 4228K	35A3A 35Y3A 35Y3D									
2554BMP	2554B2		2554B2P			523A3††	4010D or 4228K										
702BM	702B2		702B2M		D4BU		623P4	616P	M1A	4010B or 4228F	8A						
2702BM	2702B2		2702B2M							4010D or 4228G	35E4A						
702DM	‡‡		None §§							4010B or 4228F	8A						
2702DM	‡‡									4010D or 4228G	35E4A						

\* Modular and partially modular telephone sets are supplied without cords. Cords must be ordered separately.

† Color suffix applies; see Table A.

‡ Partially modular; handset cord jack only — Line conductors wired directly to set terminals.

§ Includes universal dial number plate.

¶ Factory-equipped with 623D3 jack; converted or repaired with 623D4 jack.

\*\* Assembled sets equipped with fully-assembled dials; separate telephone set bases equipped with dial mechanisms and dial adapter keys. (No color-sensitive parts.)

†† Factory-equipped with 523A3 plug; converted or repaired with 523A4 plug.

‡‡ To order housings refer to specific set practice for comcode numbers.

§§ Only assembled sets available.

**TABLE C**  
**TRIMLINE® TELEPHONE BASES**

TEL BASE WITH HOUSING*	TEL BASE COMPONENTS		HAND TEL SETS*	CORDS		TELEPHONE BASE FEATURES				
	HOUSING*	TEL BASE LESS HOUSING		HAND TEL SET	MTG	PLUG	MTG CORD JACK	HAND TEL SET CORD JACK	RINGER	
AC1P	AC1	AC1MP	220A or 2220B†	H4DB OR H5AA		523A4		‡	P1A	
AC2		AC2MP		H4DU				616T		
AC2P		AC2P				523A4				
AD2	AD1	AD2M		H4DB OR H5AA	D4BU		623T4	‡		
AD3		AD3M		H4DU				616T		

\* Color suffix applies; see Table A.

† 220A or 2220B hand telephone set requires 227B adapter for use with H4DU cord.

‡ Standard TRIMLINE jack assembly; 231B adapter required for use with H4DU cord.

**Note:** H4DU cord and adapters must be ordered separately.

TABLE D

## TELEPHONE SETS THAT MAY BE CONVERTED USING MODULAR COMPONENTS

TELEPHONE SET*	HANDSET CORD JACK	MTG CORD JACK	ADAPTER (WALL SETS)	PLUG (WALL SETS)	TELEPHONE SET*	HANDSET CORD JACK ONLY
500C/D 500E/F 500L/M† 500W/Y 501C/D/F 510A/B† 515B† †† 2500D 2500M 2500Y 2515† ††	616D	623D4			500AD 500R/S 502A/B 503B/C 510E/F 511F/H 513B 514B 529B 2500S 2502B 2503C 2504B 2510F 2511F/N 2514B¶	616D
702B 702D 2702B 2702D	616P	623P4			558F/DRW	616C
554A/B/F‡ 555B‡ †† 556AR/BR‡ 557 (MD) 559 (MD) 593BRW (MD)	616C		228-Type ‡	523A§	2558D	616B
2554B‡ 2555B‡ ††	616B		229-Type ‡	523A§	564HC, 565GK/HK 2564HC, 2565GK/HK	616D**

\* Housing must be notched to clear any jack installed.

† Mounting cord jack leads must be at least 9 inches. Use D-161488 connectors and M1W straps to extend conductors if necessary.

‡ Adapter not required if baspan has two keyhole shaped ramps along vertical centerline with rectangular plug track in between.

§ Use any type 523A plug with at least the conductors needed to provide the desired service.

¶ Dress jack leads down back of jack frame to avoid hand telephone set key mounting bracket.

\*\* Push top of jack under terminal board. Do not pinch leads.

†† Signaling feature from m-n contacts cannot be provided simultaneously with 2-line service in these telephone sets.

TABLE E

## MODULAR CONNECTING BLOCK CONNECTIONS

INSIDE WIRE					CONNECTING BLOCK	
ONE-LINE SERVICE			TWO-LINE SERVICE	WIRE OR LEAD COLOR	TERMINAL	
NO DIAL LIGHT	DIAL LIGHT	1A1, 1A2 KTS			625-TYPE	630A4
Tip	Tip	Tip	Line 1 (T)	Green	G	1
Ring	Ring	Ring	Line 1 (R)	Red	R	2
	TRNSF	A	Line 2 (T)	Black	B	4
Ground*	TRNSF	A1	Line 2 (R)	Yellow	Y	3

\*Supply ground for all one-line installations

TABLE F

## 635A/B CONNECTING BLOCKS (SEE NOTES)

TYPES OF SERVICE AND AVAILABLE FEATURES	TERMINAL DESIGNATIONS AND LEAD FUNCTIONS							
	1	2	3	4	5	6	7	8
Single Line Series	R1			R	T			T1
Single Line Series With "A" Lead Control	R1		A	R	T	A1		T1
Two Lines - One Line Series, One Bridged	R1		T2	R	T	R2		T1
Two Line PRINCESS With Exclusion and Dial Light	R1	PWR	T2	R	T	R2	PWR	T1

*Notes:*

1. There are two internal shorting bars in the jack, shorting terminals 1 and 4 and terminals 5 and 8.
2. Insertion of 8-pin plug will open shorting contacts.
3. When using 635B, insertion of 6-pin plug will not affect shorting contacts.

TABLE G

## 74D CONNECTING BLOCK (SEE NOTE)

SERVICE AND FEATURE TO BE PROVIDED		TERMINAL DESIGNATIONS AND LEAD FUNCTIONS					
		1	2	3	4	5	6
Single Line Service 1A1 or 1A2 KTS	Station Busy Lamp	T	R	A1	A	LG	L
	Signal	T	R	A1	A	SG	S
	Common Audible Ringing	T	R	A1	A	B1	R1
	Buzzer	T	R	A1	A	BZ1	BZ
Two Line Service	Dial Light	T	R	R2	T2	PWR	PWR
	Signal	T	R	R2	T2	SG	S

*Note:* The 74D may also be used for other services where 5 or 6 conductors are required, ie, with 28A ringer isolator.

**TABLE H**  
**FASTENERS FOR 630A4 CONNECTING BLOCK (NOTE 1)**

TO FASTEN CONNECTING BLOCK TO WALL (Note 4)	USE TWO (2) EACH OF FASTENERS INDICATED				
	FLAT HEAD NO. 6-32 MACHINE SCREW		B WALL ANCHOR SIZE 4 OR 6	D PLASTIC ANCHOR SIZE 10	NO. 8-15 BY 1 IN. FLAT HEAD TAPPING SCREW, TYPE AB (NOTE 3)
	3/16" OR 5/16"	3/4"			
1034A Mtg Plate	X				
63-Type Bracket, Device Box, Plaster Ring		X			
Stucco or Plaster on Wood Lath					X
Plaster on Metal Lath, Paneling on Furring Strips, or Plasterboard on Studs			*(Note 2)		X
Hollow Masonry			X(Note 2)		
Solid Masonry				X	X

\* Alternate Fasteners

**Notes:**

1. If connecting block is not securely fastened to the wall with the recommended number of fasteners, additional fasteners should be used.
2. Use size 4 anchors for walls up to 5/8-inch thick and size 6 anchors for wall from 5/8-inch to 1-1/4 inch thick.
3. Or other available screw of equivalent (or greater) size, and thread engagement.
4. Fill any opening in the wall to prevent "chimney" effect which draws dirt into wall sets.