

## REFERENCE

# 701D, 702D, 711B, 713B, AND 713BM TELEPHONE SETS IDENTIFICATION, INSTALLATION, MAINTENANCE, AND CONNECTIONS

### 1. GENERAL

1.01 This section contains information on the 701D (MD), 702D (MD), 711B (MD), 713B (MD), and 713BM PRINCESS® telephone sets (Fig. 1).

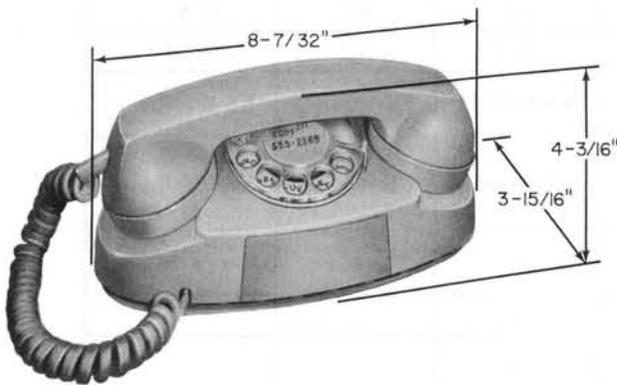


Fig. 1—Typical 700-Type Telephone Set, Front View

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes.

- Add the D-181059 Kit of Parts (dial illumination kit)
- Show the D-180819 Kit of Parts (dial illumination kit) MD
- Show the 281A adapter MD
- Add information on the 338A adapter.

### 2. IDENTIFICATION

2.01 These sets are equipped with a lamp which illuminates the dial when the handset is re-

moved. This lamp can also serve as a night light under control of a slide switch located in the base at the rear of set (Fig. 2).

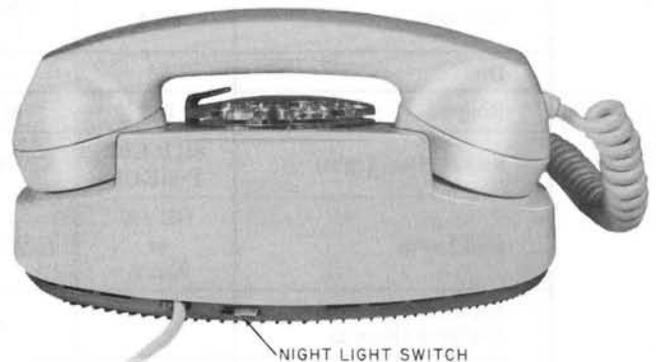


Fig. 2—Typical 700-Type Telephone Set, Rear View

2.02 Table A lists the major components of 701D (MD), 702D (MD), 711B (MD), 713B (MD), and 713BM PRINCESS telephone sets.

2.03 Table B lists current available colors of housing and plunger assembly.

2.04 The 701D (MD), 711B (MD), 713B (MD), and 713BM telephone sets are not equipped with internal ringer. When a ringer is required, an E1-type external ringer (Fig. 6) may be used.

2.05 The 701D (MD) and 702D (MD) telephone sets are equipped with a message waiting lamp (Fig. 3). They are used with PBX's which provide a message waiting feature.

2.06 The 702D (MD) telephone set is similar to the 701D (MD) except that an M1A internal ringer is provided. To silence ringer, refer to Section 501-259-100.

### NOTICE

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

♦TABLE A♦

## SET COMPONENTS, FEATURES, AND USAGE

COMPONENTS AND FEATURES (NOTE 1)	TELEPHONE SETS				
	701D (MD)	702D (MD)	711B (MD)	713B (MD)	713BM
Handset Cord	H4CJ	H4CJ	H4CJ	H4CJ	H4DU
Mounting Cord	D6AB	D5AK (MD) or D4BT-29	D11H or D14L	D6AF-87	Two D4BU-29 or D6AP87
Handset	G3A	G3A	G3A	G3A	G15A
Network	495A	4010B or 4228F	495A	4010B	4228F
Dial	8A	8A	8A	8A	8FA
Ringer	E1*	M1A	E1*	E1*	E1CM*
Socket (Dial Light)	811154103 P-11E410	KS-19240L3	KS-19240L3	KS-19240L3	KS-19240L3
Dial Lamp	GE #46 or Equiv.	KS-19387L1	KS-19388L1	KS-19387L1	KS-19387L1
Kit of Parts D-179919 (Note 2)		•	•	•	•
1A1 or 1A2 KTS			•		
3-type (MD) or 4A Speakerphone			•		
1A Home Interphone			•		
2A Farm Interphone			•		
Exclusion Switch			•		
Hold Key				•	•
Dial Illumination Kit of Parts D-181059 or D-180819 (MD)					•
Weight Kit of Parts D-179924†	•				
Message Waiting Lamp KS-16893L1	•	•			

**Note 1:** Refer to Table B for Housing Color Selection.

**Note 2:** The D-179919 Kit of Parts contains a KS-19240L3 dial lamp, KS-19387L1 socket, and installation instructions.

\* External ringer.

† See paragraph 3.06.

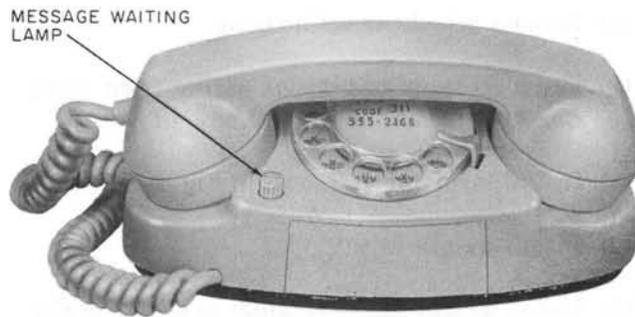


Fig. 3—701D (MD) and 702D (MD) Telephone Sets

2.07 The 711B (MD) telephone set is factory wired for two line pickup, exclusion, and signaling. A slide switch located on the front of the set determines line selection. An adjacent (depress to operate) switch is for signaling. The exclusion switch feature is operated by raising the left line switch plunger.

2.08 The 713B (MD) telephone set is a 2-line set with hold feature. It is equipped with a 638D

key which permits selection of either of two CO lines and when used in conjunction with the hold key, permits mechanically holding the nonselected line. This is accomplished by manually raising the left-hand plunger before operating the turn key. The 638D key has a pushbutton element for signaling which is furnished not wired, but can be wired in by changing the mounting cord.

**Note:** Hold feature is operational as long as the switchhook plunger is lifted. If handset is returned to handset cradle hold will be broken and party disconnected. Hold feature can not be released from any other telephone set except the original one it was initiated on.

2.09 The 713BM (Fig. 4) telephone set is a modular PRINCESS telephone set and has the same features as the 713B (MD) set.

### 3. INSTALLATION

**Caution 1:** Do not connect more than one transformer to the same inside wiring pair.

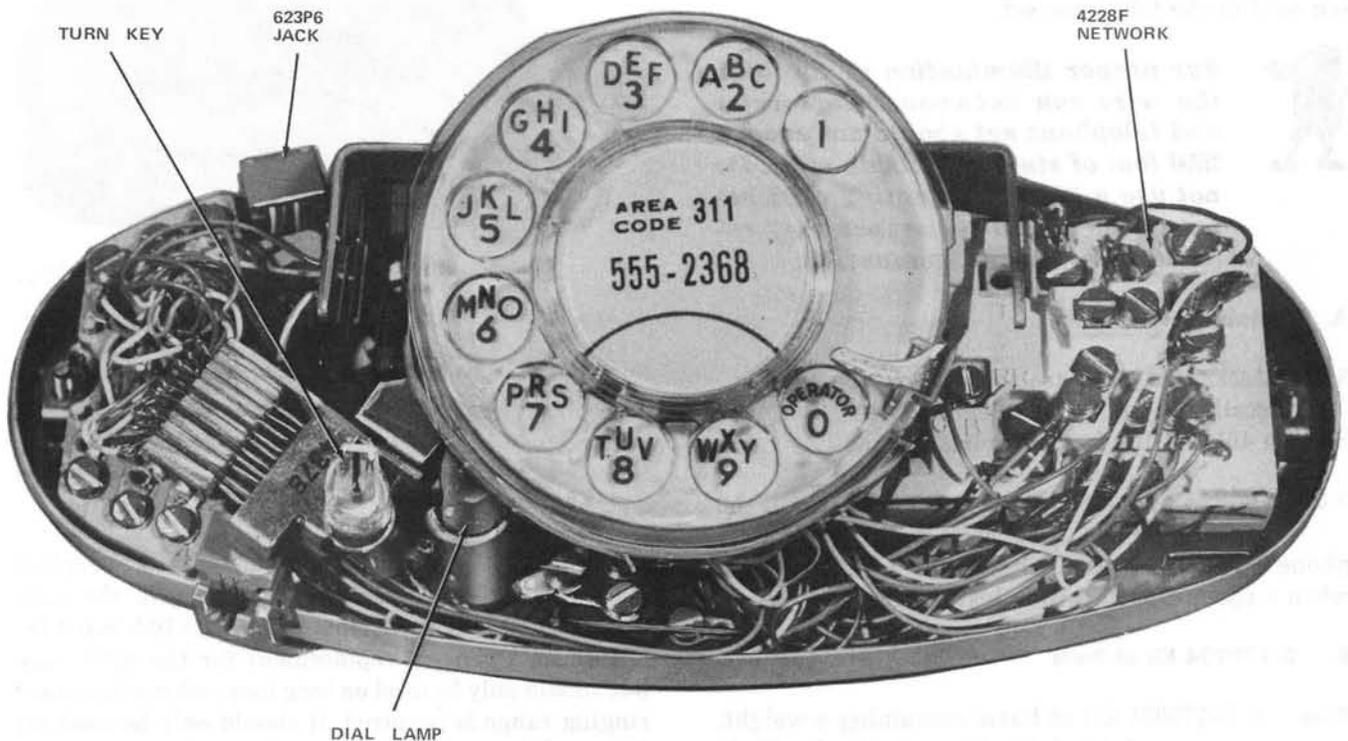


Fig. 4—713BM Telephone Set With Housing Removed

**Caution 2:** *The 2A or similar clamps should not be used on outlet where center mounted screws hold the duplex outlet in box.*

**3.01** Install sets using standard installation procedures. ♦Some of the standard wiring arrangements used when installing these sets are shown in Fig. 6, 7, 12, 13, 14, 18, 19, and 20.♦

**3.02 Dial Light Transformer:** Install a 2012A (MD) or 2012C transformer in a 105-120 volt ac receptacle on a circuit not controlled by a switch. A 2A clamp is available for early model 2012A (MD) transformers that do not have folded blade prongs. This clamp secures the transformer to the service outlet. For multiple installations, see Section 501-136-100 covering station transformers.

**3.03 281A (MD) and 338A Adapters:** The 281A (MD) and 338A tee adapters are used to connect transformer power to the PRINCESS telephone sets in modular installations. The 281A (MD) adapter plugs into the telephone and requires two mounting cords to the set (Fig. 18). The 338A adapter plugs into the 625/630-type connecting block or E1CM ringer (Fig. 20) and requires only one mounting cord to the telephone set.



*For proper illumination of the dial, the wire run between transformer and telephone set should not exceed 250 feet of standard inside wire. Do not use a 25-foot mounting cord because the added resistance may result in decreased illumination.*

#### A. Portable Installation

**3.04** Jacks and plugs are available for portable installation of these telephone sets. Refer to Section 461-630-100 for selection.

**3.05** A 124A apparatus blank is available to fill the opening on the housing of a 700-series telephone set that has been notched for a modular jack when a spade-tipped cord is installed.

#### B. D-179924 Kit of Parts

**3.06** A D-179924 Kit of Parts containing a weight, spring, and insulator is available for 701D (MD) telephone sets to reduce set sliding during dialing. Install kit of parts as follows.

- (1) Remove telephone set housing.
- (2) Dress all leads to prevent wiring from being caught between weight and base of set.
- (3) Install insulator as shown in Fig. 9.
- (4) Install weight in set.
- (5) Install weight spring retainer as shown in Fig. 10.
- (6) Replace telephone set housing.

#### C. Cold-Cathode Tube

**3.07** If the 711- or 713-type telephone sets are to be used with 4-party full selective or 8-party semiselective ringing, it is necessary to mount the 425A or 426A tube in a 74-type connector block or in the telephone set (Fig. 8). For additional information on the 425A or 426A tube, refer to Section 500-114-100.

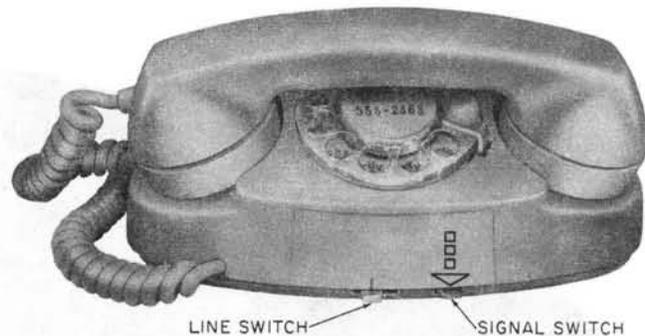
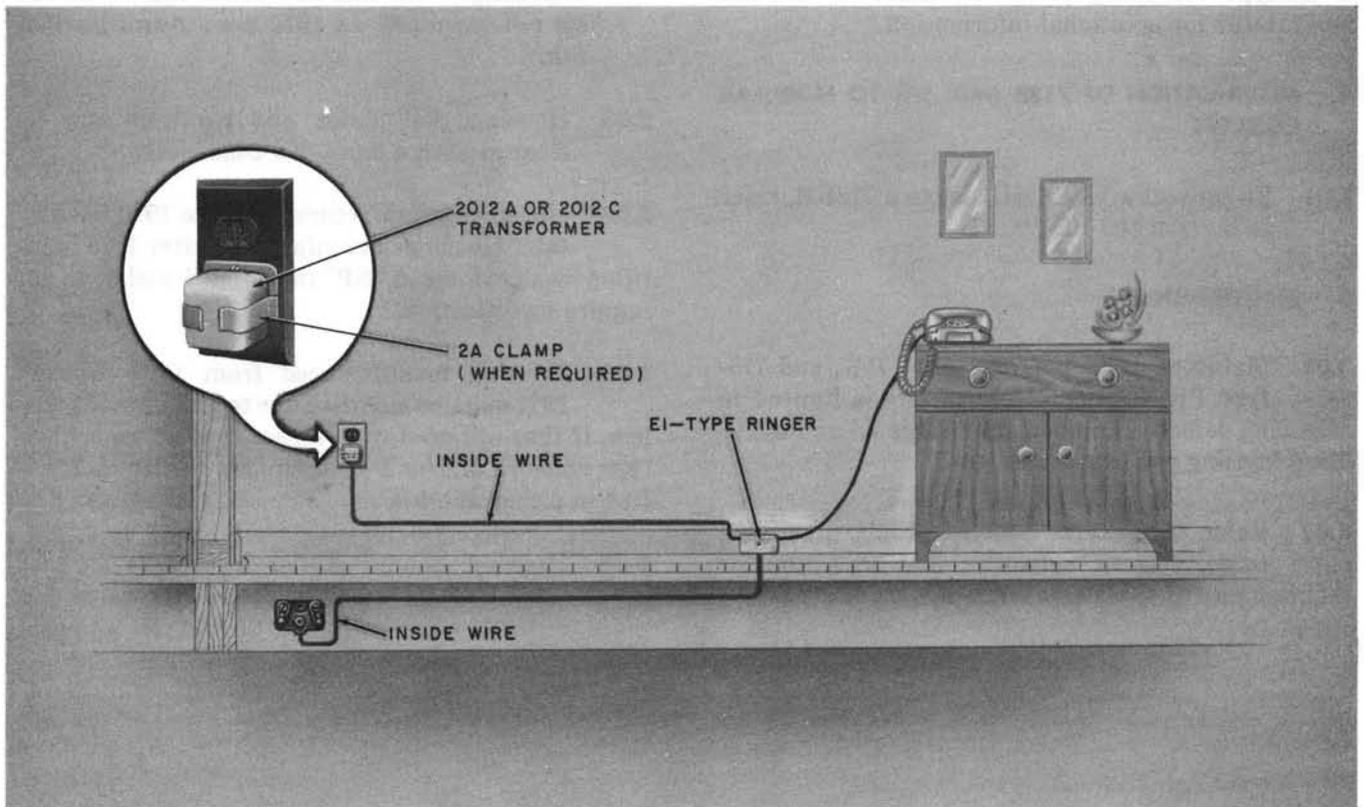


Fig. 5—♦711B (MD) Telephone Set♦

#### D. 10A (MD) Ringing Range Extender (Replaced by 28A Ringer Isolator)

**3.08** The 10A (MD) extender can be used to replace the 426A cold-cathode gas tube in the telephone set on long subscriber loops. The 10A is not intended as a general replacement for the 426A tube but should only be used on long loops where increased ringing range is required. It should only be used for 4-party full selective and 8-party semiselective ringing on loops greater than 1600 ohms (if used on shorter loops it may cause CO pretrip problems). For



**Fig. 6—Typical Hard-Wired Installation of 701D (MD), 711B (MD), or 713B (MD) Telephone Set With External Ringer**

additional information on the 10A extender, refer to Section 501-322-100.

**E. 11A (MD) or 11B (MD) Ringer Range Extenders (Replaced by 28A Ringer Isolator)**

**3.09** The 11-type extenders may be used on old grounded ringers including those used for 4-party full selective and 8-party semiselective service. They may be used in place of 425A or 426A cold-cathode tubes, 10A (MD) extenders, or D-180036 ringer isolators. Only one 11-type extender is required per main station instead of one per phone. For connection tables or other information on 11-type extenders, refer to Section 501-322-101.

**F. 28A Ringer Isolator**

**3.10** The 28A ringer isolator is a replacement for the 10A (MD), 11A (MD), and 11B (MD) extenders. It offers the same selectivity as the 425A or

426A cold-cathode tubes plus greater noise isolation than the D-180036 ringer isolator. It also provides additional ringing range on all lines using grounded ringers. Only one 28A is required per main station instead of one per phone and must be mounted near the station protector. For connection tables or other information on the 28A, refer to Section 501-375-101.

**G. 603A Ringing Extender**

**3.11** The 603A ringing extender is intended for use on single party long loops with bridged ringing which will be required where registered sets are installed. For connection or other information on 603A, refer to Section 501-380-102.

**H. Handsets (Amplifier)**

**3.12** The G3- or G15-type handsets normally used with these sets may be replaced by a G6-type for impaired hearing, a G7-type for weak speech, or

a G8-type for noisy locations. Refer to Section 501-211-102 for additional information.

**4. MODIFICATION OF 713B (MD) SET TO MODULAR CONCEPT**

**4.01** To convert a 713B (MD) set to a 713BM, refer to Section 503-100-100.

**5. MAINTENANCE**

**5.01** Maintenance of the 701-, 702-, 711-, and 713-type PRINCESS telephone sets is limited to replacing defective components (Table A) and modifying housing per paragraph 5.04.

**5.02** Refer to sections covering dials, handsets, cords, ringers, networks, line keys, etc, for maintenance of these components.

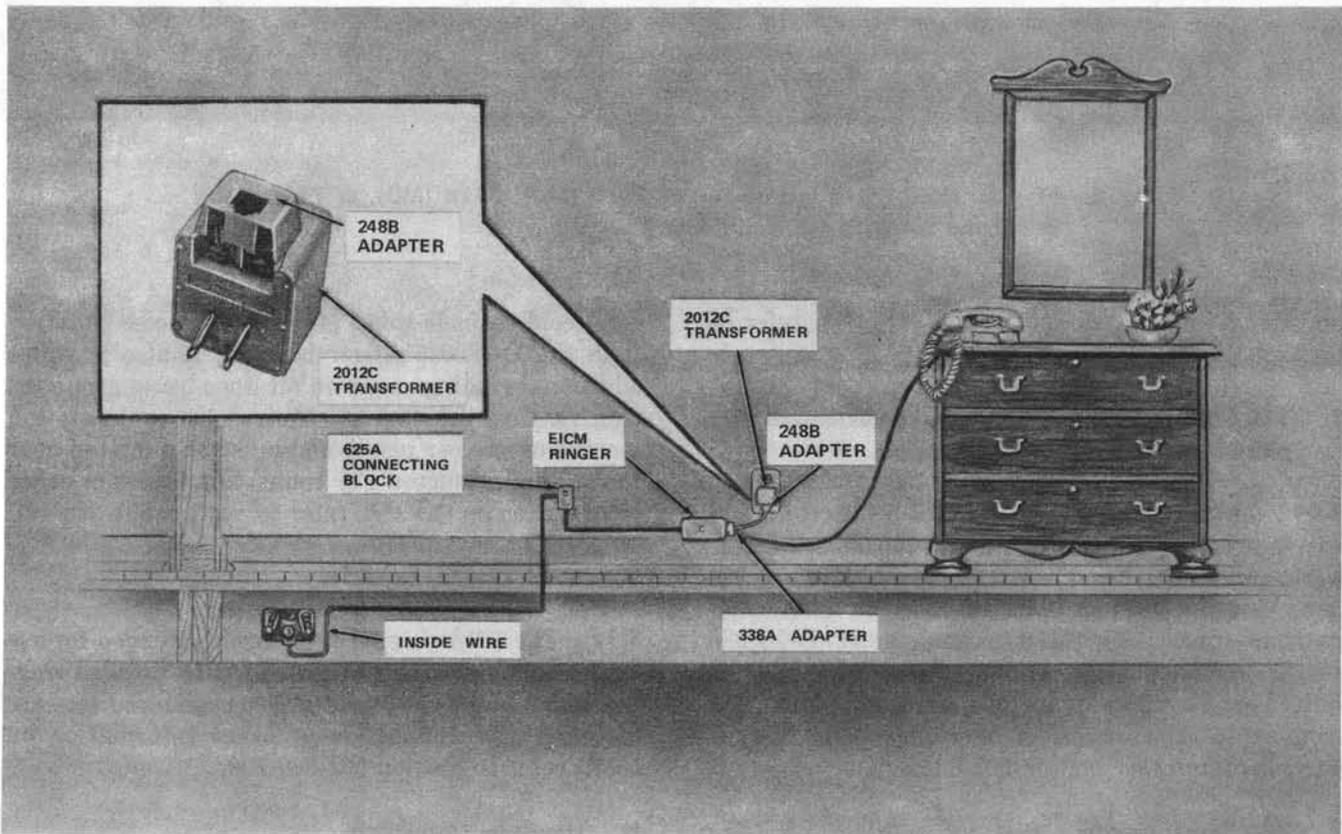
**Warning:** *Do not use scouring cleaners on components as this may damage finish.*

**5.03** Housing, dial plates, and handsets may be cleaned with a damp KS-2423 cloth.

**5.04** Housings manufactured prior to 1970 have no tabs. Housings manufactured after 1978 identified by an embossed "NP" inside the housing do not require modification.

**5.05** Housing manufactured from 1970 through 1974 must be modified due to a clearance problem, if they are used with a base containing a 4228-type network and/or P-type ringer, modify as specified in paragraph 5.06.

**5.06** Housings manufactured from 1974 to 1978 identified by an embossed "N" inside the



**Fig. 7—Modular Installation of a 713BM Telephone Set Using 648B and a 338A Adapters With a Modular Ringer**

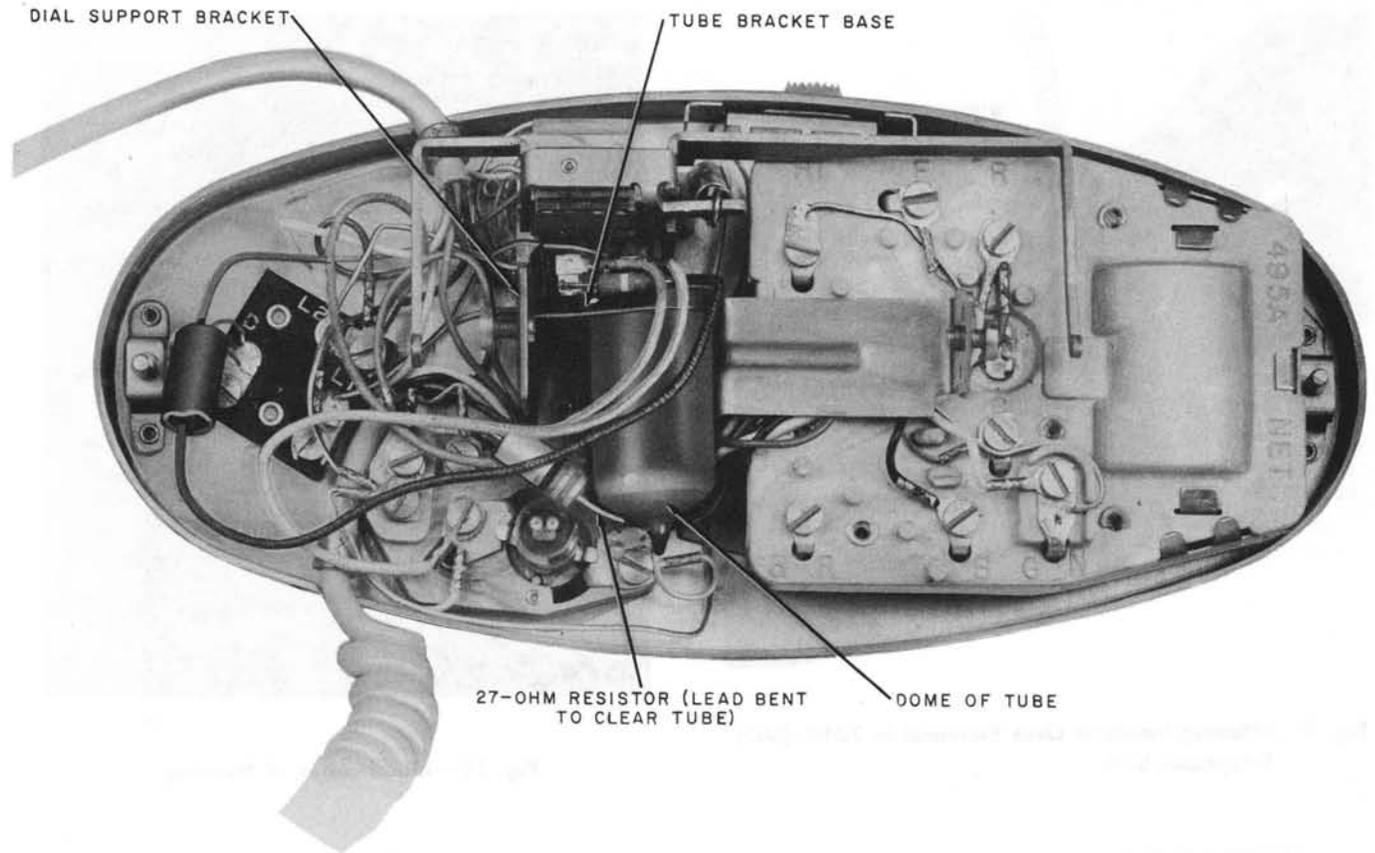


Fig. 8—Cold-Cathode Tube Installation in Typical 700-Type Telephone Set

housing do not require modification for a 4228 network but do not require modification for use with a P-type ringer, modify as follows.

- (1) Using diagonal side cutters, clip off a portion of the "plunger-well snap-tabs," Fig. 11.

**Note:** Tabs should be cut at an angle, leaving

1/16-inch at the plunger well. Tabs longer than 1/16-inch will cause the plunger to bind when housing is installed. Tabs less than 1/16-inch will permit plunger to fall through.

## 6. CONNECTIONS

6.01 Refer to Table C, D and Fig. 12 through 20.

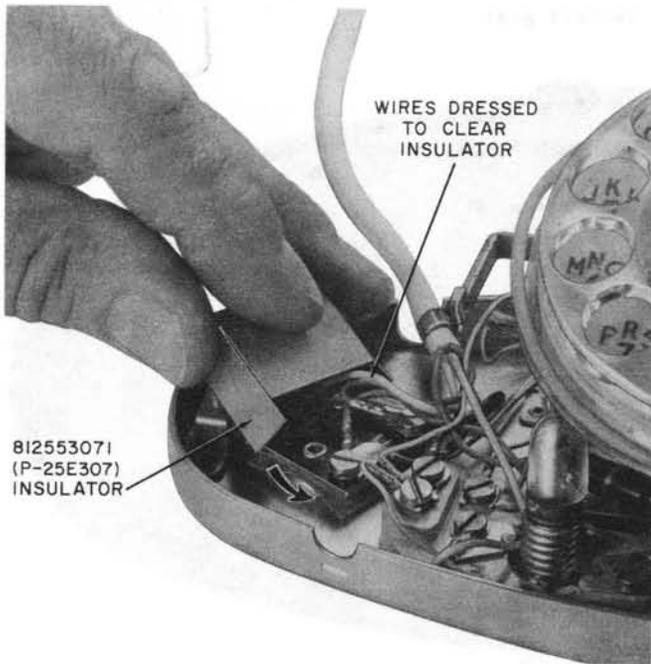


Fig. 9—Placing Insulator Over Terminal in 701D (MD) Telephone Set



Fig. 11—Modification of Housing

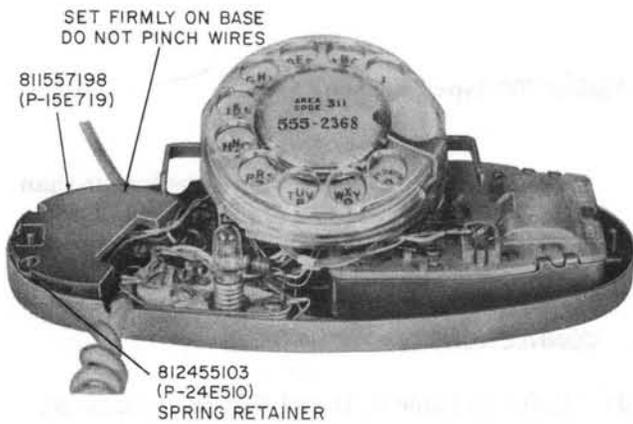


Fig. 10—Location of Spring Retainer and Weight in 701D (MD) Telephone Set

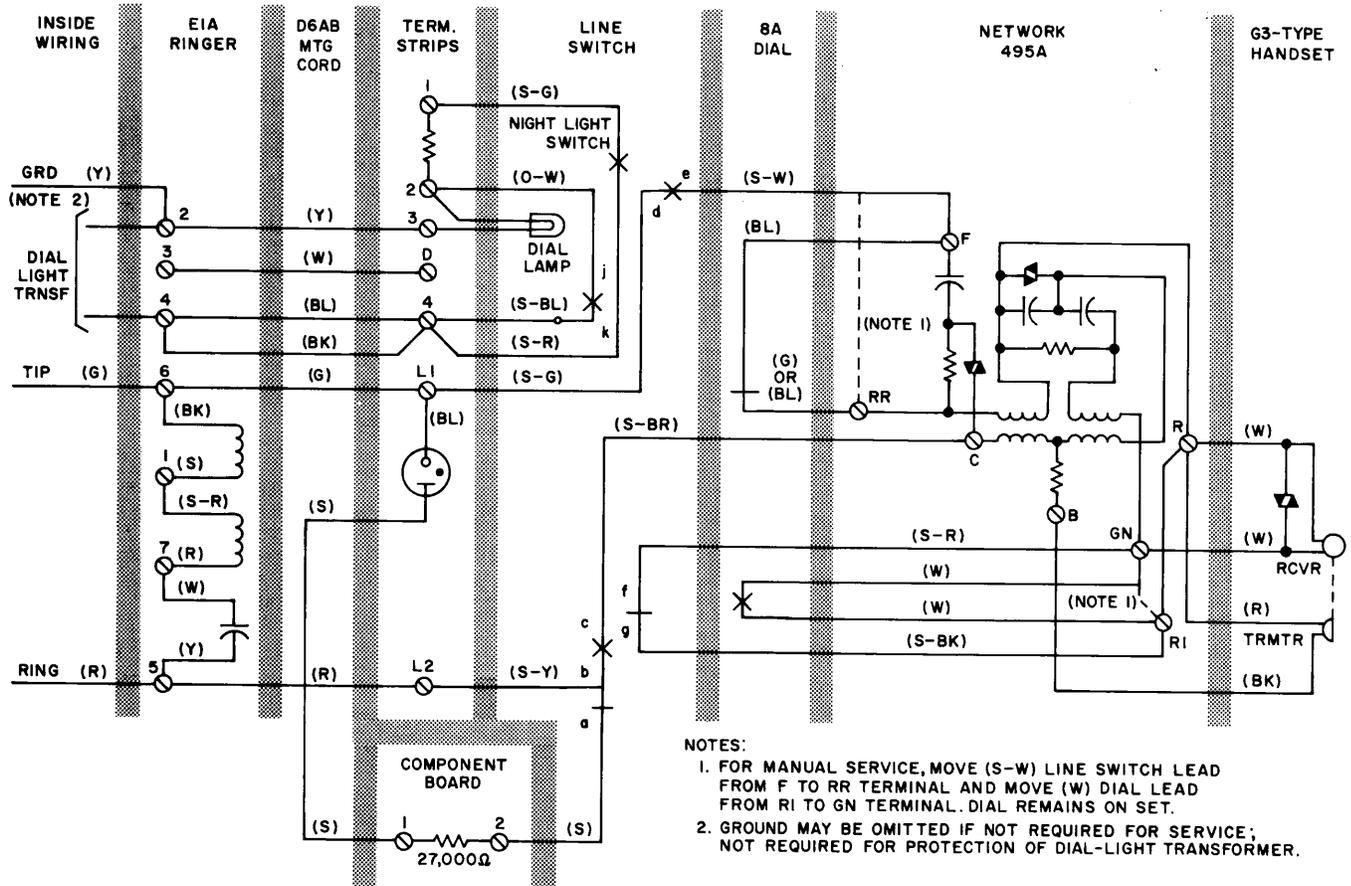


Fig. 12—701D (MD) Telephone Set, Factory Wiring

SECTION 502-701-103

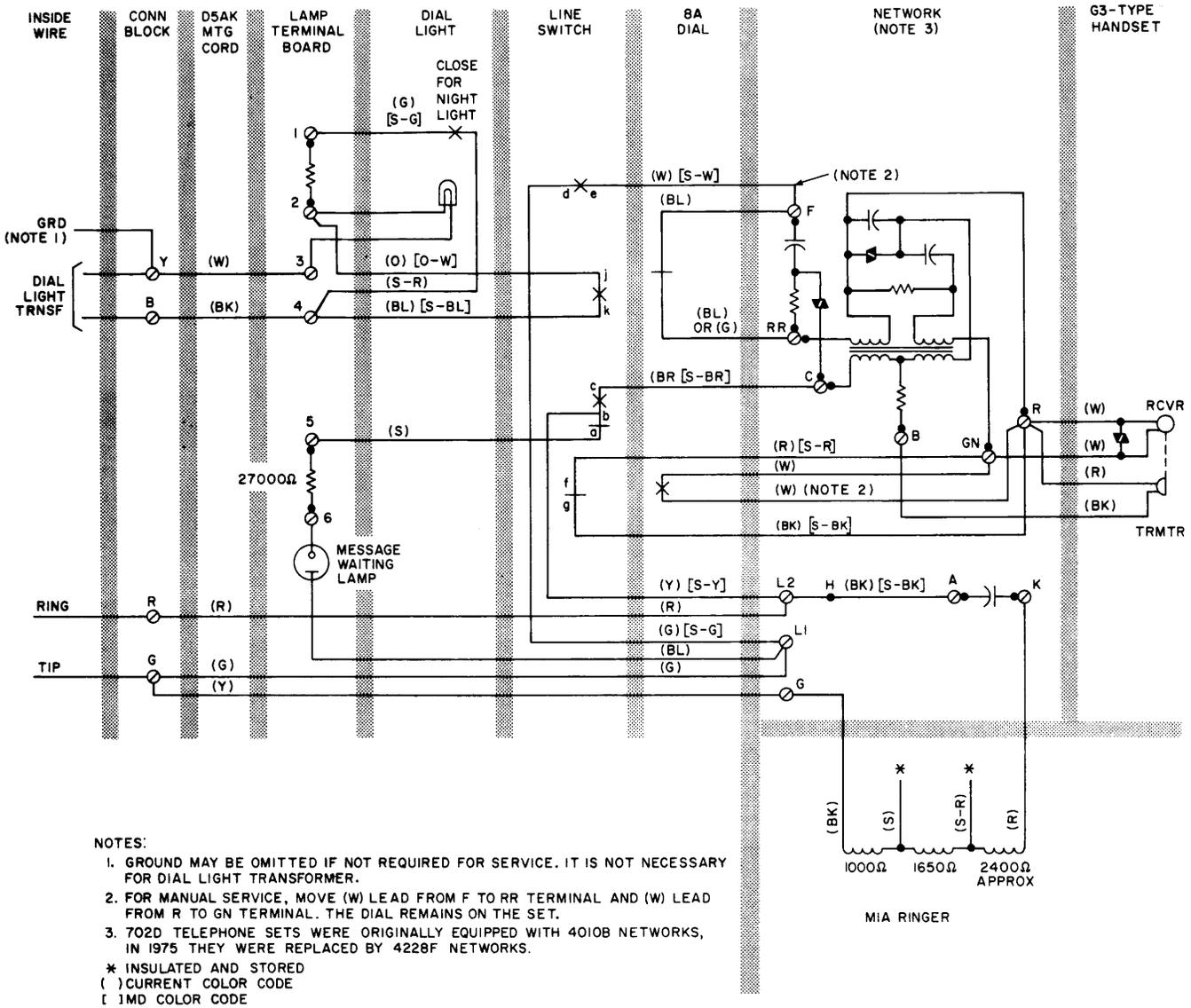


Fig. 13—702D (MD) Telephone Set, Connections Using D5AK Mounting Cord

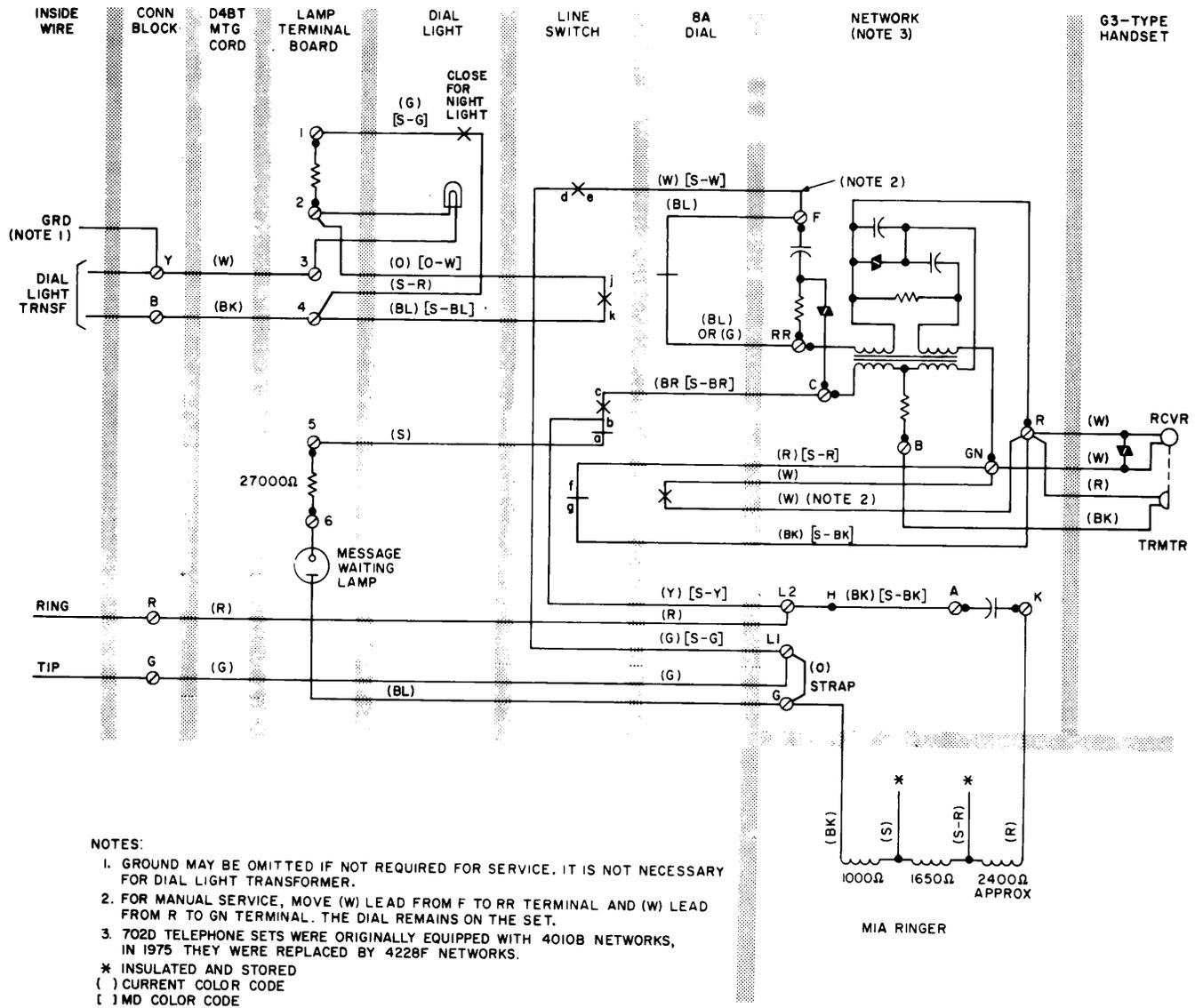


Fig. 14—702D (MD) Telephone Set, Connections Using D4BT Mounting Cord

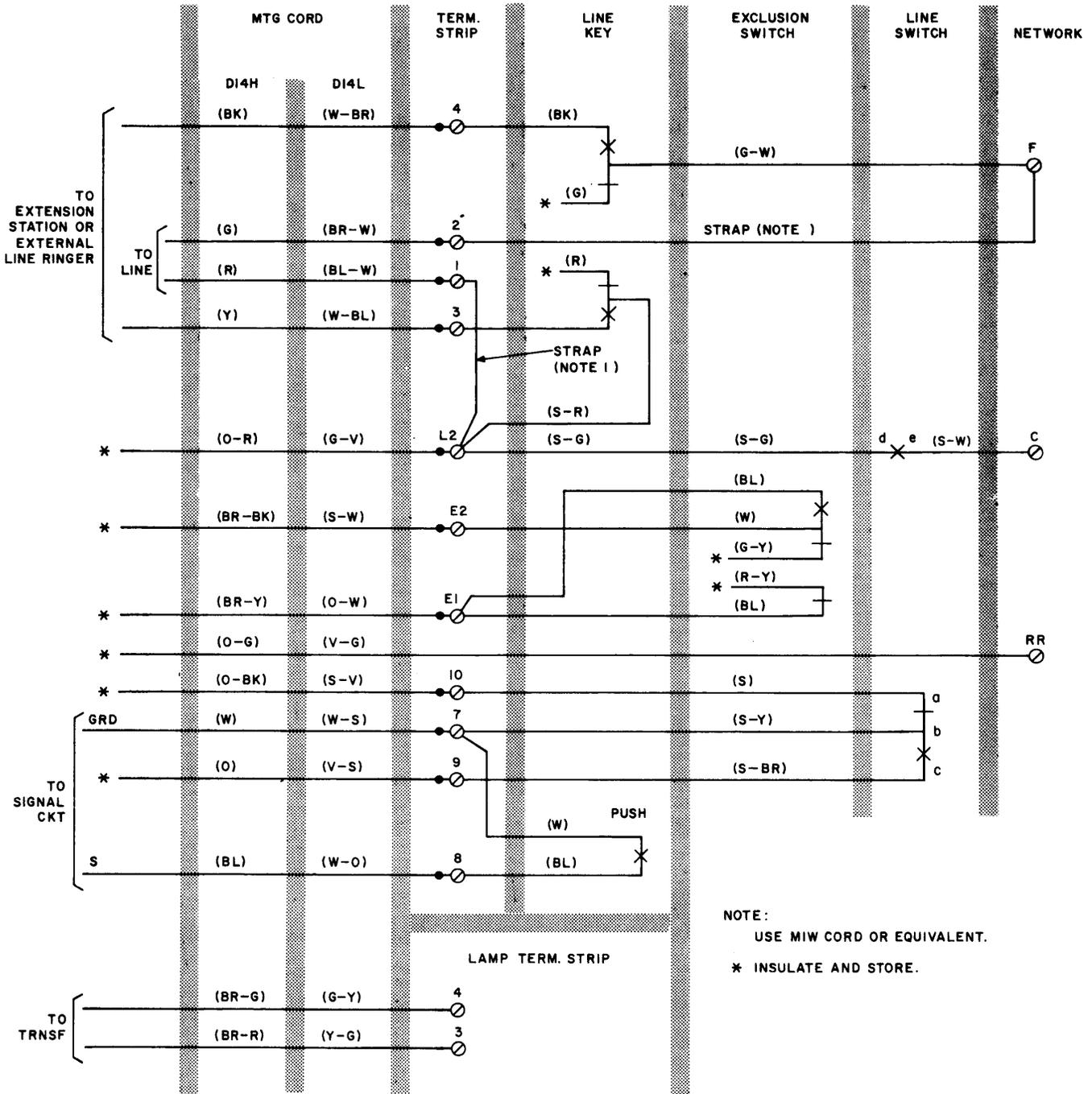


Fig. 15— 711B (MD) Telephone Set Wired for 1-Line Pickup, Cutoff Feature for Extension Station or External Line Ringer

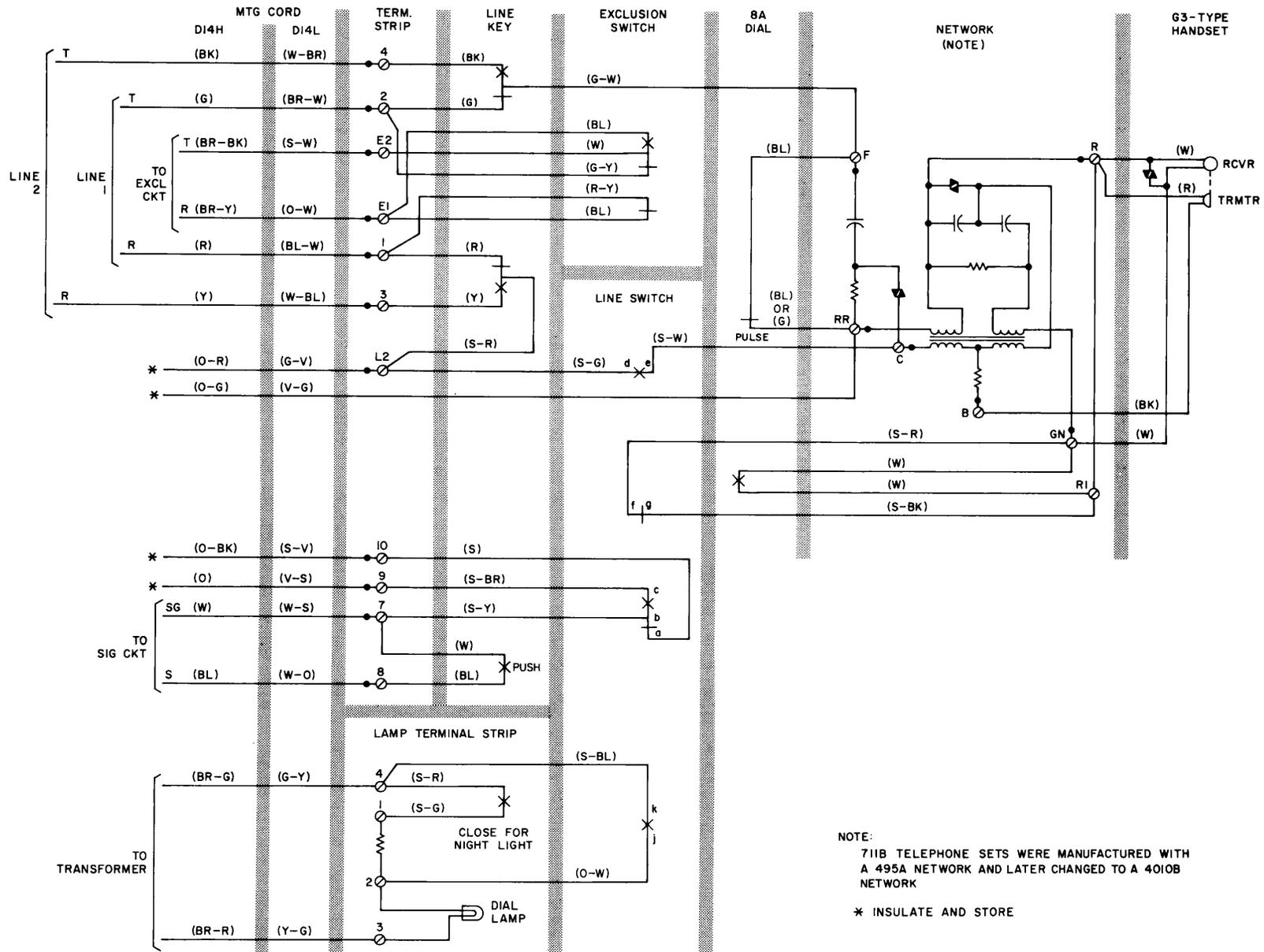


Fig. 16—711B (MD) Telephone Set, Wired for 2-Line Pickup, Exclusion on Line 1, and Signaling (Used Without 1A1 or 1A2 KTS)†

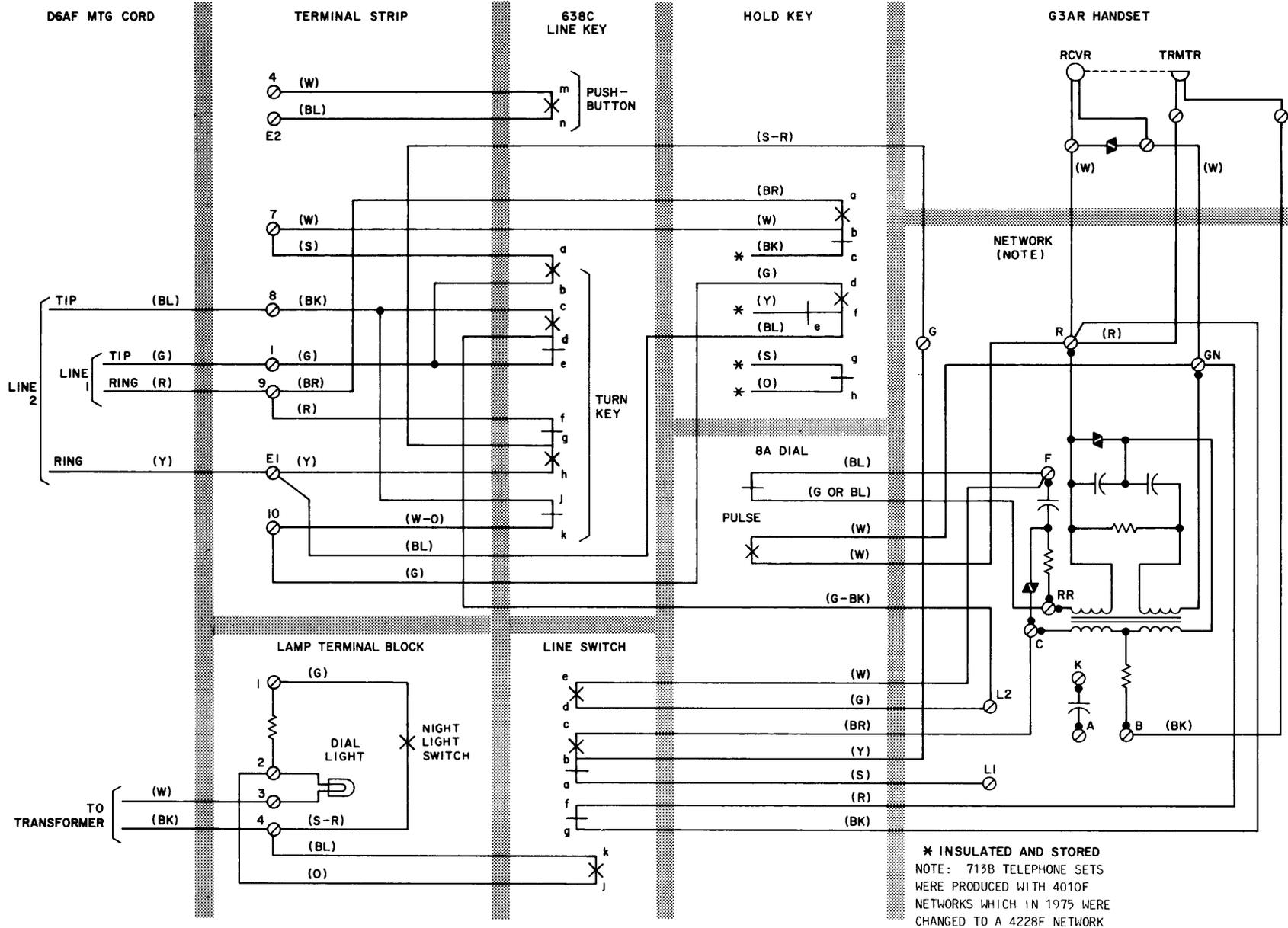


Fig. 17—713B (MD) Telephone Set, Factory Wiring

**TABLE B**  
**HOUSING AND PLUNGER ASSEMBLY – ORDERING GUIDE**

COLOR	TELEPHONE SET				
	701D	702D	711B	713B	713BM
Black	828172038 (P-81P203)	818919037 (P-89A903)	828123034 (P-81K303)	818981037 (P-89H103)	840701502
Ivory	828172509 (P-81P250)	818919508 (P-89A950)	828123505 (P-81K350)	818981508 (P-89H150)	840701510
Green	828172517 (P-81P251)	818919516 (P-89A951)	828123513 (P-81K351)	818981516 (P-89H151)	840701528
Red	828172533 (P-81P253)	818919532 (P-89A953)	828123539 (P-81K353)	818981532 (P-89H153)	840701536
Yellow	828172567 (P-81P256)	818919565 (P-89A956)	828123562 (P-81K356)	818981565 (P-89H156)	840701544
White	828172582 (P-81P258)	818919581 (P-89A958)	828123588 (P-81K358)	818981581 (P-81K158)	840701551
Rose Pink	828172590 (P-81P259)	818919599 (P-89A959)	828123596 (P-81K359)	818981599 (P-81K159)	840701569
Lt. Beige	828172603 (P-81P260)	818919607 (P-89A960)	828123604 (P-81K360)	818981507 (P-81K160)	840701577
Aqua Blue	828172629 (P-81P262)	818919623 (P-89A962)	828123620 (P-81K362)	818981523 (P-81K162)	840701585

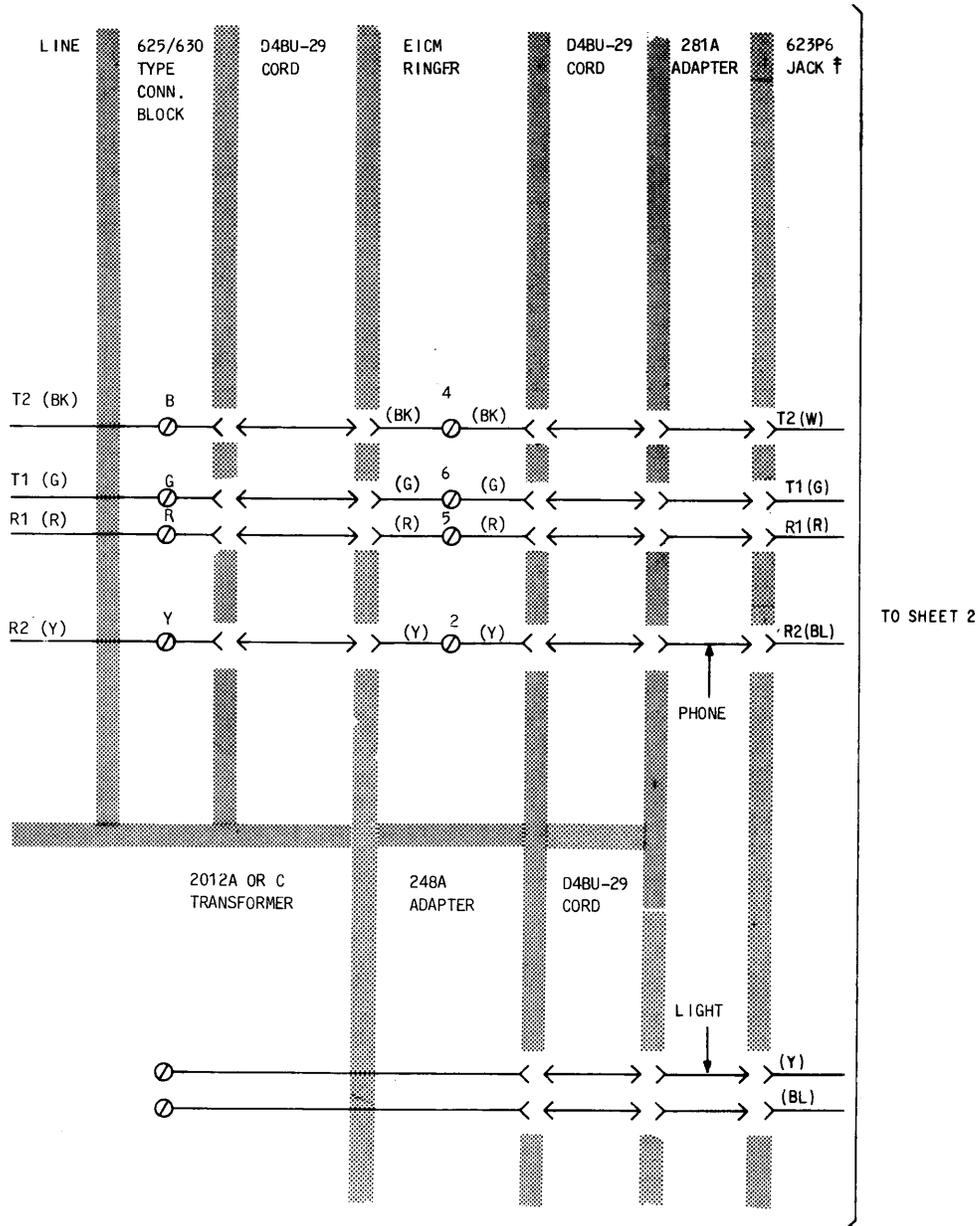


Fig. 18—PhoneCenter Type Installation, 713BM Telephone Set, Connections Using a 281A (MD) Adapter [Part of the D-180819 Kit of Parts (MD)] (Sheet 1 of 2)

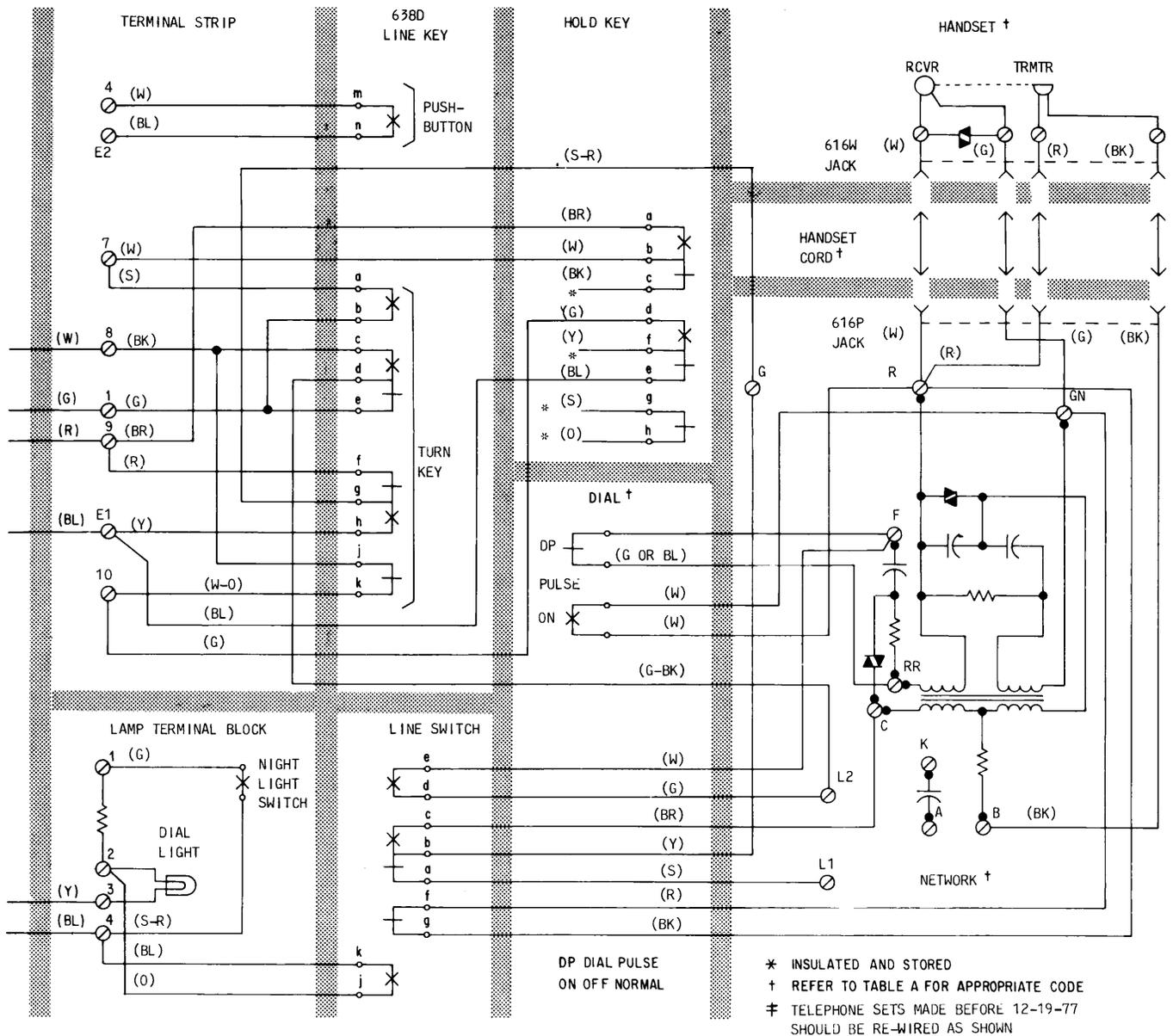


Fig. 18—PhoneCenter Type Installation, 713BM Telephone Set, Connections Using a 281A(MD) Adapter [Part of D-180819 Kit of Parts (MD)] (Sheet 2 of 2)

TABLE C

701D LINE AND RINGER CONNECTIONS

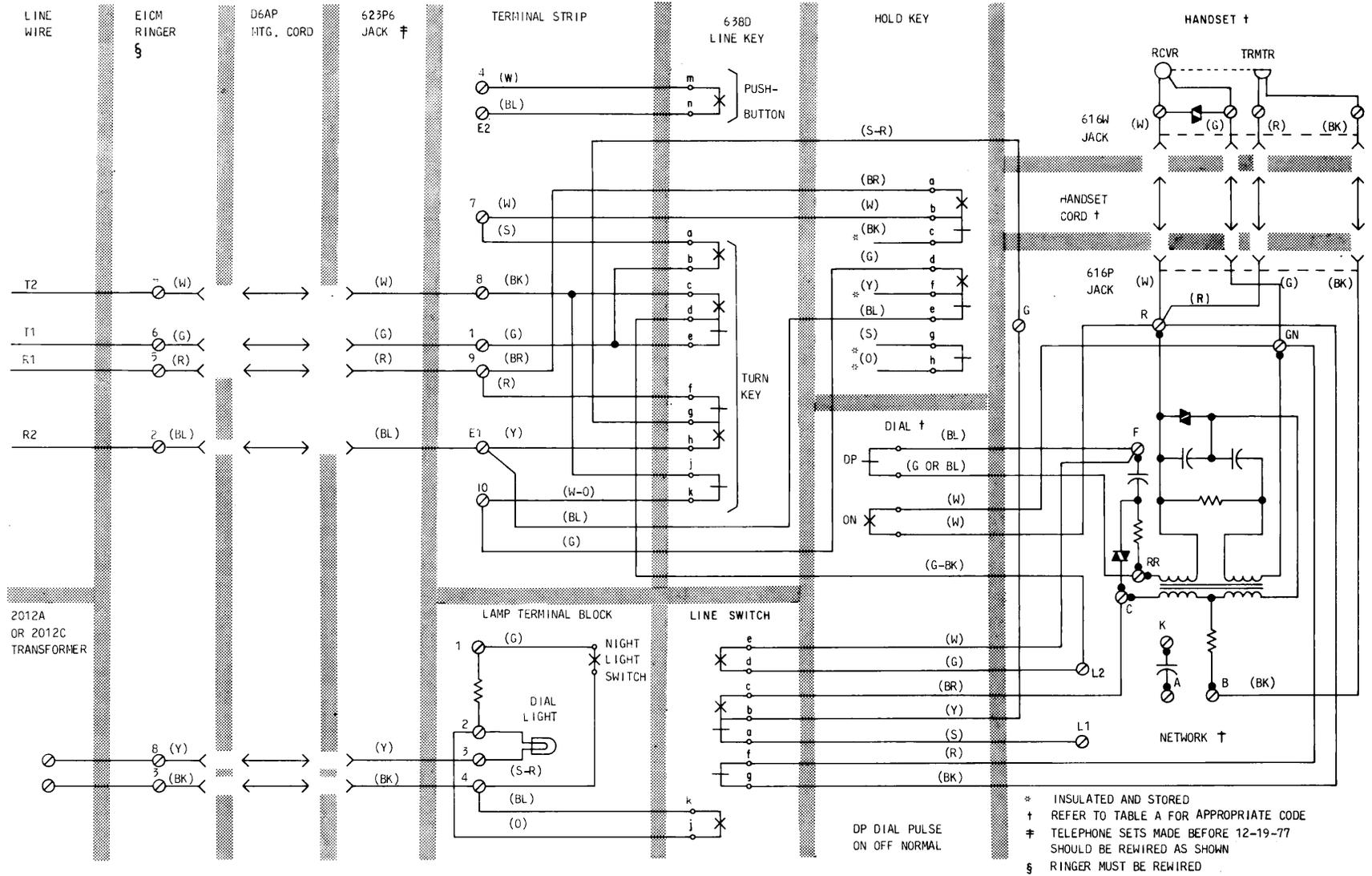
WIRE OR LEAD	COLOR	INDIV OR BRIDGED*	RING PARTY	TIP PARTY
Ringer	R	7	7	7
	S-R	1	1	1
	BK	6	2	2
	S	1	1	1
Capacitor in Ringer	W	7	7	7
	Y	5	5	6
Mtg Cord at Ringer	R	5	5	6
	G	6	6	5

\* Factory-wired for individual or bridged party service.

TABLE D

711B TELEPHONE SET MODIFICATION FOR 1-LINE PICKUP

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO	
		TERM. STRIP	TERM. STRIP	NET.
Line Key	G	2	Insulate or store on unused terminal	
	R	1		
Exclusion Switch	G-Y	2		
	R-Y	1		
M1W Cord or Strap Wire			2 ← → F	
			1 ← → L2	



\* INSULATED AND STORED  
 † REFER TO TABLE A FOR APPROPRIATE CODE  
 ‡ TELEPHONE SETS MADE BEFORE 12-19-77 SHOULD BE REWIRED AS SHOWN  
 § RINGER MUST BE REWIRED

Fig. 19—713BM Telephone Set, Modular Connections Using a E1CM Ringer

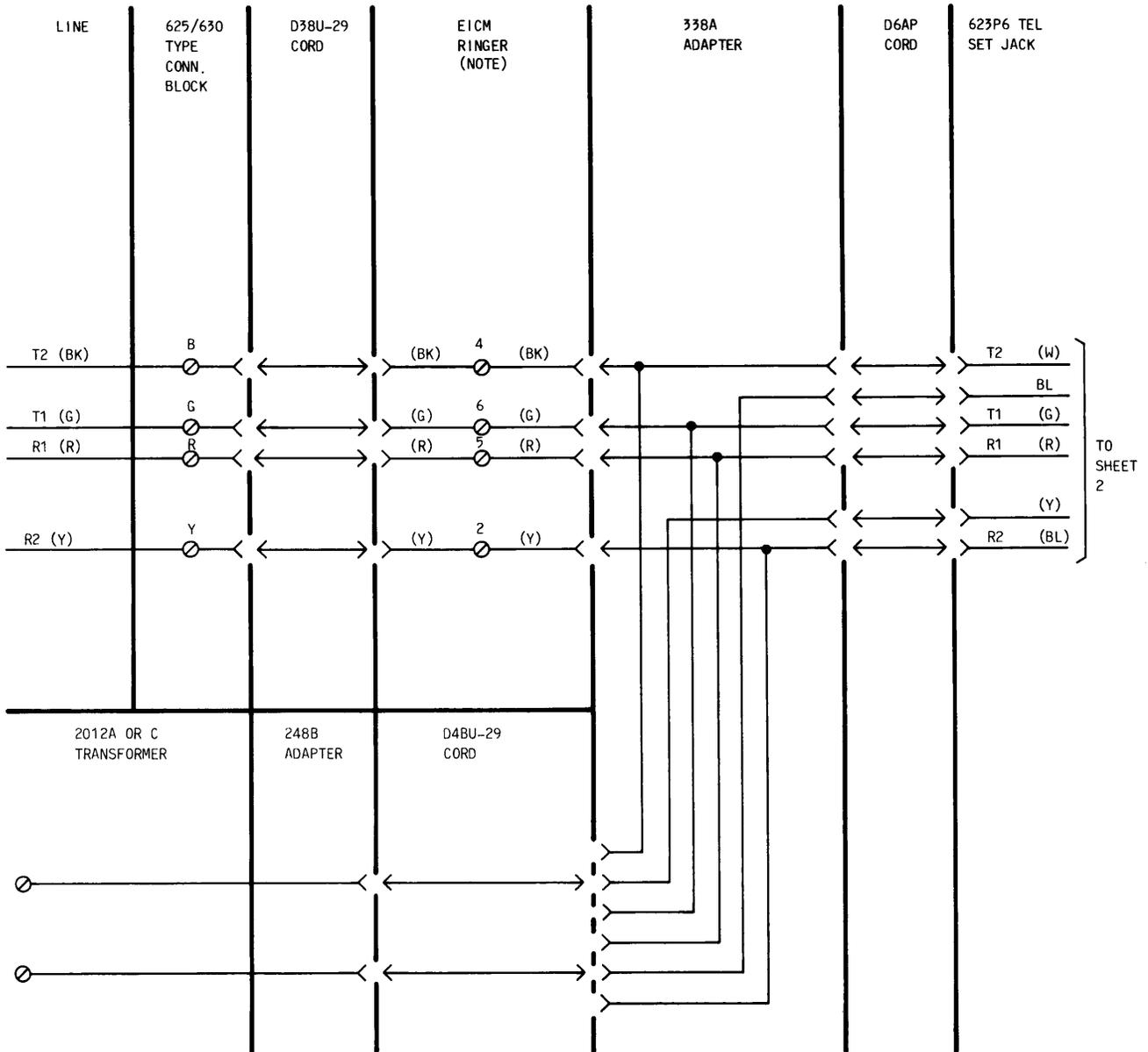


Fig. 20—PhoneCenter Type Installation, 713BM Telephone Set, Modular Connections Using a 338A Adapter (Part of the D-181059 Kit of Parts) (Sheet 1 of 2)

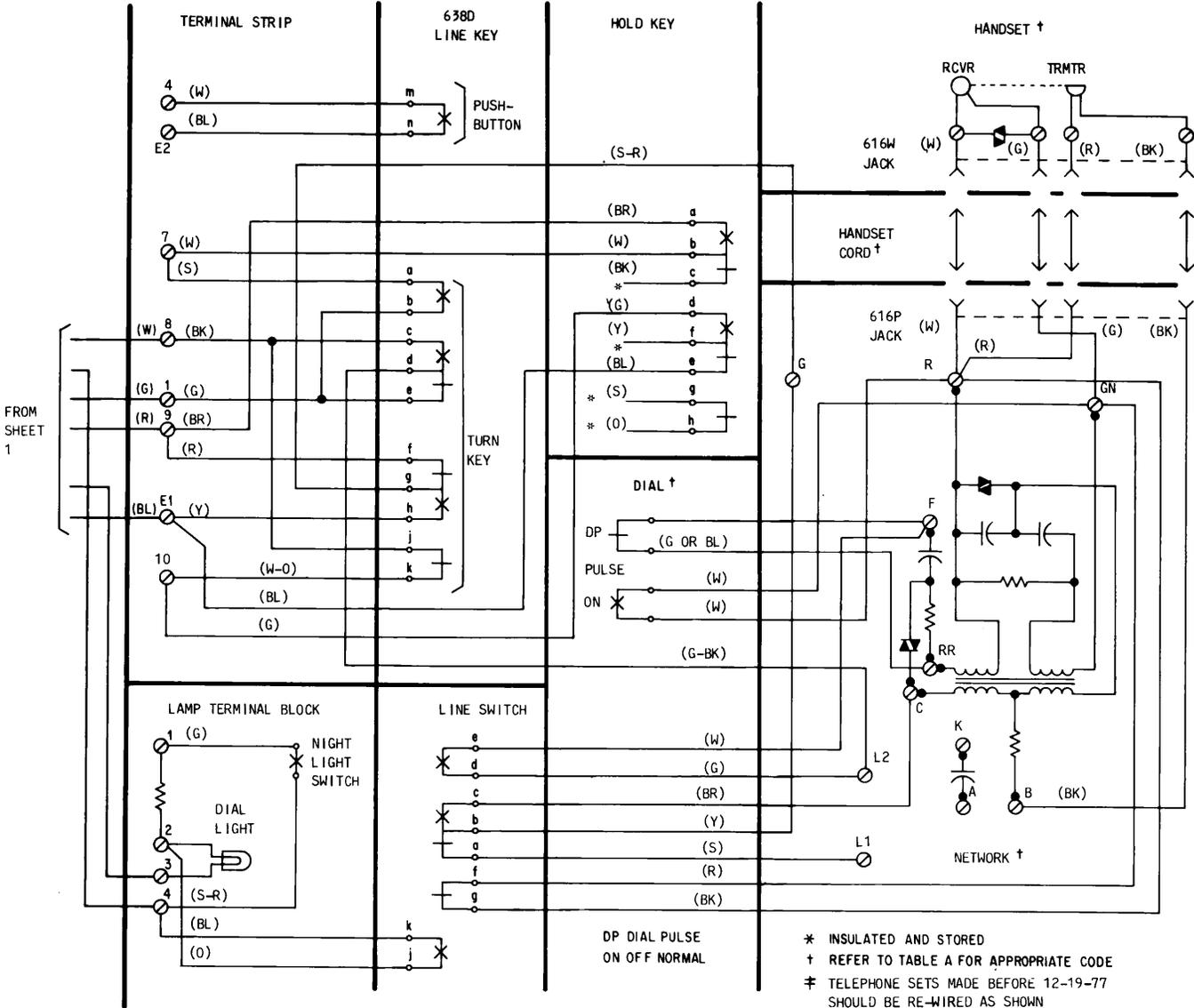


Fig. 20—PhoneCenter Type Installation 713BM Telephone Set, Modular Connections Using a 338A Adapter (Part of the D181059 Kit of Parts) (Sheet 2 of 2)