

## SERVICE

### 565A, 565B, 565E, 565G, 565H, AND 565L TELEPHONE SETS

#### 1. GENERAL

**1.01** This section provides maintenance and connection information for the 565A (MD), 565B (MD), 565E (MD), 565G (MD), 565H (MD), and 565L (MD) telephone sets previously contained in Sections 502-525-200 and 502-525-400.

#### 2. MAINTENANCE

##### *Components*

**2.01** Maintenance of handsets, dials, and ringers is outlined in sections covering these components.

##### *Removing and Replacing Housing*

**2.02** To remove housing, pull up exclusion plunger to its operated position, loosen captive screws in base of set, and lift housing up and toward the front of set.

**2.03** To replace housing, guide lower front portion of housing over pushbuttons, align housing with base of set, and gently press housing in place. Depress exclusion plunger, with slight pressure it should snap into its unoperated position. Operate exclusion plunger several times to insure proper operation. Tighten captive screws in base of set.

##### *Exclusion Switch*

**2.04** Perform no field maintenance on exclusion switch and plunger other than cleaning contacts with a 265C tool.

**2.05** Replace set or exclusion switch assembly if any of the following exclusion switch requirements cannot be met:

- (a) Exclusion plunger should remain in the operated position when pulled up to the full extent of its stroke.

- (b) The plunger should return to the fully depressed position when handset is replaced.

- (c) With housing removed, normally closed contacts of the exclusion switch should have perceptible follow when operated manually.

- (d) With housing removed, open contacts of the exclusion switch should have minimum separation of 1/64-inch; gauge by eye.

##### *Mounting Cords*

**2.06** When required for maintenance, replace D37A (MD) and D40A (MD) mounting cords with a D42A even-count color-code cord (Table C). To use plug ended mounting cords, with inside wiring cables terminated on 44-type connecting blocks, it will be necessary to do one of the following:

- (a) Reterminate IW cable directly on 66E-type connecting block as shown in Table D.

- (b) Extend cabling from 44-type connecting block through a short piece of cable to a 66E-type connecting block.

- (c) Replace existing cable with plug ended cable.

**2.07** Remove mounting cords of early manufacture (Fig. 1) as follows:

- (1) Remove dial from its mounting bracket.

- (2) Remove terminal screws.

- (3) Disconnect spade-tipped conductors and wafer sections.

- (4) Disengage cord stay hook from right leg of dial mounting bracket.

**2.08** Mounting cords of later manufacture feature a slotted wafer strip (Fig. 2) to facilitate replacement.

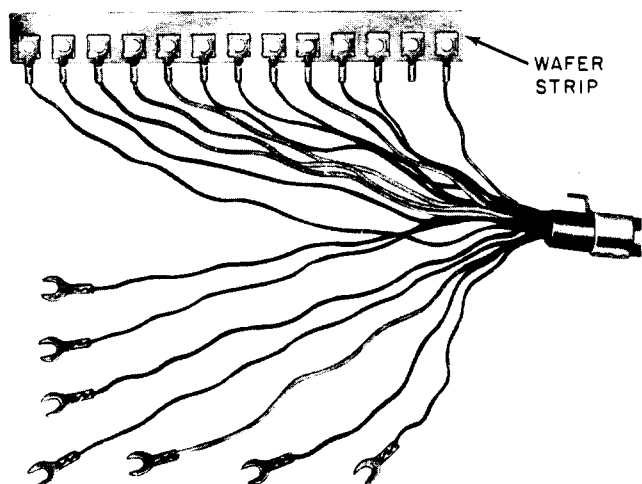


Fig. 1—Nonslotted Wafer Strip End of Mounting Cord, Early Type

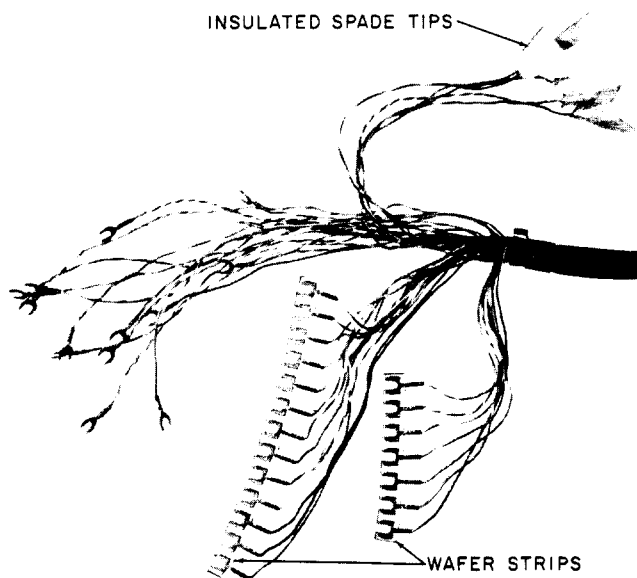


Fig. 2—Slotted Wafer Strip End of Mounting Cord, Later Type

### Lamps and Pushbuttons

2.09 Replace cracked pushbuttons or collars. Remove accumulated dirt or film from lamps, collars, and pushbuttons with a water dampened cloth. **DO NOT USE SOLVENTS OF ANY KIND.** If cleaning does not correct binding of pushbuttons, replace button and collar assembly.

2.10 To replace defective lamp:

- (1) Remove dial from mounting bracket and lay to one side. Leads need not be disconnected.
- (2) Lift lamp from socket with KS-6320 orange stick.
- (3) Align lamp contact surfaces when placing new lamp in socket.
- (4) Remount dial.

2.11 The button and collar assembly should be carefully aligned to avoid interference with removal or replacement of housing.

### 589-Type Keys

2.12 Field maintenance of the 589-type key (Fig. 3 and 4) consists of:

- (a) Contact cleaning using a 265C tool or adjusting using a 363 tool.
- (b) Replacing loose or missing damper studs with P-18A859 vibration damper sleeves (Fig. 4). Later 589-type keys do not require this vibration damper.

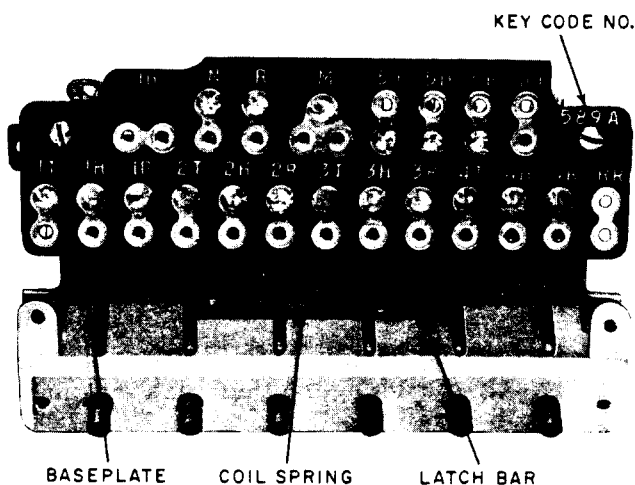
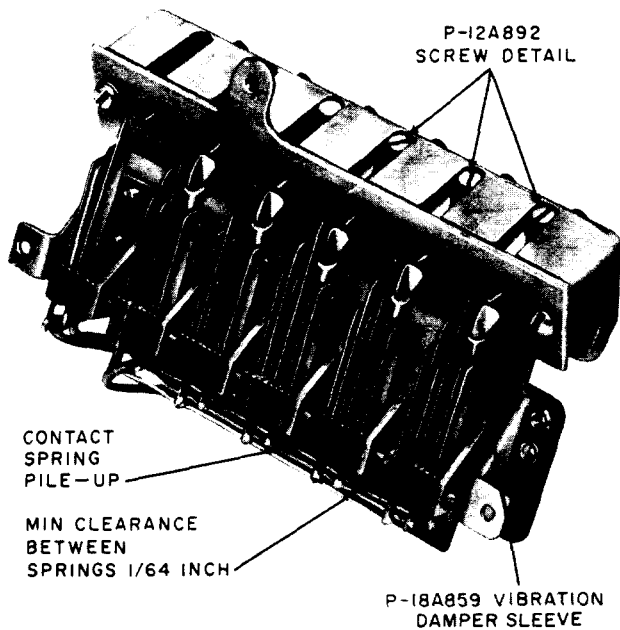


Fig. 3—589-Type Key, Top View



**Fig. 4—589-Type Key, Bottom View**

**2.13** Contact follow and separation is obtained by using a 363 tool at a point adjacent to contact spring pile-up (Fig. 4). When adjusting springs:

- (a) There should be a minimum spring clearance of 1/64-inch between contact springs and

those parts of the key which do not make contact with springs (Fig. 4).

- (b) Normally open contacts should make with perceptible follow on locking keys before key plunger assumes locked position.

**2.14** Replace set if the following requirements cannot be met:

- (a) When depressed locking plunger should, on its downstroke, release any previously locked plunger.

- (b) When any pushbutton plunger is released from its operated position, it should return with a snap to its nonoperated position.

- (c) An operated key plunger should not release during downstroke of hold button.

- (d) An operated key plunger should release from its operated position on the upstroke of the hold button.

**2.15** The 565E (MD) and 565L (MD) telephone sets feature a two position turn key as part of the 6-button key. This key, containing two sets of transfer contacts, may be used in any application requiring circuit connection, cutoff, or transfer.

**TABLE A**  
**PICKUP SIGNAL KEY CONVERSION**

KEY TEL SET	CONVERTIBLE KEY OPTIONS	KEY LEADS				
		Y-BR	BR	S-BR	BK-BR	W-BR
565A (MD) and 565G (MD)	PPPPPP			M	M	M
	PPPPPS			M	M	SG
	PPPPSS			M	SG	SG
	PPSSSS			SG	SG	SG
565B (MD) and 565H (MD)	HPPPPP	M	M	M	X	
	HPPPPS	M	M	M	SG	
	HPPPSS	M	M	SG	X	
	HPPSSS	M	X	SG	X	
	HPPP*P*S*	M	X	5H	N	
	HPP*P*P*S*	X	X	5H	N	
565E (MD) and 565L (MD)	HPPPPC			M		
	HPPPSC			SG		

\* These pickup key options are used on private or intercommunicating lines with the signal key common to each line. The signal key will operate the signal circuit of each line when associated pickup key is depressed. Use S lead on 2nd, 3rd, or 4th pickup key as required and A1 lead for common signal ground.

**TABLE B**  
**LINE EXCLUSION**

TEL SET	EXCLUSION	KEY TEL SYS	EXCLUSION KEY LEADS			
			R-Y	G-Y	BR-R	BK-W
565B (MD) 565E (MD) 565H (MD) 565L (MD)	On Any Line	1A	R*	T*	1B†	H*
565A (MD)		1A			EB	EH
565G (MD)		1A1 or 1A2				H*

\* Terminal of line involved.

† When other than Line 1 is excluded, remove yellow mounting cord conductor from terminal 1B and insulate. Connect balance lead cord conductor of line involved to terminal 1B. Remove O-W lead in sets equipped with even-count cords.

**Note:** Supply A1 ground directly to excluded station from key equipment, or strap at connecting block.

**TABLE C**  
**TERMINATIONS AT CONNECTING BLOCK FOR 565A, 565B,**  
**565E, 565G, 565H, AND 565L (MD) TELEPHONE SETS**

CKT	LEAD DESIG		KEY CABLE	CONN BLOCK		MOUNTING CORD LEADS		
	1A	1A1 OR 1A2	D TYPE	TERM.	NO.	565A(MD) 565G(MD)*	565B(MD) 565H(MD)*	565E(MD) 565L(MD)*
Line 1	R	R	BL	1	1 Block Nearest Cord Butt	R	R	R
	T	T	W	2		G	G	G
Line 2 and Sig	B	A1	O	4		Y	Y	Y
	H	A	W	5		BK	BK	BK
Line 3 and Sig	R	R	G	6		BL	BL	BL
	T	T	W	7		W	W	W
Line 4 and Sig	B§	L	BR	9		BR-R	BR-R	BR-R
	H-S	A-S	W	10		BR-G	BR-G	BR-G
Line 5 and Sig	R	R	S	3		BR-Y	BR-Y	BR-Y
	T	T	W	8		BR-BK	BR-BK	BR-BK
Line 6 and Sig	B**	BL	BL	1	2	BR-BL	BR-BL	BR-BL
	H-S	A-S	R	2		BR-W	BR-W	BR-W
Line 7 and Sig	R	R	O	4		R-G	R-G	R-G
	T	T	R	5		R-Y	R-Y	R-Y
Line 8 and Sig	B¶	S	G	6		R-BK	R-BK	R-BK
	H-S	A-S	R	7		R-BL	R-BL	R-BL
Line 9 and Sig	R	R	BR	9		R-W	R-W	
	T	T	R	10		G-Y	G-Y	
Sig Grd	B††	G	S	3		G-BK	G-BK	
	H-S	A-S	R	8		G-BL	G-BL	
Sig Grd	G-R¶	G-R¶	BL	1	3	G-W	G-W	G-W
Sta Bsy Lp	BL-T¶	BL-T¶	BK	2		Y-BK	Y-BK	Y-BK
Ringer or Buz	R	R	O	4		Y-BL	Y-BL	Y-BL
	B	B	BK	5		Y-W	Y-W	Y-W
Ex- cluded Ckt	R	R	G	6		BK-BL	BK-BL	BK-BL
	T	T	BK	7		BK-W	BK-W	BK-W
Lamp 6	B	†	BR	9		BL-W	BL-W	BL-W
	H	A	BK	10		S	S	S
Lamp 6			S	3				S-R
	LG	LG	BK	8				S-G
Lamp 1	L	L	BL	1	4 Place Straps	S-Y	S-Y	S-Y
	LG	LG	Y	2‡		S-BK	S-BK	S-BK
Lamp 2	L	L	O	4		S-BL	S-BL	S-BL
	LG	LG	Y	5‡				
Lamp 3	L	L	G	6		S-W	S-W	S-W
	LG	LG	Y	7‡				
Lamp 4	L	L	BR	9		S-BR	S-BR	S-BR
	LG	LG	Y	10‡				
Lamp 5	L	L	S	3		BR	BR	
	LG	LG	Y	8‡				

\* Individually insulate and store spare mounting cord leads at connecting block when speakerphone feature is not required.

† Supply A1 ground directly to excluded station from key equipment, or strap at connecting block.

‡ Strap common at connecting block.

§ Lamp 6 on 565A (MD) and 565G (MD) sets.

¶ Line 6 and signal lead on 565A (MD) and 565G (MD) sets.

\*\* Busy lamp lead on 565A (MD) and 565G (MD) sets.

†† Signal ground on 565A (MD) and 565G (MD) sets.

**TABLE D**  
**D42A MOUNTING CORD CONNECTIONS (MAINTENANCE ONLY)**

MOUNTING CORD (NOTE)		565G(MD) TEL SET EQUIPPED WITH D42A MTG CORD		565H(MD) TEL SET EQUIPPED WITH D42A MTG CORD		565L(MD) TEL SET EQUIPPED WITH D42A MTG CORD	
PIN NUMBERS	CONDUCTOR COLOR	LEAD DESIGNATION	TERMINAL IN SET	LEAD DESIGNATION	TERMINAL IN SET	LEAD DESIGNATION	TERMINAL IN SET
1	BL-W	R	1R	R	1R	R	1R
26	W-BL	T	1T	T	1T	T	1T
2	O-W	A1	1B	A1, B, or A	1B	A1, B, or A	1B
27	W-O	A	1H	A or H	1H	A or H	1H
3	G-W	L	L1	L	L1	L	L1
28	W-G	LG	LG	LG	LG	LG	LG
4	BR-W	2R	2R	R	2R	R	2R
29	W-BR	2T	2T	T	2T	T	2T
5	S-W	Spare	*	B	*	B	*
30	W-S	A	2H	A or H	2H	A or H	2H
6	BL-R	L	L2	L	L2	L	L2
31							
7	O-R	R	3R	R	3R	R	3R
32	R-O	T	3T	T	3T	T	3T
8	G-R	Spare	*	B	*	B	*
33	R-G	A	3H	A, H, S, or S1	3H	A or H	3H
9	BR-R	L	L3	L	L3	L	L3
34							
10	S-R	R	4R	R	4R	R	4R
35	R-S	T	4T	T	4T	T	4T
11	BL-BK	A, S, or S1	6H	B	*	B	*
36	BK-BL	A, S, or S1	4H	A, H, S, or S1	4H	A, H, S, or S1	4H
12	O-BK	L	L4	L	L4	L	L4
37							
13	G-BK	R	5R	R	5R	Spare	*
38	BK-G	T	5T	T	5T	Spare	*
14	BR-BK	L	L6	B	*	Spare	*
39	BK-BR	A, S, or S1	5H	A, H, S, or S1	5H	Spare	*
15	S-BK	L	L5	L	L5	Spare	*
40							
16	BL-Y	R	6R	Spare	*	CR	CR
41	Y-BL	T	6T	Spare	*	CT	CT
17	O-Y						
42	Y-O						
18	G-Y						
43	Y-G						
19	BR-Y	G or SG	SG	G or SG	SG	G or SG	SG
44	Y-BR	BL	L2†	BL	L2†	BL	L2†
20	S-Y	R or R1	RR	R or R1	RR	R or R1	RR
45	Y-S	B or B1	RT	B or B1	RT	B or B1	RT
21	BL-V	ER	ER	ER	ER	ER	ER
46	V-BL	ET	ET	ET	ET	ET	ET
22	O-V	EB	EB	EB	EB	EB	EB
47	V-O	EH	EH	EH	EH	EH	EH
23	G-V	R1	N	R1	R	R1	R
48	V-G	T1	RR†	T1	RR†	T1	RR†
24	BR-V	P4	ON	P4	ON	P4	ON
49	V-BR		*	P3	ON1	P3	ON1
25	S-V	LK	L1†	LK	L1†	LK	L1†
50	V-S	AG	M	AG	N	AG	N

Note: Pins 28, 31, 34, 37, 40, and 43 in the plug of D42A cord are strapped together.

\* Insulate and store or connect to spare terminal.

† Terminal on network.

**TABLE E**  
**RETERMINATING EXISTING IW CABLE**

D-TYPE IW CABLE		66E-TYPE CONN BLOCK		
CONDUCTOR COLOR		BLOCK NO.	CLIP TERM. NO.	PLUG PIN NO.
	W	1	1	26
	BL		2	1
	W		3	27
	O		4	2
	BL		5	28
	Y		6	3
	W		7	29
	G		8	4
	W		9	30
	BR		10	5
	Y	11	2	31
	O	12		6
	W	13		32
	S	14		7
	R	15		33
	S	16		8
	BK	17		34
	G	18		9
	R	19		35
	O	20		10
	R	21	3	36
	G	22		11
	Y	23		37
	BR	24		12
	R	25		38
	BR	26		13
	R	27		39
	BR	28		14
	Y	29		40
	S	30		4
	BK	31	41	
	BL	32	16	
	V	33	42	
	BR	34	17	
	V	35	43	
	S	36	18	
	BL	37	44	
	S	38	19	
	BK	39	45	
	O	40	5	20
	BK	41		46
	G	42		21
	BK	43		47
	BR	44		22
	V	45		48
	BL	46		23
	V	47		49
	O	48		24
	V	49		50
	G	50	25	

SECTION 502-541-408

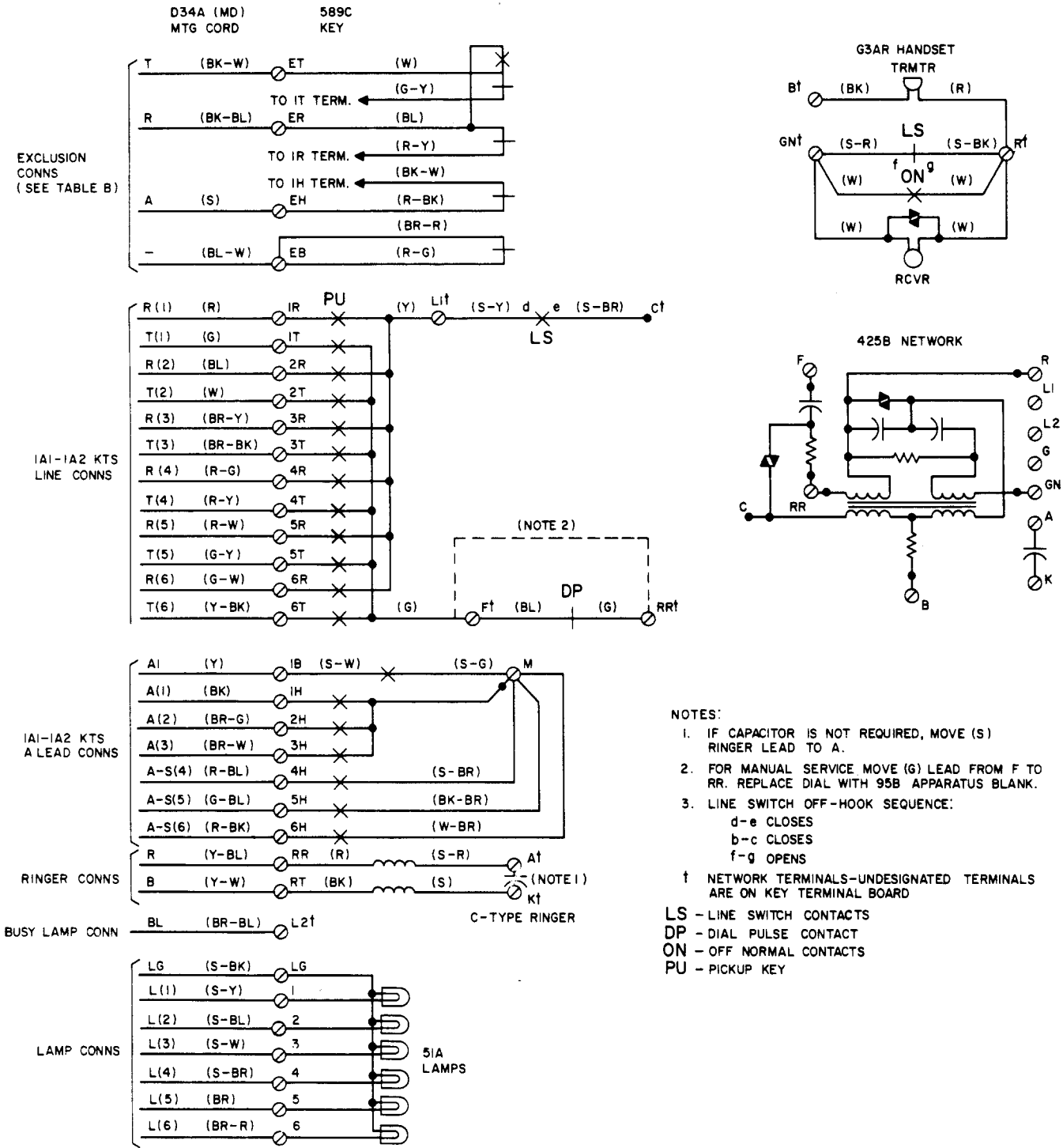


Fig. 5—565A (MD) Telephone Set—Connections



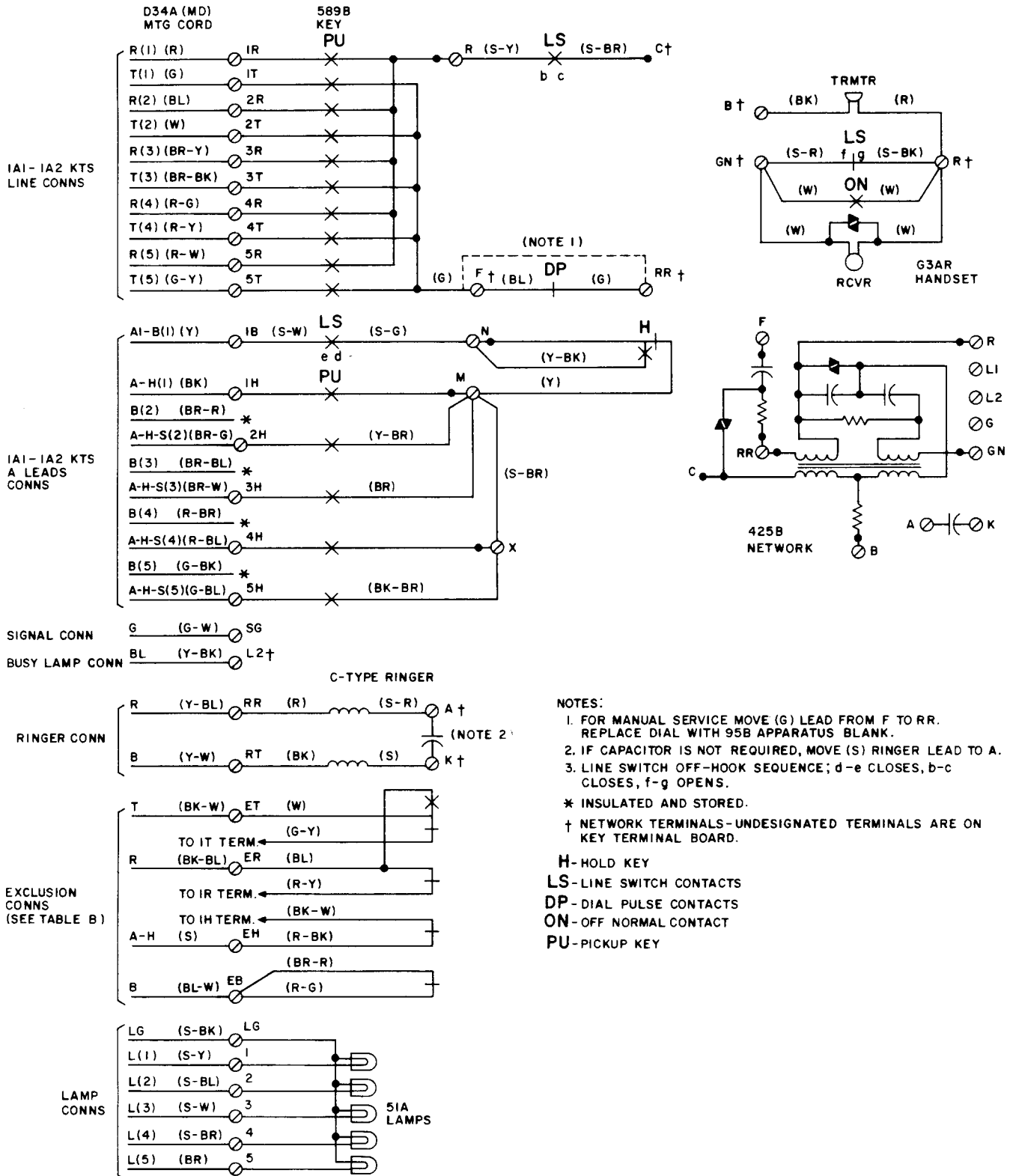


Fig. 6—565B (MD) Telephone Set—Connections

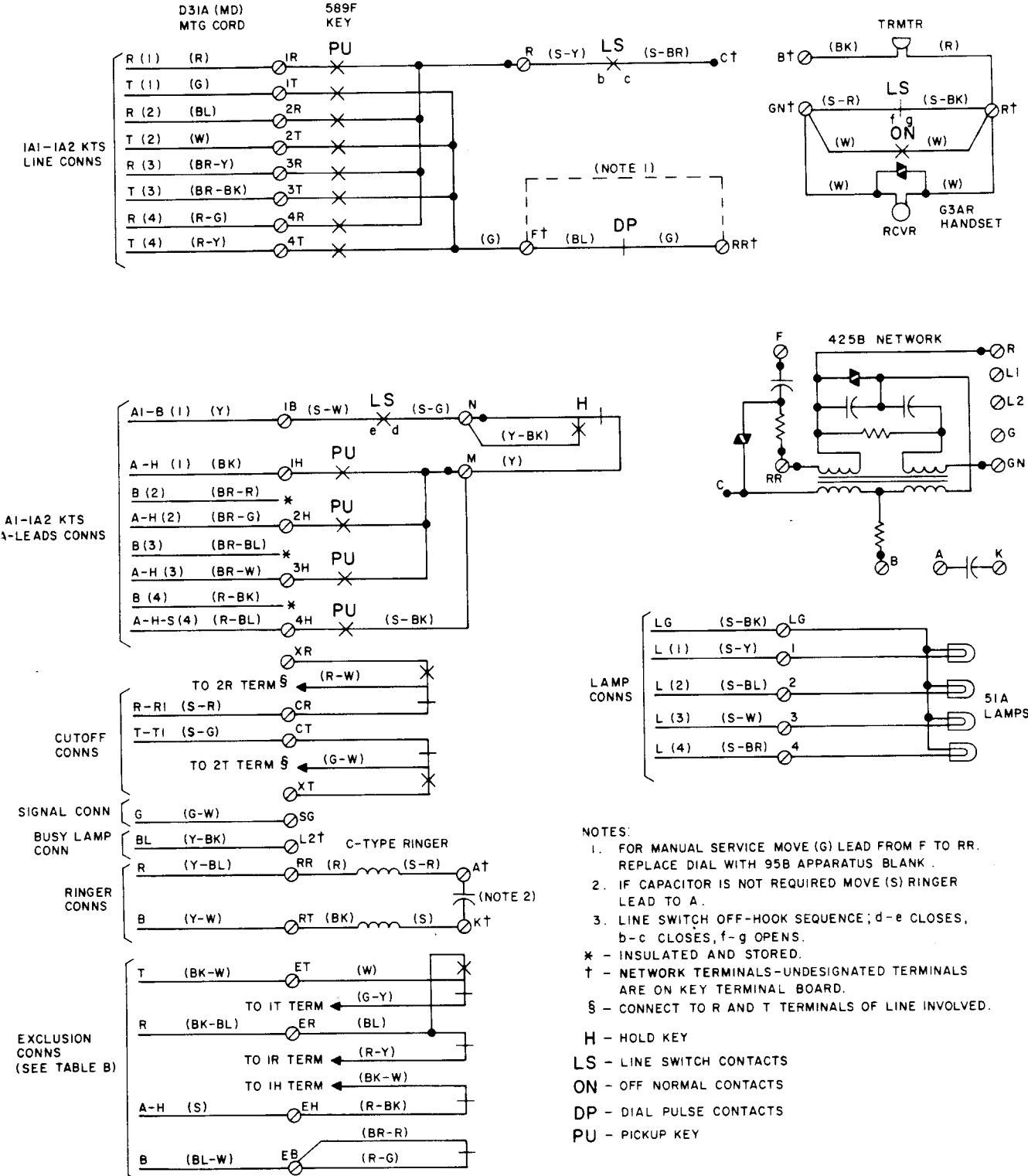
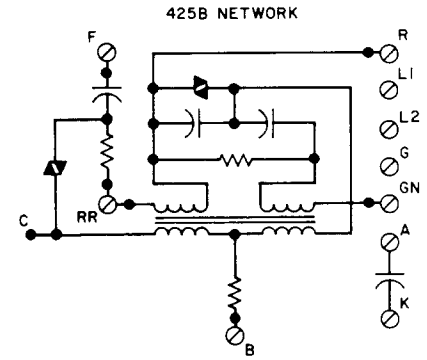
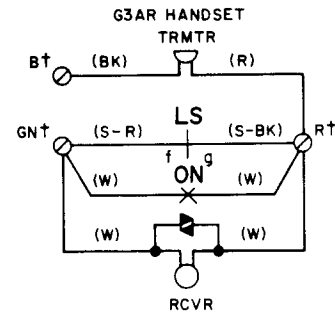
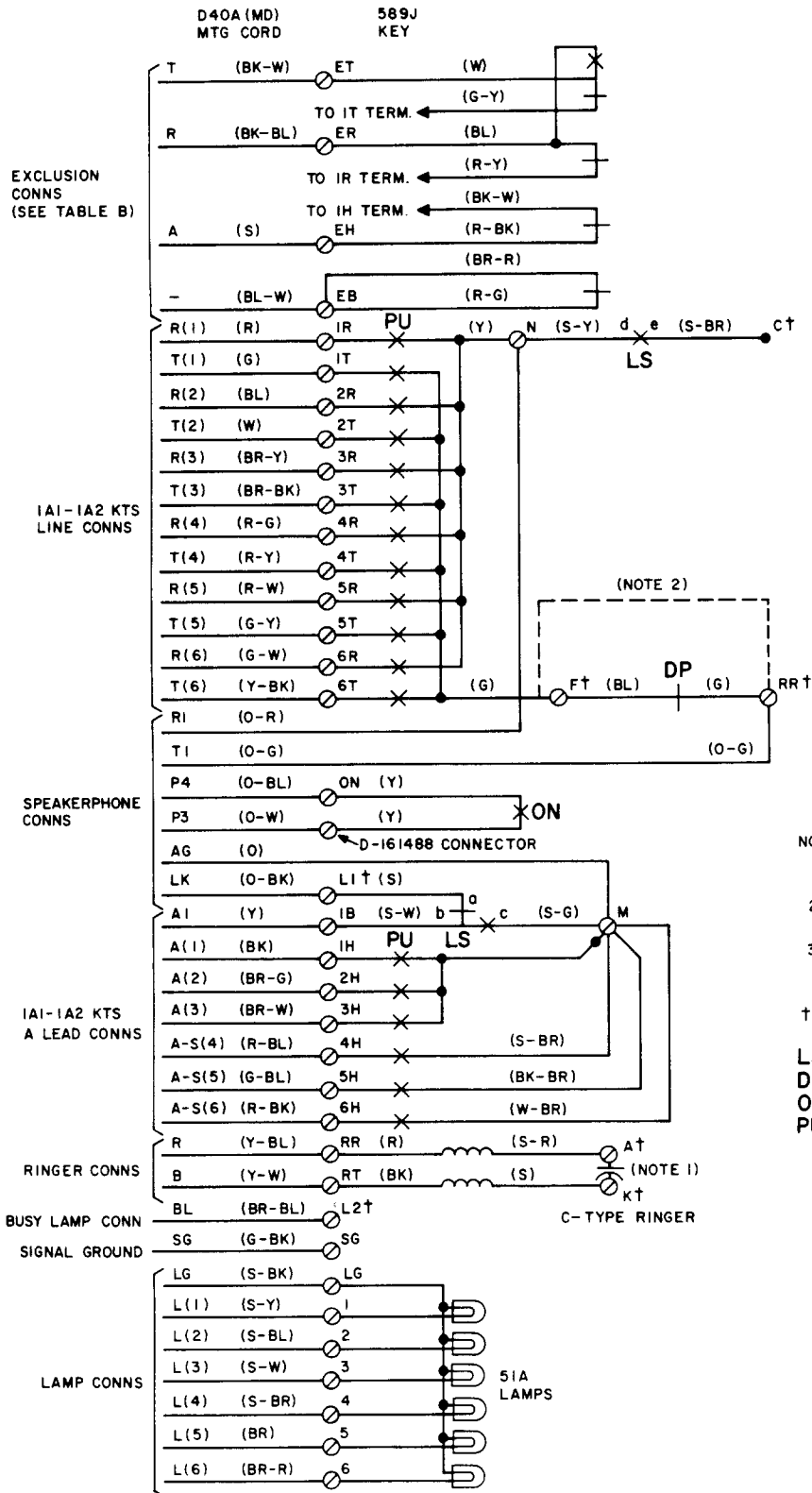


Fig. 7—565E (MD) Telephone Set—Connections



- NOTES:
1. IF CAPACITOR IS NOT REQUIRED, MOVE (S) RINGER LEAD TO A.
  2. FOR MANUAL SERVICE MOVE (G) LEAD FROM F TO RR. REPLACE DIAL WITH 95B APPARATUS BLANK.
  3. LINE SWITCH OFF-HOOK SEQUENCE:  
 b-c CLOSES    a-b OPENS  
 d-e CLOSES    f-g OPENS
- † NETWORK TERMINALS-UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD.
- LS - LINE SWITCH CONTACTS  
 DP - DAIL PULSE CONTACT  
 ON - OFF NORMAL CONTACTS  
 PU - PICKUP KEY

Fig. 8—565G (MD) Telephone Set—Connections

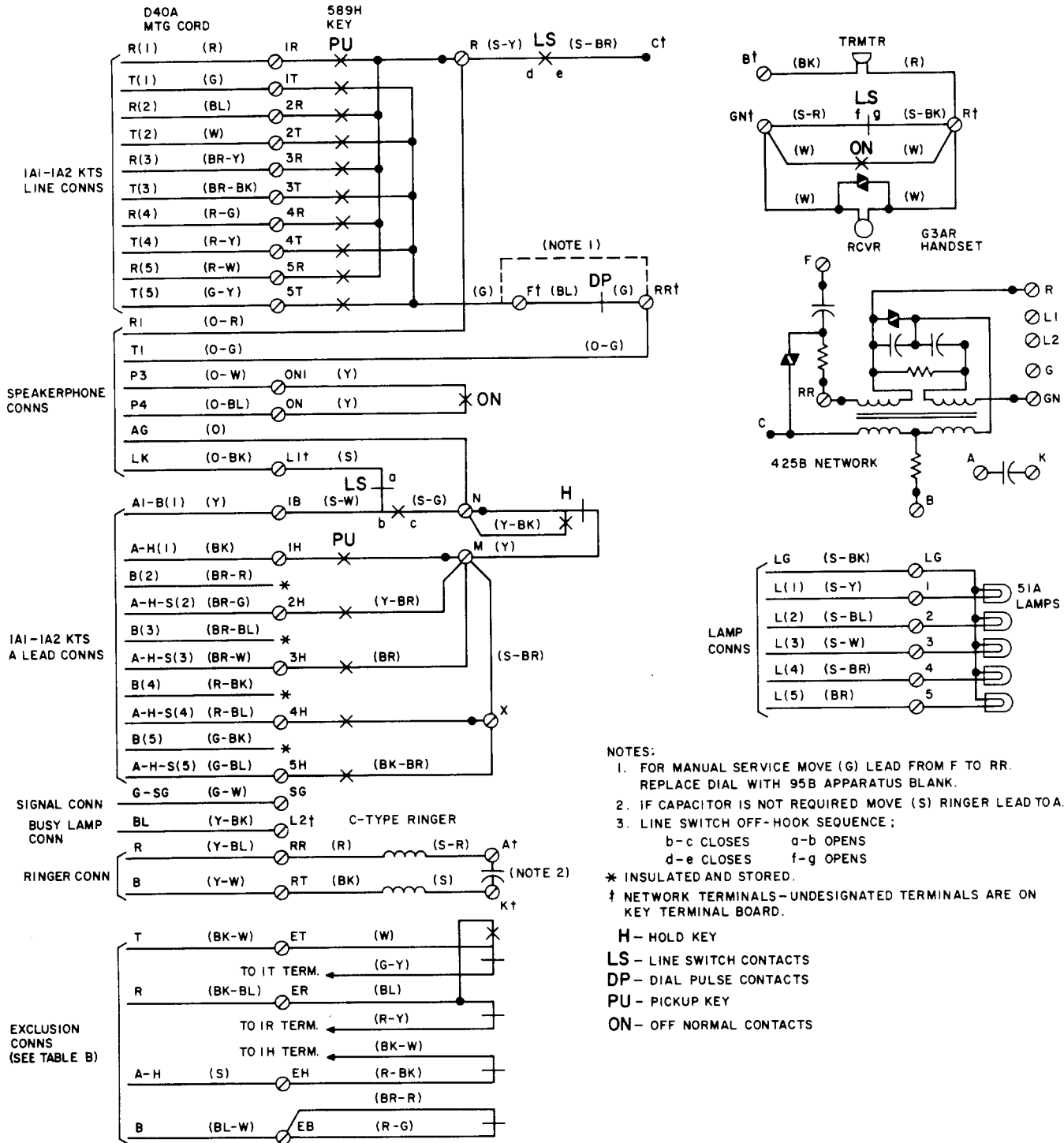
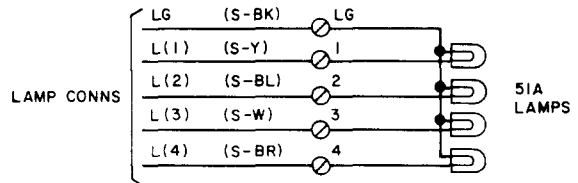
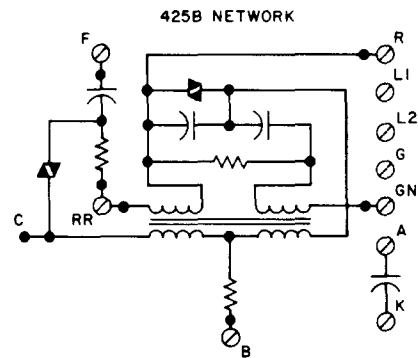
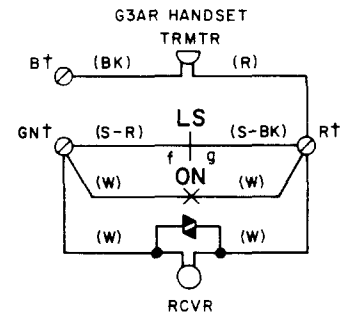
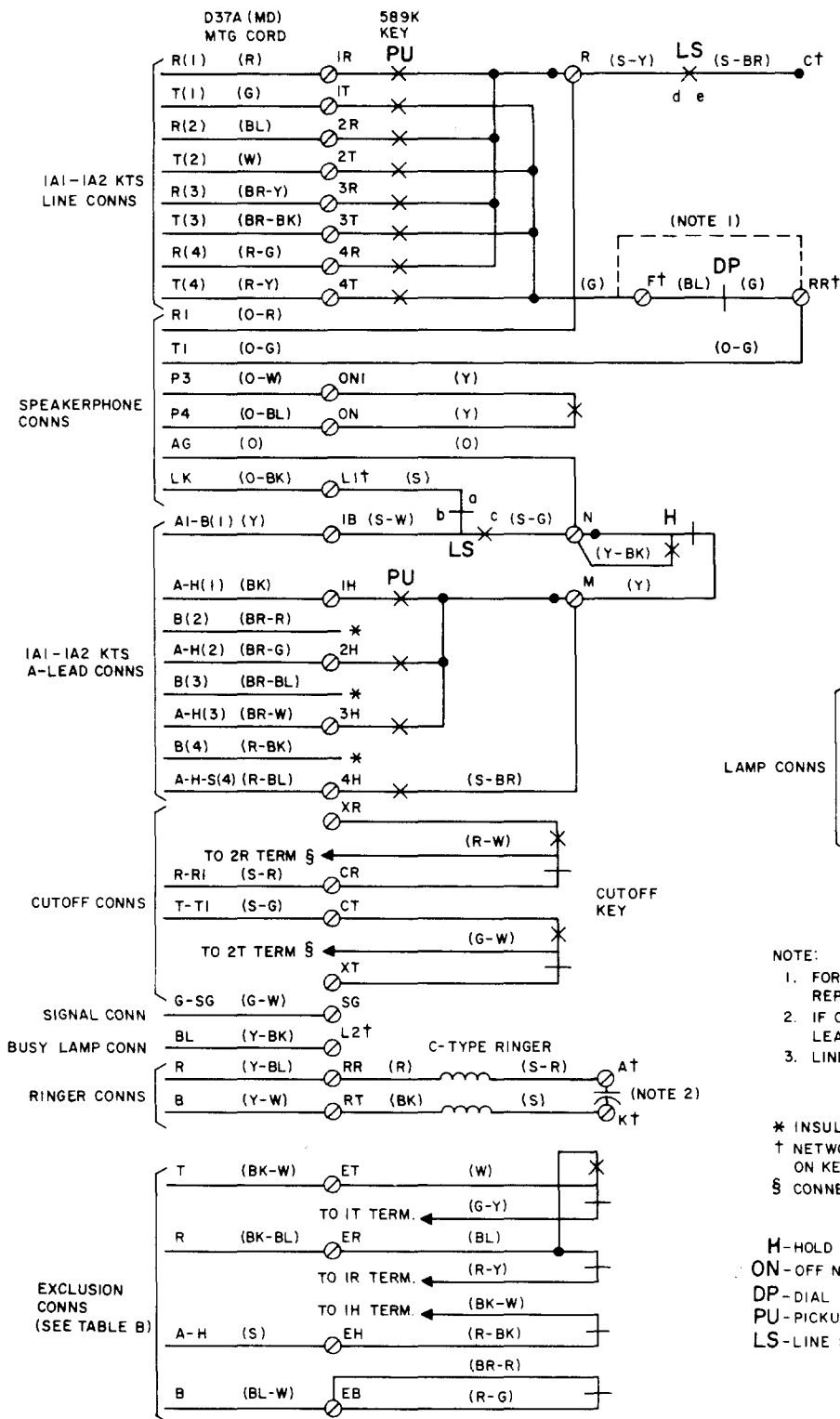


Fig. 9—565H (MD) Telephone Set—Connections



NOTE:

1. FOR MANUAL SERVICE MOVE (G) LEAD FROM F TO RR. REPLACE DIAL WITH 95B APPARATUS BLANK.
2. IF CAPACITOR IS NOT REQUIRED MOVE (S) RINGER LEAD TO A.
3. LINE SWITCH OFF-HOOK SEQUENCE;  
 b-c CLOSES      a-b OPENS  
 d-e CLOSES      f-g OPENS

\* INSULATED AND STORED.

† NETWORK TERMINALS UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD

§ CONNECT TO R AND T TERMINALS OF LINE INVOLVED.

H-HOLD KEY

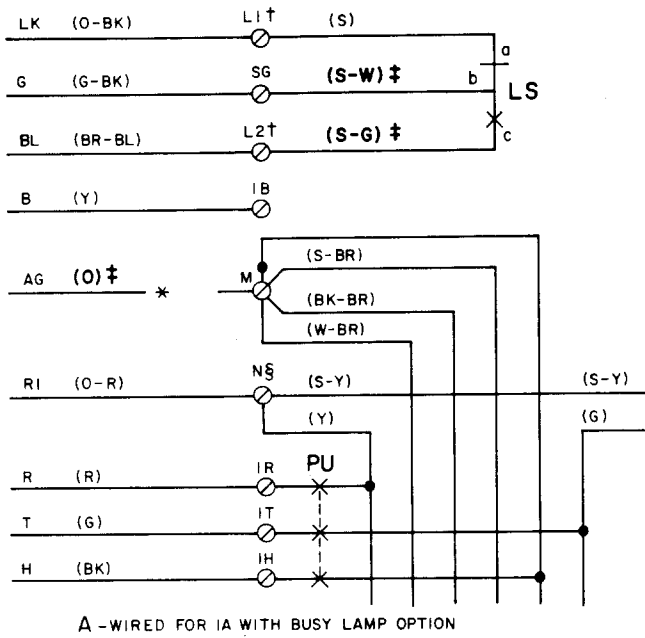
ON-OFF NORMAL CONTACTS

DP-DIAL PULSE CONTACTS

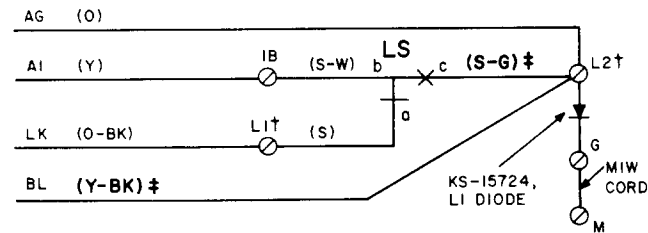
PU-PICKUP KEY

LS-LINE SWITCH

Fig. 10—565L (MD) Telephone Set—Connections



A - WIRED FOR IA WITH BUSY LAMP OPTION

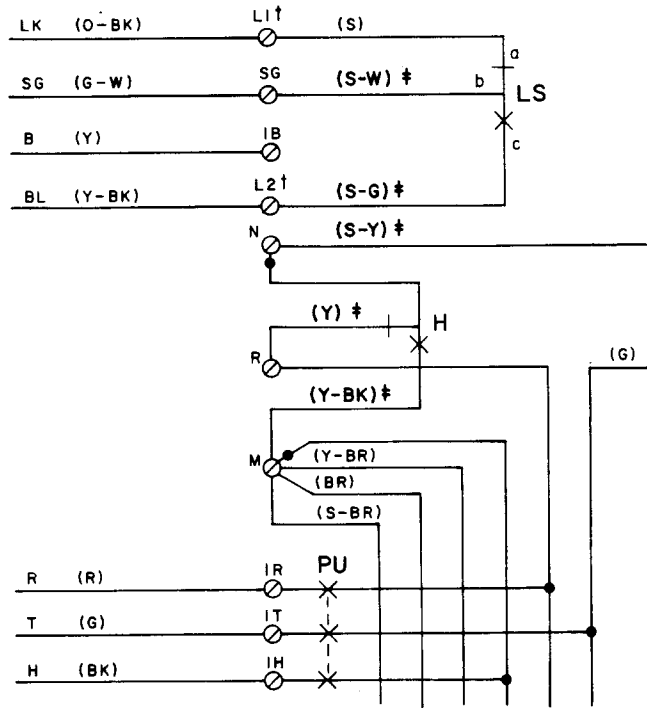


B - IA1-IA2 KTS WIRED FOR BUSY LAMP

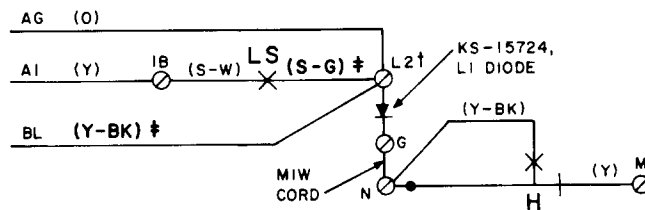
NOTE:  
SPEAKERPHONE LEADS SUPPLIED IN 565G (MD) SET ONLY.

- \* INSULATED AND STORED
- † NETWORK TERMINALS UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD.
- ‡ LEADS INVOLVED IN MODIFICATION
- § LI+ TERMINAL ON 565A (MD) SET
- PU - PICKUP KEY
- LS - LINE SWITCH CONTACTS

Fig. 11—565A (MD) and 565G (MD) Telephone Sets—Optional Features



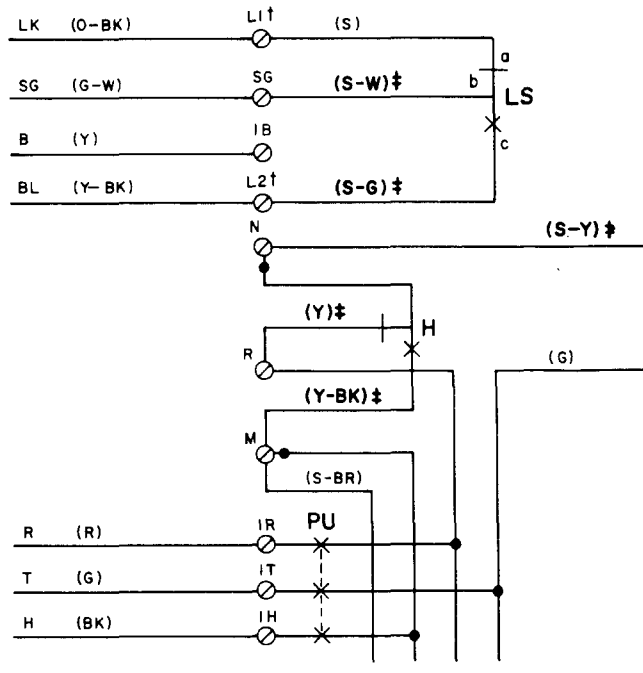
A - WIRED FOR IA WITH BUSY LAMP OPTION



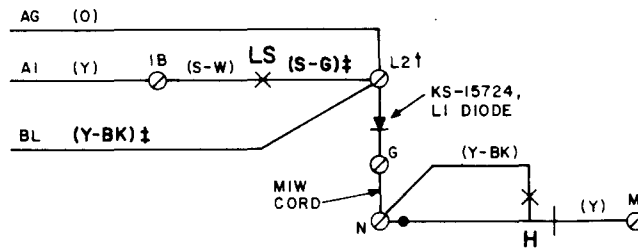
B - IA1-IA2 KTS WIRED FOR BUSY LAMP OPTION

- † - NETWORK TERMINALS—UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD.
- ‡ - LEAD INVOLVED IN MODIFICATION
- H - HOLD KEY
- PU - PICKUP KEY
- LS - LINE SWITCH

Fig. 12—565B (MD) and 565H (MD) Telephone Set—Optional Features



A - WIRED FOR IA WITH BUSY LAMP OPTION



B - IA1-IA2 KTS WIRED FOR BUSY LAMP OPTION

- † - NETWORK TERMINALS UNDESIGNATED TERMINALS ARE ON KEY TERMINAL BOARD.
- ‡ - LEADS INVOLVED IN MODIFICATION
- H - HOLD KEY
- PU - PICKUP KEY
- LS - LINE SWITCH

Fig. 13—565E (MD) and 565L (MD) Telephone Set—Optional Features