

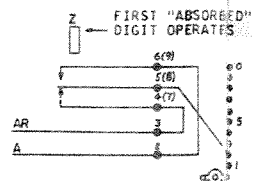
OPTIONS				
OPTION	ISSUES FIRST USED	ISSUES LAST USED	SUPERSEDED BY	NOTES
A	1	2	B,C	19
B	3	13	A,C	19
C	3	13		TABLE B
D	1	5	E	12
E	6			TABLE B
F	1	9	H	15
G	10			TABLE B
H	10			TABLE B
I	5	13		TABLE C
J	11			TABLE C
K	10	12		TABLE C
L	16			TABLE C
M	7	6	N	15
N	7	17	V	58
O	1	17	V	TABLE B
P	1			TABLE B
Q	1	17	V	20, 81
R	5	13		TABLE C
S	3	13		TABLE C
T	1			TABLE B
U	5	13		TABLE B
V	10	21	AB	23
W	5	13		TABLE C
X	20			59
Y	1	21	AB	23
Z	21			81
AA	1	21	AB	23
AB	22			23
AC	1	22	AD	
AD	24	26	AC	
AE	1	23	AF	
AF	24	26		
AG	25	26		
AH	25	26	AJ	24
AJ	26			
AK	27	26		
AL	1	27	AN	
AM	28			
AN	1	28	AL	
AO	29			
BA	1	30	BB	
BB	31			

INSTALLING NOTES:

- 76-IF DIAL TONE IS NOT REQUIRED, AT END-POSITION ON SHELF, CONNECT SHELF-JACK SPRING 11 TO SHELF JACK SPRING 15.
- 77-IN THE "TERMINAL ASSEMBLY MOUNTED ON VERTICAL BANK", TERMINAL 1 IS CLOSEST TO THE BANKS, AND TERMINAL 9 IS THE OUTERMOST TERMINAL, NEAREST YOU.
- 78-CONNECT VERTICAL-BANK LEVELS TO THE "TERMINAL ASSEMBLY MOUNTED ON THE VERTICAL BANK", AND BEND NORMAL-POST CAM LUGS PER NOTES 51, 52, 53 & 54 TO MEET CUSTOMER'S SWITCHING REQUIREMENTS.
- 79-ADD "A" STRAP AND OMIT "A" LEAD FOR INCOMING, AND USE ONLY WHEN WIRING "T" OR "U" ARE NOT USED. SEE NOTE 57 & TABLE C.
- 80-FOR ROUTINER ACCESS, MODIFY ONE SWITCH ON EACH SHELF PER FIGURE JK.
- 81-"Q" WIRING & "Z" WIRING & APPARATUS TO BE USED IN PLACE OF "V" & "Y" WIRING & APPARATUS ONLY FOR FIELD CONVERSIONS OF ISSUES 1 THRU 16. THIS CONVERSION IS FOR USE IN OFFICES WITH TIMED DISCONNECT RELEASE CONNECTORS WHEN THIS CIRCUIT IS USED AS AN INCOMING SELECTOR.

ENGINEERING NOTES: (CONT'D)

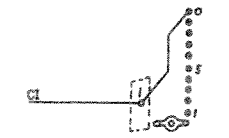
- 53-IF DUAL MARKINGS (AREA, OR CICA OR CIGAR, ETC.) ARE REQUIRED FOR A LEVEL, CONNECT THE LEVEL'S VERTICAL-BANK TERMINAL TO TERMINAL ASSEMBLY TERMINAL 5, AND STRAP TERMINAL 4 TO THE FIRST-DIGIT MARKING AND TERMINAL 6 TO THE SECOND-AND-SUBSEQUENT-DIGIT MARKING.
- IF ANOTHER LEVEL REQUIRES DIFFERENT DUAL MARKINGS, CONNECT THE LEVEL'S VERTICAL-BANK TERMINAL TO TERMINAL ASSEMBLY TERMINAL 8 AND STRAP TERMINAL 7 TO THE FIRST-DIGIT MARKING AND TERMINAL 9 TO THE SECOND-AND-SUBSEQUENT-DIGIT MARKING.
- EXAMPLE: IF FIRST DIGIT "2" IS TO BE ABSORBED AND 2ND DIGIT "2" ALSO IS TO BE ABSORBED, BUT 3RD DIGIT SHOULD CUT IN ON LEVEL 2 AND/OR ANY OTHER LEVEL, INSTALLER CONNECTS LEVEL 2 TO TERMINAL 5 (OR 8), STRAPS TERMINAL 4 (OR 7) TO "AR" TERMINAL 3, AND STRAPS TERMINAL 6 (OR 9) TO "A" TERMINAL 2, THUS:



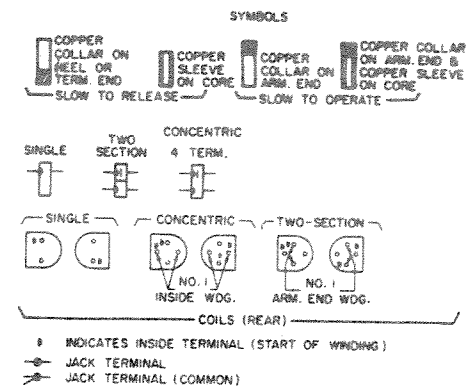
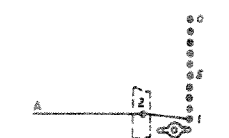
- 54-FIG. 8 RIGHT NORMAL-POST SPRINGS OPERATE ON LEVELS DENIED TO CALLERS WHO PROJECT GROUND FORWARD ON LEAD EC TO JACK POINT 7.
- 55-SHELF SUPERVISORY RELAY TO BE BATTERY CONNECTED.
- 56-PRIOR TO ISSUE 3, "M" & "Y" WIRINGS WERE PART OF CIRCUIT AND "B" WIRING & "S" STRAP WERE NOT SHOWN. THE BUSY KEY WAS 3-SPRING AND THE RLS MAGNET SPRINGS 163 WERE NUMBERED INCORRECTLY. WIRING "B" BECAME PART OF CIRCUIT. "Y" WIRING IS PART OF SUFFIXES A, B, C, F, & G (SEE NOTE 19).
- 57-WHEN WIRING "S" IS USED WITH SUFFIXES A, B, C FROM WHICH WIRING "Y" HAS BEEN REMOVED PER NOTE 79, THE BUSY KEY WILL NOT BUSY. THE ROUTINER C-LEAD, WHEN TEST-LEADS-898 MUST BE SHORT-CIRCUITED TO BUSY WITH A WIRE AGAINST ROUTINER ACCESS. (THIS CAUTION DOES NOT APPLY TO SUFFIXES D, E, USED WITH H-58294).
- 58-TO USE ISSUE 1-10 SELECTORS WITH TIMED-DISCONNECT CONNECTORS, ADD "A" & "B" STRAPS.
- 59-FURNISH AND INSTRUCT INSTALLER TO CONNECT "X" WIRING & APPARATUS IF SWITCH IS TO BE ACCESSIBLE FROM AN ABSENCE OF GROUND SEARCHING SELECTOR.

ENGINEERING NOTES:

- 51-INSTRUCT INSTALLER TO STRAP VERTICAL BANK LEVELS TO "TERMINAL ASSEMBLY MOUNTED ON VERTICAL BANK", AND TO BEND LEFT NORMAL-POST CAM LUGS, TO OBTAIN SERVICES REQUIRED. THE BASIC SERVICES AVAILABLE ARE:
- "CI" CUT IN ON LEVEL FIRST TIME IT IS DIALED (NO ABSORPTION). CONNECT LEVEL TO TERMINAL 1.
- "A" ABSORB ONCE, CONNECT LEVEL TO TERMINAL 2 FIRST TIME THIS LEVEL IS DIALED, SHAFT WILL DROP BACK. NEXT DIGIT DIALED WILL CUT WIPERS ON THIS OR ANY OTHER LEVEL.
- "AR" ABSORB REPEATEDLY. CONNECT LEVEL TO TERMINAL 3 EVERY TIME LEVEL IS DIALED (UNTIL A LEVEL "A" HAS BEEN DIALED, SHAFT WILL DROP BACK).
- "B" BLOCKED LEVEL. BEND LEFT NORMAL-POST CAM LUG FOR THIS LEVEL. UNLESS A LEVEL "A" HAS BEEN DIALED PREVIOUSLY, CALLER GETS BUSY TONE FROM THIS LEVEL. (AFTER A LEVEL "A" HAS BEEN DIALED, SWITCH CAM FIND AN IDLE TRUNK AHEAD ON THE BLOCKED LEVEL).
- SPECIFY A SERVICE FOR EVERY ONE OF THE TEN LEVELS. SPECIFY "CI" FOR EACH LEVEL (INCLUDING VACANT LEVELS) NOT REQUIRING OTHER SERVICE.
- NOTE 53 GIVES INSTRUCTIONS HOW THESE BASIC SERVICES MAY BE VARIOUSLY COMBINED ON THE SAME LEVEL.
- 52-WHEREVER POSSIBLE (THAT IS, EXCEPT AS IN NOTE 53), STRAP A VERTICAL-BANK LEVEL DIRECTLY TO THE TERMINAL ASSEMBLY TERMINAL FOR THE SERVICE DESIRED.
- EXAMPLE 1: IF THE SWITCH IS ALWAYS TO CUT IN ON LEVEL 0 FIRST TIME DIALED (SERVICE "CI"), HAVE INSTALLER STRAP LEVEL 0 DIRECTLY TO TERMINAL 1.



- EXAMPLE 2: IF DIGIT "1" IS TO BE ABSORBED FIRST TIME DIALED ONLY AND ON NEXT DIGIT THE SWITCH IS TO CUT IN ON LEVEL 1 AND/OR ANY OTHER LEVEL (SERVICE "A"), HAVE INSTALLER STRAP LEVEL 1 DIRECTLY TO TERMINAL 2.



MANUFACTURING NOTES:

- 10-CAM SPRINGS OPERATE ON ELEVENTH ROTARY STEP.
- 11-WHEN RELAYS OPERATE, CONTACTS MARKED "X" MAKE FIRST.
- 12-ADJUST SHELF JACK SPRINGS 9611 TO MAKE CONTACT WHEN SWITCH IS REMOVED FROM SHELF.
- 13-PRIOR TO ISSUE 5, WIRING "M" & JACK WIRING FIGURE C WERE NOT SHOWN. USE WIRING "W" WITH SUFFIXES D & E.
- 14-PRIOR TO ISSUE 6, WIRING "D" WAS PART OF CIRCUIT, AND RELAY F WAS R-60115-A1 WITH 22 CONTACT SPRINGS NUMBERED AS IN PARENTHESES. WIRING "E" SUPERSEDES WIRING "D".
- 15-PRIOR TO ISSUE 7, "M" WIRING & APPARATUS WERE PART OF CIRCUIT, BEGINNING WITH ISSUE 7, "M" WIRING & APPARATUS SUPERSEDE "M" WIRING & APPARATUS. RELAY C SPRINGS IN PARENTHESES ARE "M" APPARATUS AND NOT IN PARENTHESES ARE "M" APPARATUS.
- 16-PRIOR TO ISSUE 10, "G" WIRING & APPARATUS WERE PART OF CIRCUIT. ISSUE 10 REMOVES RESISTOR 5, AND ADDS DIODE CR1 AND FIGURES 76B. "M" WIRING & APPARATUS SUPERSEDE "G" WIRING & APPARATUS. SEE NOTE 18.
- 17-PRIOR TO ISSUE 11, RELEASE MAGNET COIL HAD 1000 OHM W. I. WINDING, AND "J" WIRING AND APPARATUS WERE NOT SHOWN. BEGINNING WITH ISSUE 11, OMIT RELEASE MAGNET COIL'S W. I. WINDING AND PROVIDE "J" WIRING AND APPARATUS. FOR FIELD CONVERSION, "J" WIRING AND APPARATUS MAY BE ADDED WITHOUT RELEASE MAGNET COIL CHANGE.
- 18-ISSUES 10-12, APPARATUS AND WIRING "K" (DIODE CR1) WERE PARTS OF APPARATUS AND WIRING "M". ISSUES 13 AND LATER OMIT DIODE CR1 (APPARATUS AND WIRING "K"), DIODE CR1 WAS FD-1029-02.
- 19-ISSUES 1 AND 2 USED WIRING "A". ISSUES 3-13 USED "B" WIRING & APPARATUS. ISSUE 14 REINSTATES WIRING "A". WIRING "A" SUPERSEDES "B" WIRING & APPARATUS.
- 20-ISSUES 1-16, VERTICAL OFF-NORMAL ASSEMBLY HAD ONLY 6 SPRINGS (NUMBERS IN PARENTHESES) AND ROTARY INTERRUPTER ASSEMBLY HAD ONLY 2 SPRINGS (NUMBERS IN PARENTHESES).
- 21-BEGINNING WITH ISSUE 20, ALL DIODES ARE FD-1029-06 UNLESS OTHERWISE INDICATED.
- 22-PRIOR TO ISSUE 21, "Y" WIRING WAS NOT DESIGNATED. "Y" WIRING IS PROVIDED ON ALL CIRCUIT FIGURES. FOR ISSUES 1-21.
- 23-ISSUES 18-21 USED VERTICAL OFF-NORMAL SPRINGS 1-2 AS SHOWN FOR "AA" APPARATUS. BEGINNING WITH ISSUE 22, VERTICAL OFF-NORMAL SPRINGS 1-2 ARE SHOWN AS "AB" APPARATUS.
- 24-"AH" WIRING WAS FORMERLY SHOWN AS PART OF "B" AND "AF" WIRING.

TABLE A (FIGURES)				
FIG.	FIG. DD DIODE CR2* FD-1029-DG OR EQUAL	FIG. RS RIGHT NORM. POST SPRINGS	WIPER CONNECTION	
			FIG. TW (3 WIRE)	FIG. FW (4 WIRE)
1			X	
2		X	X	
3				X
4	X			X
5	X	X	X	
6	X			X
7		X		X
8	X	X	X	X

\* USE IN OFFICE WHICH HAS OR FORESEEABLY WILL HAVE AUTOMATIC NUMBER IDENTIFICATION OR OTHER BOOSTER BATTERY TYPE EQPT. ON CONTROL LEAD C.

TABLE B (SUFFIXES)							
SUFFIX	JACK WIRING			WIRING			APPLICATION
	FIG.	WHERE 3 JACK-PT. NUMBERS AS SHOWN USE NUMBER IN		"C"	"F"	"M"	
A	X	A		X	X	X	ADDITION TO SHELF WIRING PER FIG. A (ARM)
B	X	B		X	X	X	ADDITION TO SHELF WIRING PER FIG. B
C	X	C		X	X	X	ADDITION WHERE PRECEDING SWITCH MUST NOT SEE -BAT ON LEAD C AS WITH SUFFIX E BELOW (FIG. 4)
D	X	D		X	X	X	STANDARD LOCAL SELECTOR (IN LINEFINDER OFFICE) OR INTERMEDIATE SELECTOR
E	X	E		X	X	X	INCOMING SELECTOR FOR LOCAL SELECTOR IN PLUNGER (LINK SWITCH OFFICE)
F	X	F		X	X	X	STANDARD LOCAL SELECTOR (IN LINEFINDER OFFICE) OR INTERMEDIATE SELECTOR
G	X	G		X	X	X	INCOMING SELECTOR (OR LOCAL SELECTOR IN PLUNGER LINESWITCH OFFICE)

TABLE C: INSTALLER'S STRAPINGS FOR JACK WIRING FIGURE C (WIRING "M")			
APPLICATION	ROUTINER ACCESS	USE "B" STRAP	CUT STRAP "M"
AFTER LINEFINDER OR ANOTHER SELECTOR, ETC.	X		
CEPT LINE SW. OR WINDING + W. OR ECM PULSE REPEATER	X		
AS A LOCAL SELECTOR (ALD) OR WITH PULSE REPEATER FOR 1-WAY LOOP PULSING TRUNKS WITH BUSY SEARCHING	X		

STOCKLIST	DESCRIPTION
DH-580294-110	(FIG. 8D, 8F)
DH-580294-109	(FIG. 7D, 7F, 7G)
DH-580294-108	(FIG. 4B, 4C)
DH-580294-107	(FIG. 6D, 6E, 6F)
DH-580294-106	(FIG. 3D, 3E, 3F, 3G)
DH-580294-105	(FIG. 5D, 5E, 5F, 5G)
DH-580294-104	(FIG. 4D, 4E, 4F, 4G)
DH-580294-103	(FIG. 2D, 2E, 2F, 2G)
DH-580294-102	(FIG. 1D, 1E, 1F, 1G, 3D, 3E)
DH-580294-101	(FIG. 6)
DH-580294-100	(FIG. 5)
DH-580294-19	(FIG. 4)
DH-580294-18	(FIG. 3)
DH-580294-17	(FIG. 2)
DH-580294-16	(FIG. 1)

ASSOCIATED DRAWINGS		
DRAWING NO.	ISS	DESCRIPTION
AH-580294	2/	ADJUSTMENT
E-580294	7	EXPLANATION

DESIGNED BY: K.F. STEINHAUER

APP'D: M.E. GRIFFINS

SCALE: DATE: 10-7-59

DO NOT SCALE DRAWING

LOCAL OR INC. 2-5 SELECTOR WITH CROSS-CONN. FIELD BATTERY SEARCHING RESTRICTED-SERVICE OPTION ROUTINER ACCESS

**H-580294**

ISSUE 1 OF 2

AUTOMATIC ELECTRIC COMPANY

NORTH LAKE, ILL., U.S.A. • GEROA, ILL., U.S.A. • WALKERSHA, WISC., U.S.A.