

## D-180489 KIT OF PARTS

### 1. IDENTIFICATION

#### Purpose

1.01 This section contains identification information for the D-180489 Kit of Parts (Fig. 1) used to eliminate noise in subscriber lines by providing a balanced ground path at a tip party station when tip party identification service is provided in the 500C/D, 500CM/DM, 554A/B/F, 554BM/BMP, 702B/BM, 2500D/DM, 2554B/BM/BMP, and 2702B/BM telephone sets.

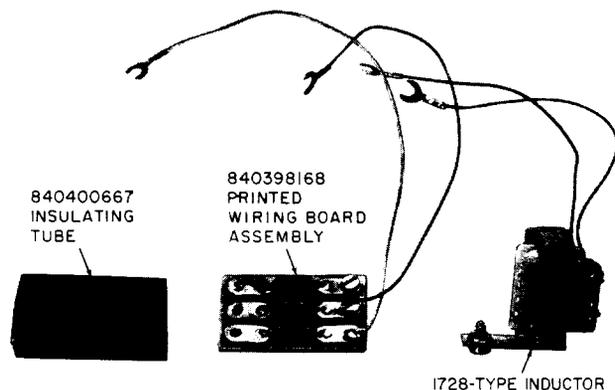


Fig. 1—D-180489 Kit of Parts

1.02 This section is reissued to:

- Add 2702BM telephone set for use with D-180489 Kit of Parts, Fig. 11 and Table F
- Add connections for installing G36-type handset
- Revise Fig. 8, 9, and 10
- Revise Tables A, B, D, and E
- Show automatic number identification and ringer isolator connections for 2500D and 2500DM in separate figure, Fig. 4

- Show automatic number identification and ringer isolator connections for 2554-type sets equipped with 4228-type network, Fig. 7

- Add information on the 28A ringer isolator

1.03 The wiring for the D-180489 Kit of Parts is the same for either the 1000 ohm or 2650 ohm arrangements used in various switching offices.



*The D-180489 Kit of Parts should be used only when unusually noisy conditions exist. This kit of parts cannot be used by itself, it must always be used in conjunction with a D-180036 Kit of Parts or a 28A ringer isolator.*

1.04 Refer to Section 501-375-100 for additional information on the D-180036 Kit of Parts and Section 501-375-101 for additional information on the 28A ringer isolator.

1.05 For additional information on the telephone sets, refer to appropriate set connection section.

#### Ordering Guide

1.06 Kit components consist of:

- 840398168 Printed Wiring Board Assembly
- 840400667 Insulation Tube
- 1728B inductor
- 800926198 (P-92619) Screw RHM
- 840398143 Instruction Sheet

1.07 Associated apparatus or equipment (ordered separately):

- D-180036 Kit of Parts, ringer isolator (500-, 554-, 702-, 2500-, 2554-, and 2702-type telephone sets)

#### NOTICE

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

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- 28A ringer isolator
- G-36 handset (if required)
- 74C connecting block (2702B telephone sets)
- D6AF mounting cord (2702B telephone sets)
- 74D connecting block (2702BM telephone sets)
- 623P6 jack assembly (2702BM telephone sets)
- D6AP mounting cord (2702BM telephone sets)

**Design Features**

1.08 The design features are.

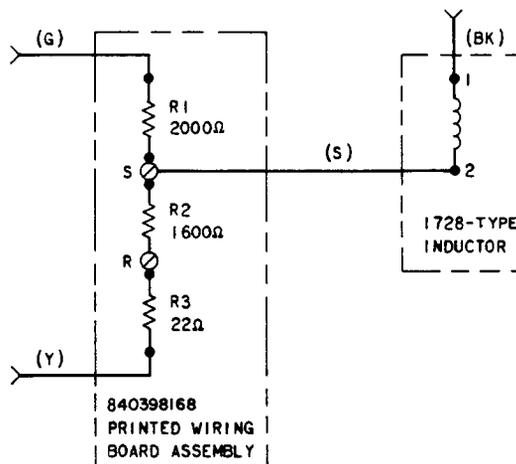
- Circuit consists of resistors combined with an inductor (Fig. 2).
- Screw terminals are provided on printed wiring board assembly to make connections between the inductor, printed wiring board assembly, and the telephone set.
- Connections are made by flexible spade-tipped leads.

1.09 Instructions for installing D-180489 and D-180036 Kits of Parts in 500-, 554-, and 2500-type telephone sets.



**Wire the ringer isolator in these telephone sets for tip party, with identifying ground as shown in Tables A, B or Fig. 3, 4.**

- (1) For 500- and 2500-type telephones sets mount the 1728-type inductor to the basepan using the hole located between the right dial mounting bracket and network using the RHM screw furnished with the kit of parts. For 554-type telephone sets mount 1728-type inductor on the right dial mounting bracket.
- (2) Wire the inductor and printed wiring board as shown in Table A, B or Fig. 3, 4.



**Fig. 2—D-180489 Kit of Parts, Schematic**

- (3) Slide PVC tube over printed wiring board to insulate terminals and tape ends closed with vinyl flame retardant electrical tape. Place the printed wiring board and ringer isolator in a convenient spot within the set so they will not interfere with other set functions.

1.10 Instructions for installing D-180489 and D-180036 Kits of Parts in 2554-type telephone sets.



**Wire the ringer isolator in these telephone sets for tip party, with identifying ground as shown in Table C or Fig. 6 or 7.**

- (1) Mount the 1728B inductor on switchhook bracket as shown in Fig. 5.

**Note:** If polarity guard must be provided along with 1728B inductor, a telephone set without 523A plug track (manufactured 4-75 or earlier) must be used along with D-180547 polarity guard assembly [819040536 (P-90D053)]. Sets with 523A plug track in base plate cannot mount 1728B inductor and polarity guard simultaneously.

- (2) Wire the inductor and printed wiring board as shown in Table C or Fig. 6 or 7.

- (3) Slide PVC tube over printed wiring board to insulate terminals and tape ends closed with vinyl flame retardant electrical tape. Place the printed wiring board and ringer isolator in a convenient spot within the set so they will not interfere with other set functions as shown in Fig. 5.

**1.11** Instructions for installing D-180489 and D-180036 Kits of Parts in 702-type telephone sets.



**Wire the ringer isolator in these telephone sets for tip party, with identifying ground as shown in Table D, Fig. 8 or 9.**

- (1) In this installation the 1728-type inductor is not required, discard according to local instructions.
- (2) Wire the printed wiring board as shown in Table D, Fig. 8 or 9.
- (3) Slide PVC tube over printed wiring board to insulate terminals and tape ends closed with vinyl flame retardant electrical tape. Place the printed wiring board and ringer isolator beneath the rotary dial so they will not interfere with other set functions.

**1.12** Instructions for installing D-180489 and D-180036 Kits of Parts in 2702-type telephone sets.



**Wire the ringer isolator external to the telephone set in a 74-type connecting block (ordered separately) for tip party, with identifying ground as shown in Table E, F or Fig. 10, 11.**

- (1) The 74C connecting block is used with the 2702B telephone set and the 74D connecting block is used with the 2702BM telephone set.
- (2) In this installation the 1728-type inductor is not required, discard according to local instructions.
- (3) A D6AF or D6AP mounting cord (ordered separately) is required for this installation. Wire the connecting block, mounting cord, or 623P6 jack, and printed wiring board as shown in Table E, F or Fig. 10, 11.

**Note:** The D4BT or D5AK mounting cord, or 623P4 jack furnished with this set is not required, dispose of cord according to local instructions.

- (4) Slide PVC tube over printed wiring board to insulate terminals and tape ends closed with vinyl flame retardant electrical tape. Place the printed wiring board under the dial so that it will not interfere with other set functions.

♦TABLE A♦

**CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN  
500C/D, 500CM/DM, 554A/B/F, AND 554BM/BMP  
TELEPHONE SETS**

WIRE OR LEAD		COLOR	REMOVE FROM	CONNECT TO
Mtg Cord, Inside, Wire, 623D3 Jack, or 523A3 Plug	Tip	G	L1	L2
	Ring	R	L2	L1
Ringer		BK §	L1	G
		R	L2	‡
Handset Cord or 616-Type Jack		R	R	R†
Ringer Isolator (D-180036)		G		L2
		R		L1
		Y		G
		BK		‡
ANI (D-180489)	840398168 PWB	Y		R
		G		B
	1728-Type Inductor	S		S†
		BK		G
Line Switch (With G36-Type Handset)		W	F	*
		BR	C	RR
Dial (With G36-Type Handset)		G	RR	C
		BL	F	*

\* Connect (BL) dial lead to (W) line switch lead using D-161488 connector or spare terminal.

† Terminal on 840398168 printed wiring board.

‡ Connect (R) ringer lead to (BK) ringer isolator lead using D-161488 connector or spare terminal.

§ 500CM/DM or 554BM/BMP only.

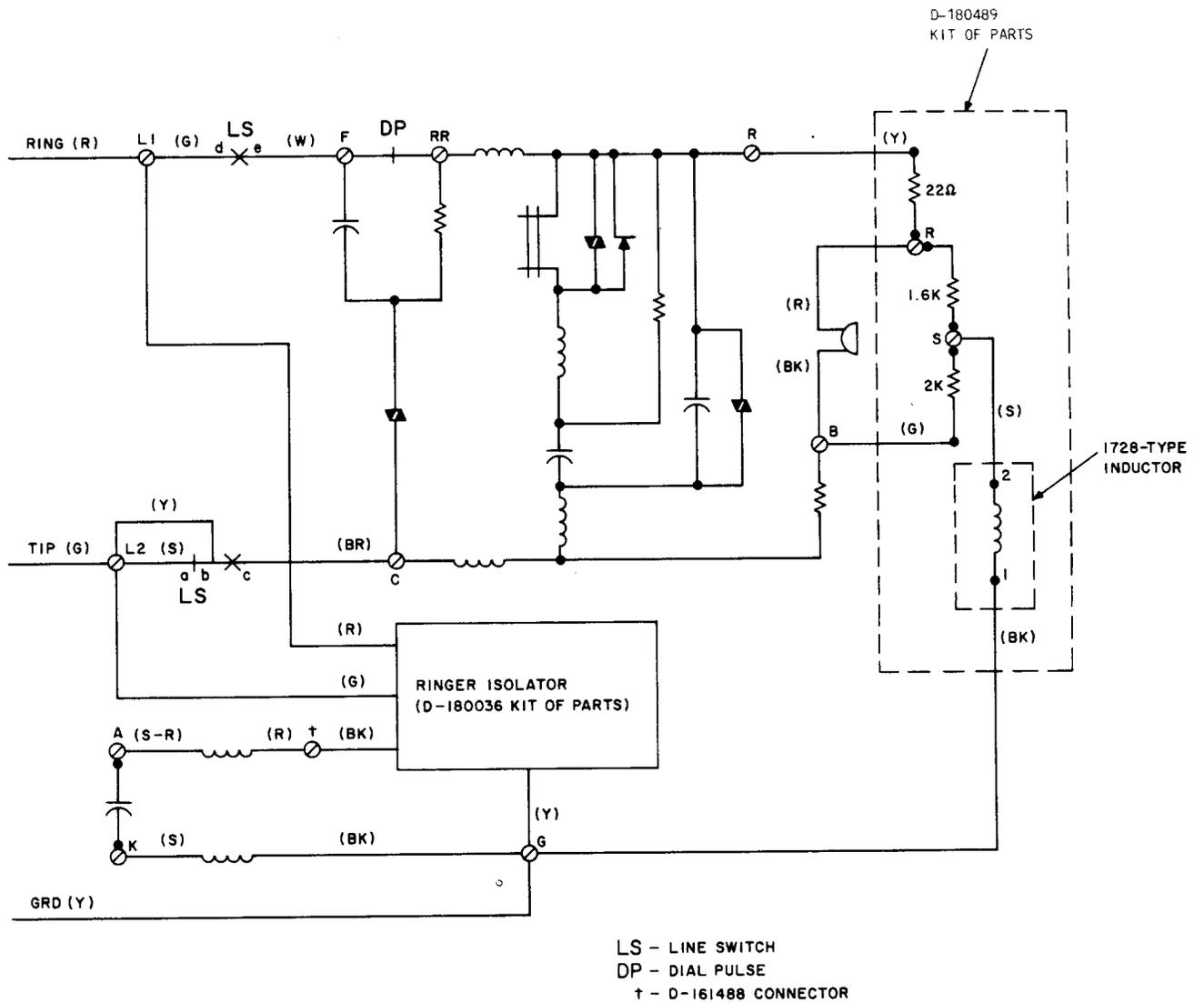


Fig. 3—Automatic Number Identification (D-180489) and Ringer Isolator (D-180036) Kit of Parts Installed in 500C/D, 500CM/DM, 554A/B/F, and 554BM/BMP Telephone Sets

◆TABLE B◆

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR (D-180036) KIT OF PARTS IN 2500D AND 2500DM TELEPHONE SETS

WIRE OR LEAD		COLOR	REMOVE FROM	CONNECT TO
Mtg Cord, Inside, Wire, 623D3 Jack, or 523A3 Plug	Tip	G	L1	L2
	Ring	R	L2	L1
Ringer		BK ‡	L1	G
		R	L2	†
Handset Cord or 616-Type Jack		R	T	R*
Ringer Isolator (D-180036)		G		L2
		R		L1
		Y		G
		BK		†
ANI (D-180489)	840398168 PWB	Y		T
		G		B
	1728-Type Inductor	S		S*
		BK		G
Line Switch		W	F	C
		BR	C	F

\* Terminal on 840398168 PWB.

† Connect (R) ringer lead to (BK) ringer isolator lead with D-161488 connector or use spare terminal.

‡ 2500DM only.

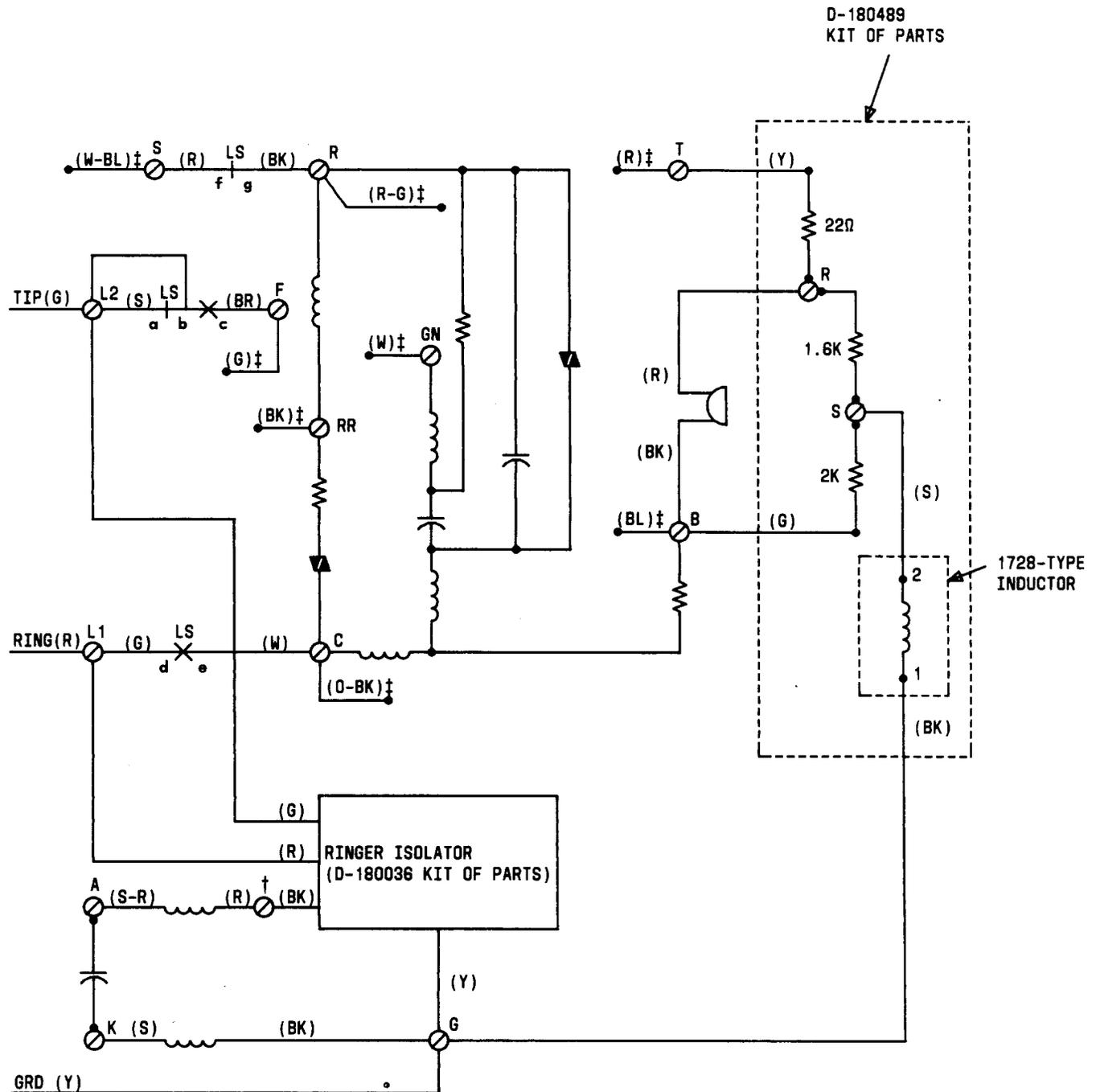


Fig. 4—Automatic Number Identification (D-180489) and Ringer Isolator (D-180036) Kit of Parts Installed in 2500D and 2500DM Telephone Sets

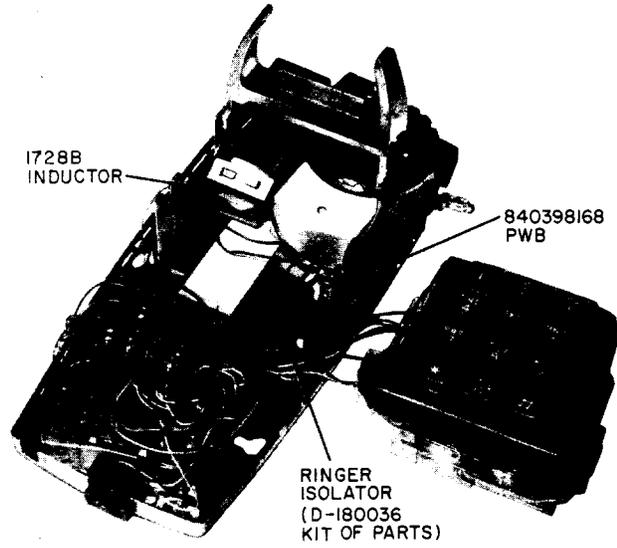
♦TABLE C♦

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR (D-180036)  
KIT OF PARTS IN 2554B, 2554BM, AND 2554BMP TELEPHONE SETS

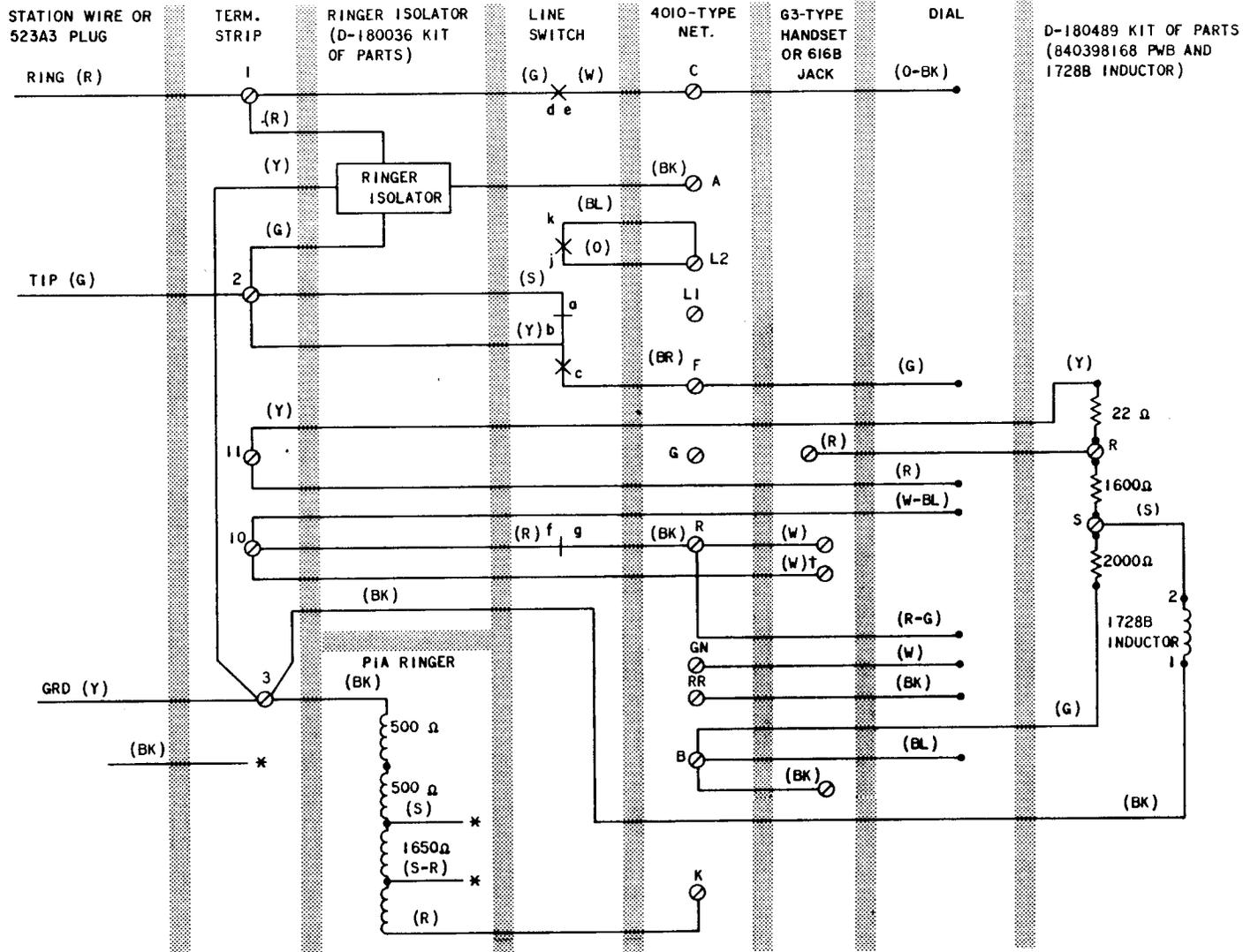
WIRE OR LEAD		COLOR	SETS E/W 4010D NET. †		SETS E/W 4228K NET.	
			REMOVE FROM	CONNECT TO	REMOVE FROM	CONNECT TO
Station Wire or 523A3 Plug	Tip	G	1	2	L1	L2
	Ring	R	2	1	L2	L1
	GRD	Y		3		G
Ringer		BK	1	3	L1	G
Line Switch		BR	C	F	C	F
		W	F	C	F	C
Handset Cord or 616B Jack		R	11	R*	T	R*
Ringer Isolator (D-180036)		G		2		L2
		R		1		L1
		Y		3		G
		BK		A		A
ANI (D-180489)	840389168 PWB	Y		11		T
		G		B		B
	1728B Inductor	S		S*		S*
		BK		3		G

\* Terminal on 840398168 PWB.

† Lettered terminals are on network and numbered terminals are on terminal strip.



**Fig. 5—2554-Type Telephone Set with Ringer Isolator and ANI Kit of Parts, Installed**



\* INSULATED AND STORED  
 † THIS LEAD IS (G) IN 2554BM AND 2554BMP  
 616B JACK

Fig. 6—2554-Type Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed in Sets Equipped With 4010-Type Network

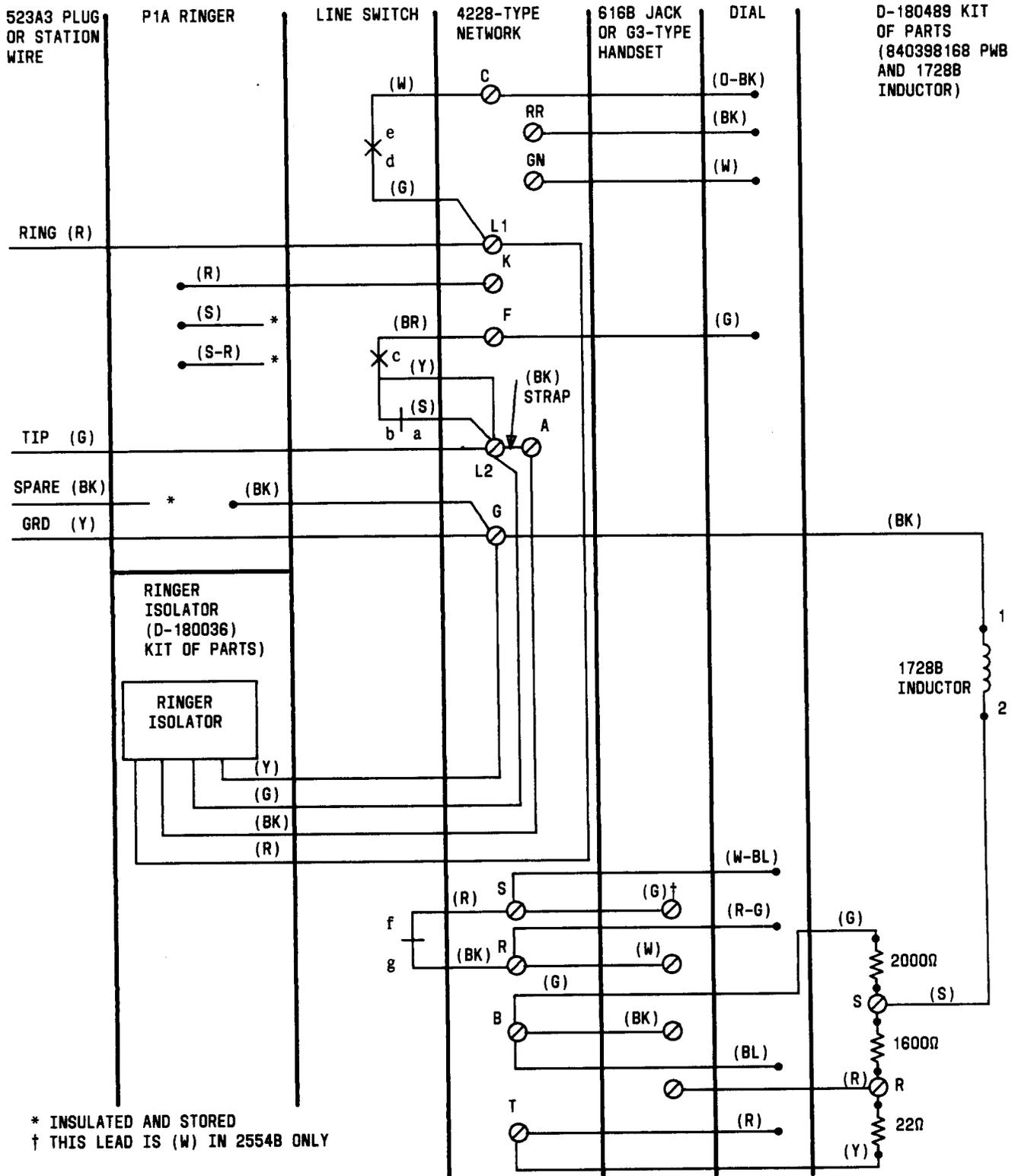


Fig. 7—2554-Type Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed in Sets Equipped With 4228-Type Network

♦TABLE D♦

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN 702B AND 702BM TELEPHONE SETS

WIRE OR LEAD		COLOR	REMOVE FROM	CONNECT TO
( ) D4BT Mtg Cord or 623P4 Jack [ ] D5AK Mtg Cord	Tip	(G) [G]	L1	L2
	Ring	(R) [R]	L2	L1
		[Y]	G	*
	Lamp	(BK) [BK]	4	3
	GRD	(Y) [W]	3	4
Ringer		BK	G or L1	4
		S	*	S†
Line Switch		S	A	G
		Y	L2	4
		BR	C	2
		O	2	L2
		BL	4	C or RR §
		W§	F	‡
Handset Cord or 616P Jack		R	R	R†
Ringer Isolator (D-180036)		G		L2
		R		L1
		Y		G
		BK		A
ANI (D-180489) (See Note)	840398168 PWB	Y		R
		G		B
Strap		BK	A	*
Dial Leads §		BL	F	‡
		BL or G	RR	C

\* Insulate and store.

† Terminal on 840398168 PWB.

‡ Connect (BL) dial lead with (W) Line switch lead using D-161488 connector or spare terminal.

§ Connections for use with G36 handset only.

Note: The 1728-type inductor is not required for this type installation.

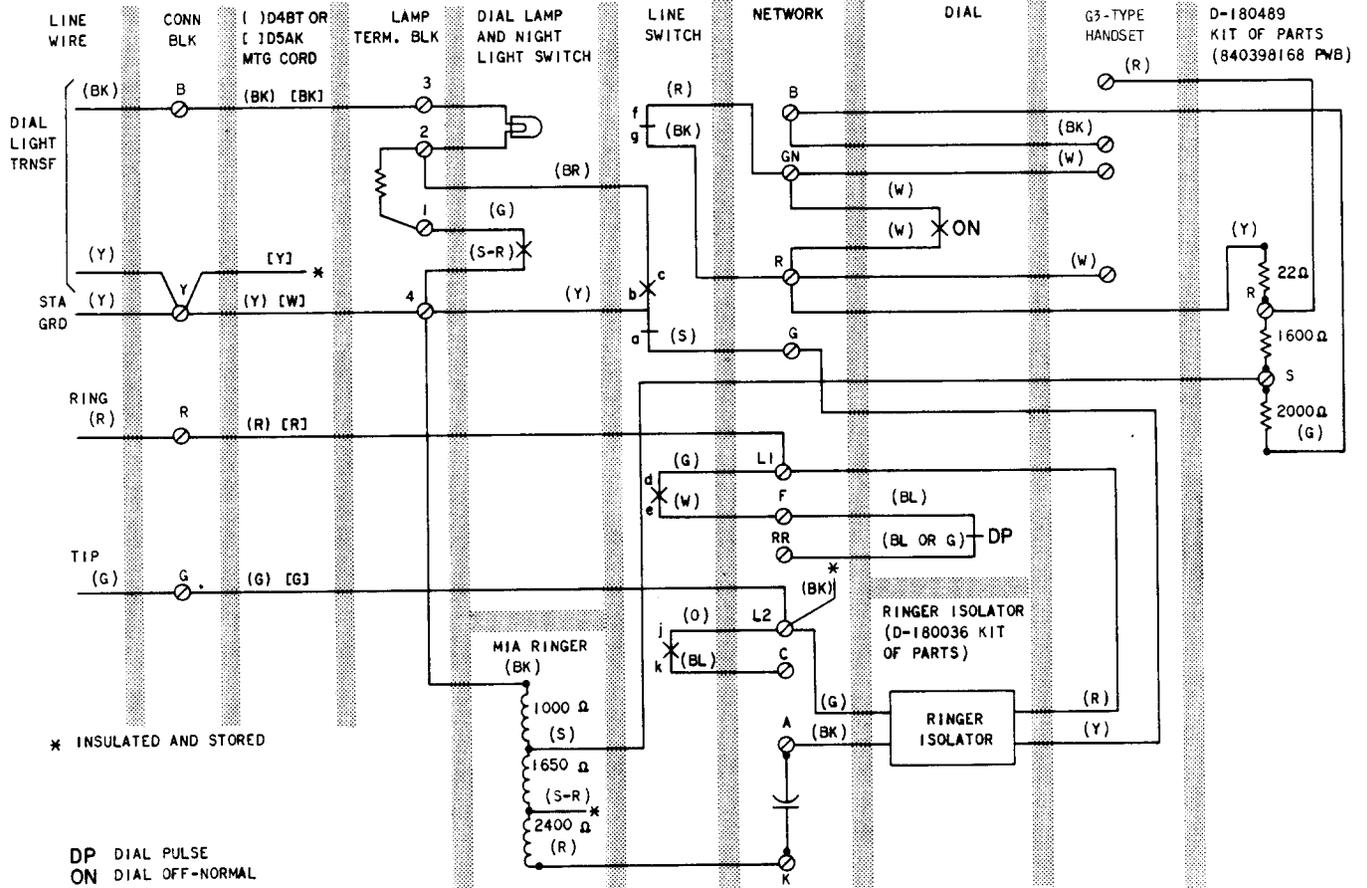


Fig. 8—702B Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed

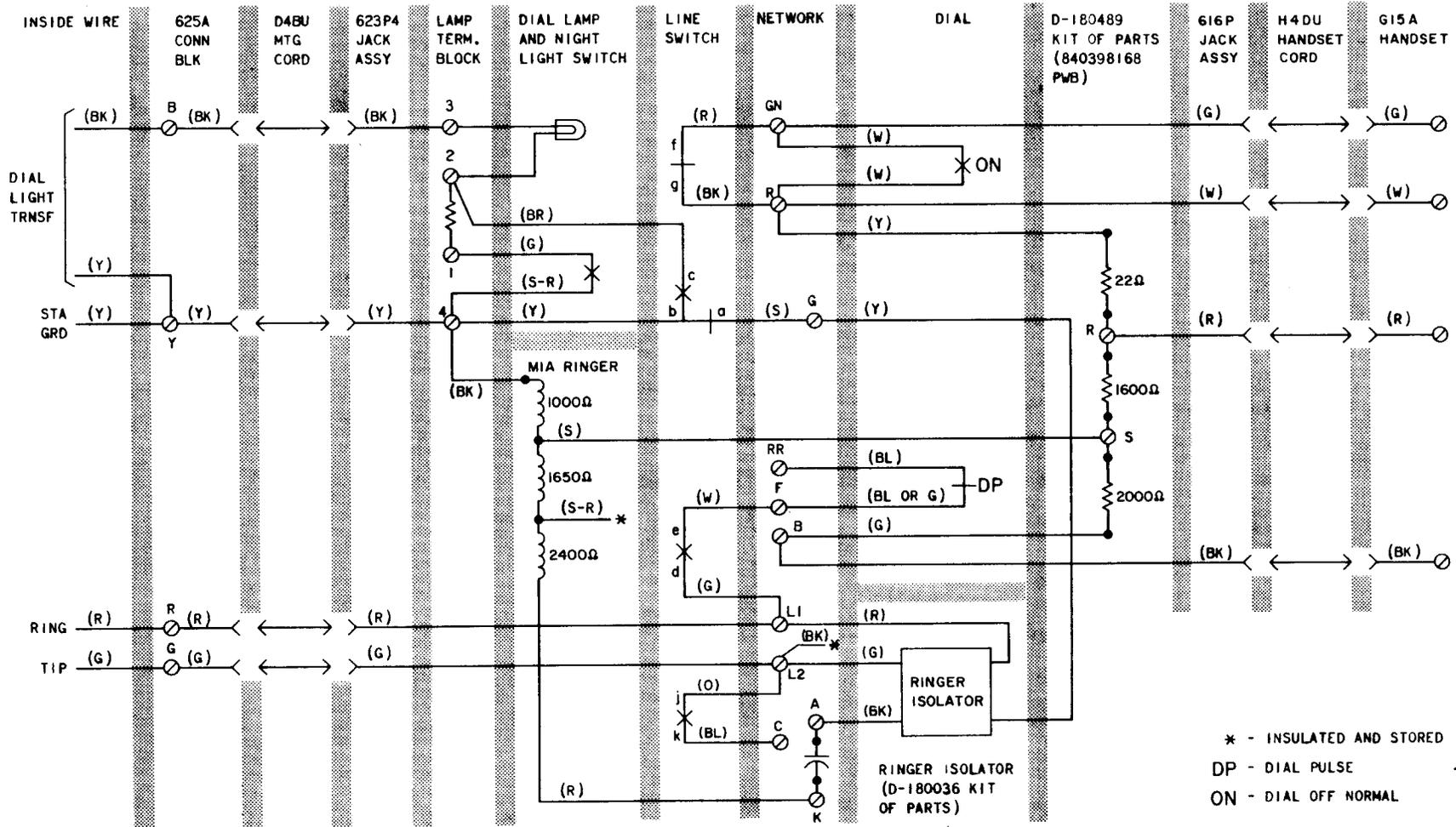


Fig. 9—702BM Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed

◆TABLE E◆

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN 2702B TELEPHONE SET

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT				
			FROM 74-TYPE CONN BLK	TO LAMP TERM. BLK	TO NET.	TO 74-TYPE CONN BLK	TO 840398168 PWB
Inside Wire	Tip	G				4	
	Ring	R				5	
	GRD	Y				2	
	Lamp	BK				1	
D6AF Mtg Cord (ordered separately)	BK		1	3			
	W		2	4			
	Y		3		G		
	BL				A	†	
	R		5		L2		
	G		4	●	L1		
Ringer	BK	L1		4			
	S	*					S
Line Switch	O	2			L2		
	BL	4			C		
	BR	C		2			
	Y	L2		4			
	S	A			G		
Handset Cord	R	6					R
Ringer Isolator (D-180036)	G					4	
	R					5	
	Y					3	
	BK					†	

◆TABLE E (Cont)◆

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN 2702B TELEPHONE SET

WIRE OR LEAD		COLOR	REMOVE FROM	CONNECT				
				FROM 74-TYPE CONN BLK	TO LAMP TERM. BLK	TO NET.	TO 74-TYPE CONN BLK	TO 840398168 PWB
ANI (D-180489) (See Note)	840398168 PWB	Y				6		
		G				B		
Strap		BK	A*					

Note: The 1728-type inductor is not required for this type installation. The ringer isolator must be mounted external to the set in a 74-type connecting block.

\* Insulate and store

† Connect (BL) D6AF mounting cord lead to (BK) ringer isolator lead with D-161488 connector.

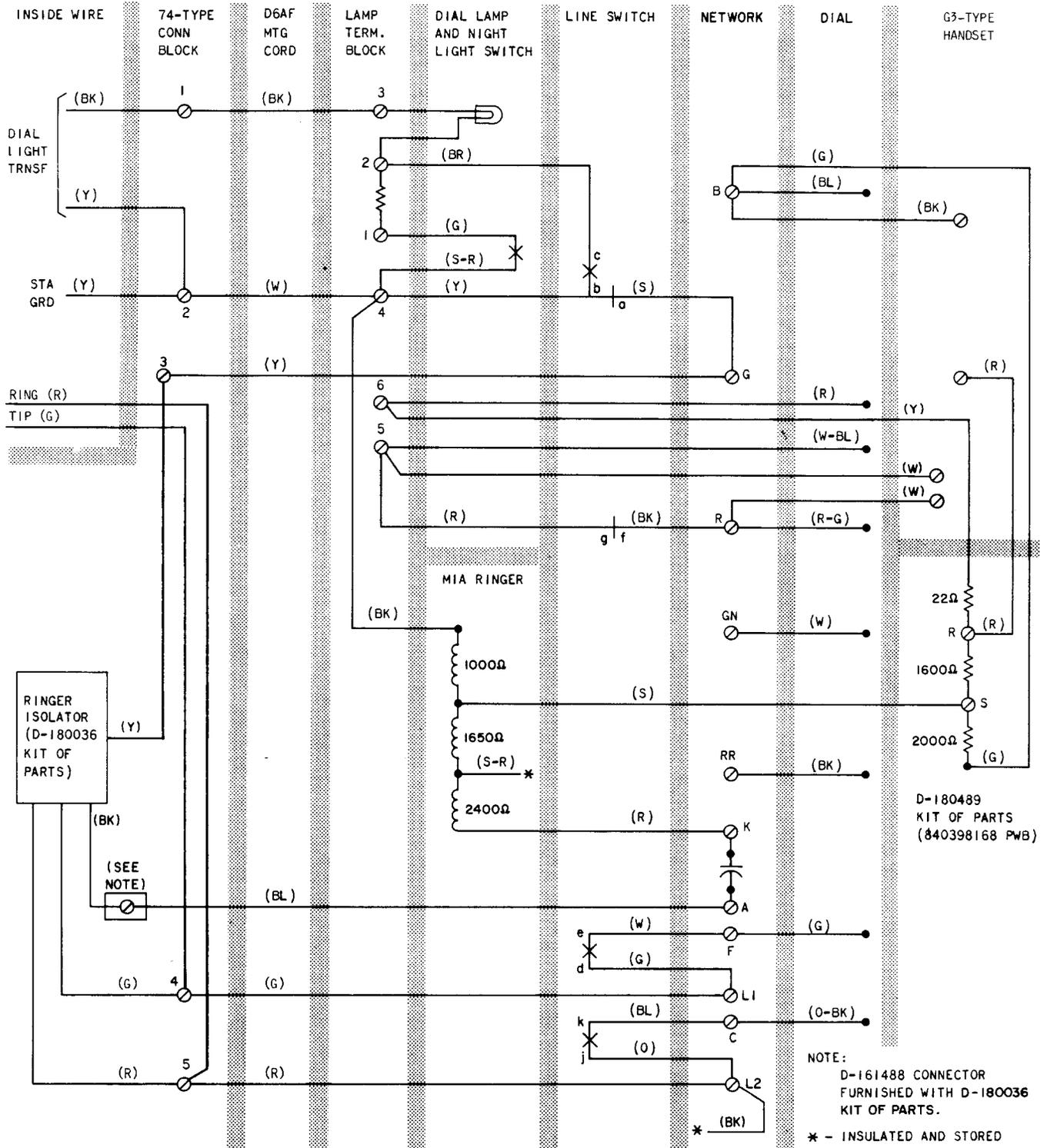


Fig. 10—2702B Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed

◆TABLE F◆

CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN 2702BM TELEPHONE SET †

WIRE OR LEAD		COLOR	REMOVE FROM	CONNECT TO			
				74D CONN BLOCK	TB1	NET	TERM. BD OF D-180489 KIT OF PARTS
Inside Wire	Tip	G		1			
	Ring	R		2			
	GRD	Y		3			
	Lamp	BK		4			
652A6 Jack in 74D Conn Block		BK		4			
		W		6			
		Y		3			
		BL		5			
		R		2			
		G		1			
623P6 Jack in Set		BK			3		
		W				G	
		Y			4		
		BL					A
		R					L2
		G					L1
Ringer		BK	L1		4		
		S	*				S
Line Switch		O	2			L2	
		BL	4			C	
		BR	C		2		
		Y	L2		4		
		S	A				G
Handset Cord		R	6				R

◆TABLE F (Cont)◆

**CONNECTIONS FOR ANI (D-180489) AND RINGER ISOLATOR  
(D-180036) KIT OF PARTS IN 2702BM TELEPHONE SET †**

WIRE OR LEAD	COLOR	REMOVE FROM	CONNECT TO			
			74D CONN BLOCK	TB1	NET	TERM. BD OF D-180489 KIT OF PARTS
Ringer Isolator (D-180036)	G		1			
	R		2			
	Y		6			
	BK		5			
ANI (D-180489) (See Note) 840398168 PWB	Y				6	
	G				B	
Strap	BK	A*				

*Note:* The 1728-type inductor is not required for this type installation. The ringer isolator must be mounted external to the set in a 74D connecting block.

\* Insulate and Store

† 623P6 jack assembly and D6AP mounting cord are required for these connections.

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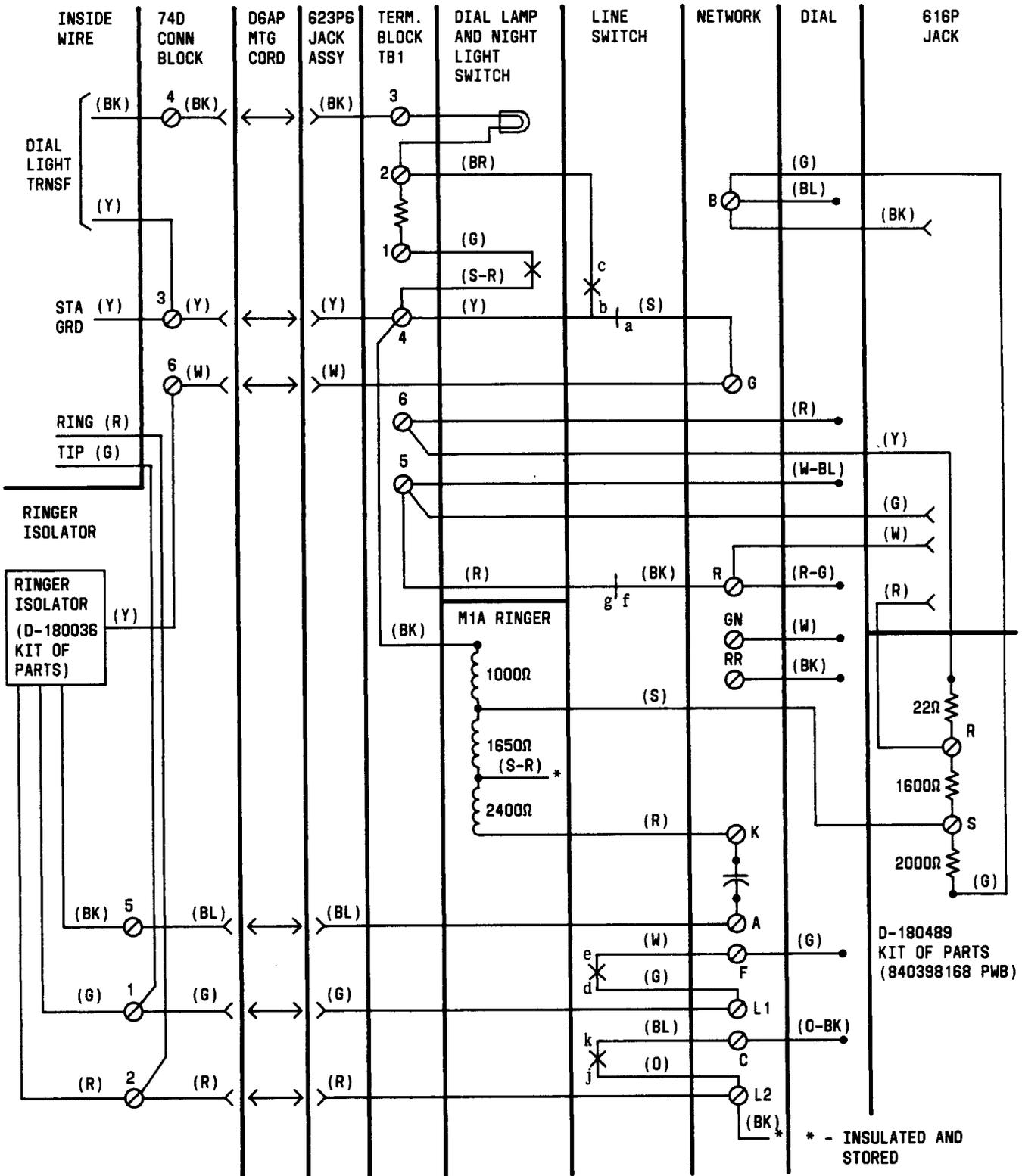


Fig. 11—2702BM Telephone Set Connections for ANI (D-180489) and Ringer Isolator (D-180036) Kit of Parts, Installed