

**LINE LINK, AUXILIARY LINE LINK, AND  
TRANSFER LINE LINK CIRCUITS  
WIRE-SPRING-RELAY TYPE  
TESTS USING MASTER TEST FRAME  
NO. 5 CROSSBAR OFFICES**

**1. GENERAL**

**PAGE**

**1.01** This section describes methods for testing line link circuits, SD-26030-01 and SD-27943-01, auxiliary line link circuits, SD-27719-01, and transfer line link circuits, SD-27673-01, using master test frame in No. 5 crossbar offices.

test checks for a false ground or for a cross between adjacent sleeve (LB\_) leads.

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**1.02** The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes. This issue does not affect Equipment Test Lists.

**D. Line Link Availability:** This test checks that all the line links are available for setting up a connection.

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(a) To revise test procedures to include offices arranged with Electronic Translation System (ETS).

**E. Crosses on Junctor Sleeve Leads:** This test checks for a cross between two or more junctor sleeve leads.

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(b) To make minor changes as required.

**F. Junctor Availability:** This test checks that all the equipped junctors are available for setting up the connection.

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**1.03** The tests covered are as follows:

**PAGE**

**A. Junctor Switch Make-Busy Feature:** This test checks that a make-busy plug inserted into a JS\_ jack makes the correspondingly numbered junctor switch busy . . . . .

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**B. False Ground or Crosses on Adjacent Sleeve Leads—Line Switch End of Line Link:** This test checks for a false ground or for a cross between adjacent sleeve (LL\_) leads . . . . .

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**C. False Ground or Crosses on Adjacent Sleeve Leads—Junctor Switch End of Line Link:** This

**G. Verification of the Master Test Control Functions—LRF, FT\_, and FU\_ Leads (Line Link Frames Only):** This test checks that LRF, FT\_, and FU\_ leads are extended to the master test frame when the LTM or LTA relays are falsely operated if the line link frame being tested is equipped to identify a falsely operated test relay. If ETS provided, the LTM and LTA relays may be located in auxiliary line circuit. . . . .

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**H. Mate Frame Junctor Availability and Level Selection—Paired Line Link Frames:** This test checks that all junctors on the mate frame are available to the home frame for setting

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up the connection. This test also checks all lines between the home frame junctor switches and auxiliary line link junctor switches. . . . .	12
<b>I. Crosses on XLV_, XLV Leads—Paired Line Link Frames:</b> This test provides a check of the cross detection feature XLV_, XLV leads in offices equipped with regular crossbar switches only. . . . .	15
<b>1.04</b> No tests should be made while the line insulation test frame is in operation.	
<b>1.05</b> Test A requires that a line link or transfer line link frame be made busy. Tests B, C, and E require that half the channels associated with a line link or transfer line link frame be made busy.	
<b>1.06</b> Local instructions should be followed with reference to recording any register operations caused by performing these tests.	
<b>1.07</b> In Test D, the check of the odd-numbered LL_ line links may be omitted if Test B is performed, since Test B checks the availability of the LL1, LL3, LL5, LL7, and LL9 links in each horizontal group.	
<b>1.08</b> In Test F, the marker may block unless the proper junctor sequence step and junctor sequence selection keys are operated at the master test frame. Tables B through D are provided to assist in selecting the junctor subgroup in which the junctor to be tested is located.	
<b>1.09 Lettered Steps:</b> A letter a, b, c, etc, added to a step number in Part 3 or 4 of this section, indicates an action which may or may not be required, depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.	
<b>1.10</b> The manner of selecting some circuits and test conditions at the master test frame	

(MTF) and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

**1.11** The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

**1.12** On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated **STT**. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, such as ATNT, DT, IAO, IMS, INC, IR, ITDO, ITNP, IMT, LT, MISC, MLV, OGT, OR, ORIG, PTT, SDR, and TVT.

**1.13** When the office is arranged for ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a **maintenance-busy** condition—not in an **out-of-service** condition. To change a scanner or distributor from an **out-of-service** to a **maintenance-busy** condition, use the procedure given in the following section.

218-799-701—Taking ETS  
Equipment Out-of-Service.

**1.14** When making tests in No. 5 crossbar offices arranged with Electronic Translation System and test verification requires a completing marker trace output (teletype printout or data dump) to determine the data used to process a call, operate the TCPO key at the master test frame (MTF). The data dump received at the maintenance teletypewriters (TTY) may be in a raw form (binary or hexadecimal numbering system), formatted into decimal and written text, or a combination of both. For additional information on data dumps and formats used, refer to Section 218-799-102.4

## 2. APPARATUS

**2.01** The apparatus required for each test is shown in Table A. The details of the apparatus are covered in the indicated paragraphs.

**2.02** Master test control circuit, SD-25800-01.

TABLE A

APPARATUS	TESTS								
	A	B	C	D	E	F	G	H	I
Master Test Frame (2.02)	1	1	1	1	—	1	1	1	1
Test Set (2.03)	1	—	—	—	—	—	—	—	—
Make-Busy Plug (2.04)	5	5	5	—	5	—	—	—	2
Make-Busy Plug (2.05)	—	—	25	—	1	—	—	—	—
Testing Cord (2.06)	—	5	—	—	—	—	—	—	—
Tools (2.07)					✓		✓		✓

**2.03** 32A (remote control) test set.

**2.04** 349A (make-busy) plug.

**2.05** 351C (make-busy) plug for regular crossbar switches, or 459E (make-busy) plug for small crossbar switches.

**2.06** Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 624B tool (for connecting ground to terminal strip terminals).

**2.07** Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

### 3. PREPARATION

#### STEP

#### ACTION

#### VERIFICATION

**Note:** Refer to paragraphs 1.04 through 1.14.

#### All Tests Except E

1 At MTF—  
Restore all keys and switches.

2 Momentarily operate RL key.

All lamps extinguished.

#### Tests A, B, C, D, F

3 Select register group or transfer trunk group as required.

4 Select DT class of test.

5a If testing transfer line link circuits—  
Operate DTF key.

STEP	ACTION	VERIFICATION
6	Select marker.	
7	Select junctor sequence 0.	
8	Select an assigned originating line location on line link frame to be tested or select a trunk location on transfer line link frame to be tested.  <i>Note:</i> Set CST_ and CSU_ keys for the incoming trunk link frame that is assigned to the transfer line link frame vertical being tested.	
<b>Tests A, B, C, D</b>		
9	Operate STP1 key.	
<b>4. METHOD</b>		
<b>A. Junctor Switch Make-Busy Feature</b>		
<i>Caution: Make this test as quickly as possible since the line link or transfer line link frame is made busy to all traffic while the plugs are in all the JS_ jacks.</i>		
10	Operate NTC, HG4.	
11	At line link or transfer line link frame— Insert plug of 32A test set into RC jack.	
12	Momentarily operate ST (white) key on 32A test set.	If office has initial channel preference arrangement— On no-test vertical of line switch 4— Crosspoint on level 0 closed momentarily. If office has alternate channel preference arrangement— On no-test vertical of line switch 4— Crosspoint on level 5 closed momentarily.
13b	If office has initial channel preference arrangement— Insert 349A plug into JS0 jack.	<i>Note:</i> Generally, channel preference is in numerical sequence 0 through 9. However, if marker cross connections are changed to distribute wear, channel preference is in sequence 5 through 9 and then 0 through 4.

STEP	ACTION	VERIFICATION
14c	If office has alternate channel preference arrangement— Insert 349A plug into JS5 jack.	
15	Momentarily operate RLS (red) key on 32A test set.	
16	Repeat Steps 12 through 15 until all channels are tested.  <i>Note:</i> After each channel is tested, insert a 349A plug into correspondingly numbered JS_ jack.	If office has initial channel preference arrangement— On no-test vertical of line switch 4— Crosspoints on levels 1 through 9 closed momentarily on successive tests. If office has alternate channel preference arrangement— On no-test vertical of line switch 4— Crosspoints on levels 5 through 9 and then on levels 0 through 4 closed momentarily on successive tests.
17	When the tenth and last 349A plug is inserted into JS_ jack— Momentarily operate ST key on 32A test set.	On no-test vertical of line switch 4— No crosspoints closed.
18	Remove plugs from JS_ jacks.	
19	Momentarily operate RLS key on 32A test set.	
20	Remove plug of test set from RC jack.	
21	At MTF— Restore all keys and switches.	
<b>B. False Ground or Crosses on Adjacent Sleeve Leads—Line Switch End of Line Link</b>		
10	At line link or transfer line link frame— Insert 349A plugs into JS0, JS2, JS4, JS6, JS8 jacks.	
11b	If testing line link frame— Connect ground to 00, 02, 04, 11, 13 terminals of A (LLC-A2) terminal strip.	
12c	If testing transfer line link frame— Connect ground to 45, 47, 49, 56, 58 terminals of A-C terminal strip.	
13	Remove plugs from all JS_ jacks.	
14	Await release of all hold magnets on junctor switches 0, 2, 4, 6, 8.	

STEP	ACTION	VERIFICATION
15	At MTF— Select horizontal group 0.	
16	Select channel 1.	
17	Momentarily operate ST key.	LK2, MRL lamps lighted.
18	Momentarily operate RL key.	All lamps extinguished.
19	Repeat Steps 16 through 18 for channels 3, 5, 7, 9.	
20	Repeat Steps 15 through 19 for horizontal groups 1 through 9.	
21	At line link or transfer line link frame— Remove ground connections from terminal strip.	
22	At MTF— Restore all keys and switches.	

**C. False Ground or Crosses on Adjacent Sleeve Leads—Juncture Switch End of Line Link**

10	At line link or transfer line link frame— Insert 349A plugs into JS0 through JS4 jacks.	
11	Await release of all hold magnets on junctor switches 0 through 4.	
12b	If office is equipped with regular crossbar switches— Manually operate LJ0 select magnet of junctor switch 0 and insert a 351C (make-busy) plug into the switch vertical associated with the J0 junctor hold magnet.	J0 junctor hold magnet operated. Associated crosspoints closed.
13c	If office is equipped with small crossbar switches— Manually operate LJA and LJ0 select magnets of junctor switch 0 and insert a 459E (make-busy) plug into the switch vertical associated with J0 junctor hold magnet.	J0 junctor hold magnet operated. Associated crosspoints closed.

**Caution:** *It should be noted that a make-busy plug inserted into a JS jack does not make busy the line switch half of the switch. When manually operating the select magnets, inspect the line switch part to insure that double crosspoints are not engaged*

STEP	ACTION	VERIFICATION
	<i>if a service call is completed at this time.</i>	
14	Repeat Steps 12b or 13c as applicable for LJ2, LJ4, LJ6, LJ8 select magnets of junctor switch 0, except each time insert a 351C or 459E (make-busy) plug, for regular or small crossbar switches as applicable, into the associated switch vertical for junctor hold magnets 1 through 4.	J1 through J4 junctor hold magnets operated. Associated crosspoints closed.
15	Repeat Steps 12b or 13c, and 14 for junctor switches 1 through 4.	
16	Remove all make-busy plugs from JS_ jacks.	
17	At MTF— Select channel 0.	
18	Select horizontal group 1.	
19	Momentarily operate ST key.	LK2, MRL lamps lighted.
20	Momentarily operate RL key.	All lamps extinguished.
21	Repeat Steps 18 through 20 for horizontal groups 3, 5, 7, 9.	
22	Repeat Steps 17 through 21 for channels 1 through 4.	
23	At line link or transfer line link frame— Remove all make-busy plugs from switch verticals.	
24	Insert 349A plugs into JS5 through JS9 jacks.	
25	Await release of all hold magnets on junctor switches 5 through 9.	
26	Repeat Steps 12b through 16 for junctor switches 5 through 9.	
27	Repeat Steps 17 through 21 for channels 5 through 9.	
28	At line link or transfer line link frame— Remove make-busy plugs from switch verticals.	
<b>D. Line Link Availability</b>		
10	Select horizontal group 0.	

STEP	ACTION	VERIFICATION
11	Select channel 0.	
12	Momentarily operate ST key.	LK2, MRL lamps lighted.
13	Momentarily operate RL key.	All lamps extinguished.
14	Repeat Steps 11 through 13 for channels 1 through 9.	
15	Repeat Steps 10 through 14 for horizontal groups 1 through 9.	
16	At MTF— Restore all keys and switches.	

#### E. Crosses on Junctor Sleeve Leads

1	At line link frame— Insert 349A plugs into JS0 through JS4 jacks.	
2	Await release of all hold magnets on junctor switches 0 through 4.	
3	Block nonoperated J0 junctor hold magnet on switch 4.	
4a	If testing paired line link frames— At auxiliary line link frame— Block nonoperated associated J0 junctor hold magnet on switch 4.	
5b	If office is equipped with regular crossbar switches— At line link frame— Insert 351C (make-busy) plug into the switch vertical associated with J0 junctor hold magnet.	No hold magnet operated. If testing paired line link frames— At auxiliary line link frame— Associated hold magnet energized. Hold magnet <b>not</b> operated.  <b>Note:</b> A service call may operate a hold magnet at the time this step is performed. If this occurs, remove make-busy plug and then repeat Step 5b.
6c	If office is equipped with small crossbar switches— At line link frame— Insert 459E (make-busy) plug into switch vertical associated with J0 junctor hold magnet.	No hold magnet operated. If testing paired line link frames— At auxiliary line link frame— Associated hold magnet energized. Hold magnet <b>not</b> operated.  <b>Note:</b> A service call may operate a hold magnet at the time this step is performed. If this occurs, remove make-busy plug and repeat Step 6c.

STEP	ACTION	VERIFICATION
7	At line link frame— Remove plug from sleeve holding jack.	
8	Remove blocking tool from hold magnet.	
9a	If testing paired line link frames— At auxiliary line link frame— Remove blocking tool from hold magnet.	
10	Repeat Steps 3 through 9a on J1 through J9 junctur hold magnets on junctur switch 4.	
11	Remove make-busy plug from JS4 jack.	
12	Repeat Steps 3 through 11 on junctur switches 3, 2, 1, 0.	
13	Repeat Steps 1 through 12 on junctur switches 5 through 9.	

#### F. Junctur Availability

- 9b If any line junctur verticals on line link frame  
junctur switches or transfer line junctur  
verticals on transfer line link frame junctur  
switches are associated with junctur subgroups  
other than 0—  
Consult office records for the following  
information:  
Numbers of trunk link or transfer trunk link  
frames associated with line junctur verticals  
2 through 9 as required.  
Channel numbers available between line junctur  
verticals and selected trunk link frame or  
channel numbers available between transfer  
line junctur verticals and selected transfer  
trunk link frame.
- 10 At MTF—  
Operate NTC, NTFS keys.

**Note:** Test F will not work unless an idle  
originating register is available.

#### For Line Junctur Verticals 0 through 9 Associated with Junctur Subgroup 0

- 11 Select junctur subgroup 0.
- 12 Operate STP1 key.
- 13 Select trunk link frame 0.

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STEP	ACTION	VERIFICATION
14c	If testing transfer line link frames— Select transfer trunk link frame 0.	
15	Select channel 0.	
16	Momentarily operate ST key.	LK2, MRL lamps lighted.
17	Momentarily operate RL key.	All lamps extinguished.
18	Repeat Steps 15 through 17 for channels 1 through 9.	
19d	If testing line link frames and paired trunk link frames are provided— Repeat Steps 13 through 17 for trunk link frame paired with trunk link frame 0.	
20d	Repeat Steps 13 through 19d until all trunk link frames have been selected.  <i>Note:</i> Test will not work if trunk link frame is not equipped with an originating register.	
21e	If testing line link frames and tripled trunk link frames are provided— Repeat Steps 13 through 17 for each trunk link frame tripled with trunk link frame 0.	
22e	Repeat Steps 13 through 21e until all trunk link frames have been selected.	
23f	If testing line link frames and nonpaired and nontriple trunk link frames are provided— Repeat Steps 13 through 17 until all trunk link frames have been selected.	
24c	If testing transfer line link frames— Repeat Steps 13 through 17 until all transfer trunk link frames have been selected.	

**For Line Junctor Verticals 2 through 9 Associated with Junctor Subgroups Other Than 0.**

- 25g If testing line link frames—  
Refer to Table C and determine junctor subgroup number from line link vertical number of line link frame junctor switches.
- 26g Refer to Table B to determine the JSQ, STP\_ required for selection of junctor subgroup determined in Step 25g.

STEP	ACTION	VERIFICATION
27g	Repeat Steps 11 through 23f, selecting only channels available between line link frame being tested and selected trunk link frame.	
28c	If testing transfer line link frames— Refer to Table D and determine junctor subgroup number from transfer line link vertical number of transfer line link frame junctor switches.	
29c	Refer to Table B to determine the JSQ_, STP_ required for selection of junctor subgroup determined in Step 27g.	
30c	Repeat Steps 11 through 18, and 24c, selecting only channels available between transfer line link frame being tested and selected transfer trunk link frame.	
31	At MTF— Restore all keys and switches.	
<b>G. Verification of the Master Test Control Functions—LRF, FT_, and FU_ Leads (Line Link Frames Only)</b>		
3	At MTF— Block operated MTT, KR1 relays.	
4a	◆If ETS not provided—◆ At line link frame being tested— Block operated LTM relay.	At MTF— 2WLL, LRFT_, LRFU_ lamps lighted corresponding to line link being tested.
5b	◆If ETS provided— At line link frame being tested or auxiliary line circuit— Block operated LTM relay◆	◆At MTF— 2WLL, LRFT_, LRFU_ lamps lighted corresponding to line link being tested.◆
6a	◆If ETS not provided—◆ At line link frame being tested— Remove blocking tool from LTM relay.	At MTF— 2WLL, LRFT_, LRFU_ lamps extinguished.
7b	◆If ETS provided— At line link frame being tested or auxiliary line circuit— Remove blocking tool from LTM relay.	At MTF— 2WLL, LRFT_, LRFU_ lamps extinguished.◆
8	Repeat Steps ◆4a through 7b◆ for all line link frames equipped to identify a falsely operated test relay.	
9	At MTF— Remove blocking tools from MTT, KR1 relays.	

STEP	ACTION	VERIFICATION
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TABLE B – JUNCTOR SUBGROUP SELECTION

NUMBER OF TRUNK LINK FRAMES			STP1 OR STP2 RELAY OPERATED	JUNCTOR SEQUENCE AND ASSOCIATED JG RELAY OPERATED						
SINGLE	PAIRED	TRIPLED		JSQ0	JSQ1	JSQ2	JSQ3	JSQ4	JSQ5	
2*	4	6	STP1	0	1	2	0	1	2	
2*	4	6	STP2	3	4	3	4	3	4	
2-3	4-6	6-9	STP1	0	1	2	0	1	2	
2-3	4-6	6-9	STP2	1	2	0	1	2	0	
3	6	9	STP1	0	1	2	0	1	2	
3	6	9	STP2	3	3	3	3	3	3	
4*	8	12	STP1	0	1	0	1	0	1	
4*	8	12	STP2	2	2	2	2	2	2	
5	10	15	STP1	0	1	0	1	0	1	JG-RELAY OPERATED (Junctur Subgroup Selected)
5	10	15	STP2	1	0	1	0	1	0	
6	12	18	STP1	0	0	0 or 1 †	0	0	0 or 1 †	
6	12	18	STP2	1	1 or 2 ‡	0 or 1 ‡	1 or 2 ‡	1	0 or 2 ‡	
7	14	21	STP1	0	0	0	0	0	0 or 1 †	
7	14	21	STP2	1	1 or 2 ‡	1	1 or 2 ‡	1	0 or 2 ‡	
8	16	24	STP1	0	0	0	0	0	0	
8	16	24	STP2	1	1	1	1	1	1	
9	18	27	STP1	0	0	0	0	0	0	
9	18	27	STP2	1	1	1	1	1	1	
10	20	30	STP1	0	0	0	0	0	0	

\* Junctur subgroup selection between line link and trunk link or transfer line link and transfer trunk link.

† JG0 operated if three junctur subgroups exist between line link and trunk link.

JG1 operated if two junctur subgroups exist between line link and trunk link.

‡ Higher numbered JG-relay operated if three junctur subgroups exist between line link and trunk link.

Lower numbered JG-relay operated if two junctur subgroups exist between line link and trunk link.

#### H. Mate Frame Junctur Availability and Level Selection—Paired Line Link Frames

- 3 Select marker.
- 4 Select ORIG class-of-marker test.
- 5 Operate STP2, NTC keys.
- 6 Select junctur sequence 0.
- 7 Select an assigned originating line location on paired line link frame with horizontal group 0 included.

STEP

ACTION

VERIFICATION

**TABLE C**  
**JUNCTOR SUBGROUP PATTERN FOR LINE LINK CIRCUITS**

OFFICE SIZE			JUNCTOR SUBGROUP NUMBERS FOR LINE LINK VERTICALS									
LL-TL	LL-TLPR	LL-TLT	0	1	2	3	4	5	6	7	8	9
4-2	8-2		0	0	3	3	2	2	4	4	1	1
		12-2	0	0	4	4	2	2	3	3	1	1
6-3	12-3		0	0	0	3	2	2	2	2	1	1
		18-3	0	0	0	2	2	2	3	1	1	1
8-4	16-4	24-4	0	0	0	0	2	2	1	1	1	1
10-5	20-5	30-5	0	0	0	0	0	1	1	1	1	1
12-6			0	0	0	0	0	0	Note 1		1	1
	24-6		0	0	0	0	0	0	2	1	1	Note 1
		36-6	0	0	0	0	0	0	Note 3	Note 4	Note 3	Note 4
14-7			0	0	0	0	0	0	0	1	Note 2	1
	28-7	42-7	0	0	0	0	0	0	0	Note 2	1	1
16-8	32-8	48-8	0	0	0	0	0	0	0	0	1	1
18-9	36-9	54-9	0	0	0	0	0	0	0	0	0	1
20-10	40-10	60-10	0	0	0	0	0	0	0	0	0	0

**Notes:**

- Channels 2, 4, and 6 are in subgroup No. 2; all other channels are in subgroup No. 1.
- Channels 0 and 7 are in subgroup No. 2 ; all other channels are subgroup No. 1.
- For junctor switches on line link frames No. 12 through 23, channels 2, 4, and 6 are in subgroup No. 2, all other channels are in subgroup No. 1. For junctor switches on all other line link frames, all channels are in subgroup No. 1.
- For junctor switches on line link frames No. 12 through 35, channels 2, 4 and 6 are in subgroup No. 2, all other channels are in subgroup No. 1. For junctor switches on all other line frames, all channels are in subgroup No. 1.

8      Select class of service and rate treatment as required.

9      Select trunk link frame 0.

10a    ♦If ETS provided—  
Operate PCS, PTS keys.♦

STEP	ACTION	VERIFICATION
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TABLE D  
JUNCTOR SUBGROUP PATTERN FOR  
TRANSFER LINE LINK CIRCUITS

OFFICE SIZE	JUNCTOR SUBGROUP NUMBERS FOR LINE LINK VERTICALS									
	0	1	2	3	4	5	6	7	8	9
2-2	0	0	3	3	2	2	4	4	1	1
4-4	0	0	0	0	2	2	1	1	1	1

- |     |   |                         |
|-----|---|-------------------------|
| 11  | Select A_ through L_ digits to direct call to outgoing trunk on selected trunk link frame.  |                         |
| 12  | Select route advance.   |                         |
| 13  | Select channel 0.   |                         |
| 14  | Momentarily operate ST key.   | LK2, MRL lamps lighted. |
| 15  | Momentarily operate RL key.   | All lamps extinguished. |
| 16  | Repeat Steps 13, 14, 15 for channels 1 through 9.   |                         |
| 17b | If paired trunk link frames are provided—<br>Repeat Steps 9 through 16 for trunk link frame paired with trunk link frame 0.             |                         |
| 18b | Repeat Steps 9 through 17b until all trunk link frames have been selected.  |                         |
| 19c | If tripled trunk link frames are provided—<br>Repeat Steps 9 through 16 for each trunk link frame tripled with trunk link frame 0.      |                         |
| 20c | Repeat Steps 9 through 19c until all trunk link frames have been selected.  |                         |
| 21d | If nonpaired and nontriple trunk link frames are provided—<br>Repeat Steps 9 through 16 until all trunk link frames have been selected. |                         |
| 22  | Repeat Steps 7 through 21d for horizontal groups 1 through 9.   |                         |

STEP	ACTION	VERIFICATION
23	At MTF— Restore all keys and switches.	
<b>I. Crosses on XLV_ XLV Leads— Paired Line Link Frames</b>		
<i>Note:</i> This test is <i>not</i> for frames equipped with small crossbar switches.		
3	At MTF— Select ORIG class-of-marker test.	
4	Select marker.	
5	Select junctor sequence 0.	
6	Operate REC, NTC, STP2 keys.	
7a	♦If ETS provided and CM dump is required— Operate TCPO key.♦	
8	Select an assigned originating line location on an even paired line link frame with horizontal group 0 included.	
9	Select class of service and rate treatment as required.	
10b	♦If ETS provided— Operate PCS key.♦	
11	Select A_ through L_ digits to direct call to outgoing route.	
12	At markers— Block nonoperated PRL relays in all markers except marker used in test.	
13c	At auxiliary line link frame— If LV_ relays are provided— Block operated LV1 relay.	
14d	At auxiliary line link frame— If SMCT_ relays are provided— Block operated SMCT1 relay.	
15	At MTF— Momentarily operate ST key.	TRL lamps lighted. Trouble record taken. HG_ XHG designations perforated.
16	Momentarily operate RL key.	All lamps extinguished.

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STEP	ACTION	VERIFICATION
17	At auxiliary line link frame— Remove blocking tool from LV1 or SMCT1 as applicable.	
18	Repeat Steps 13c through 17 selecting in turn horizontal group 1 and LV2 or SMCT2 relays, as applicable, through horizontal group 8 and LV9 or SMCT9 relays, as applicable.	
19	At MTF— Select an assigned originating line location on an odd paired line link frame with horizontal group 0 included.	
20c	If LV_ relays are provided on auxiliary line link frames— Repeat Steps 13c through 18 as applicable for LV_ relays.	
21d	If SMCT_ relays are provided on auxiliary line link frames— Block operated SMCT11 relay.	
22d	Repeat Steps 14d through 18 as applicable for SMCT_ relays, selecting in turn horizontal group 1 and SMCT12 relay through horizontal group 8 and SMCT19 relay.	
23	At auxiliary line link frame— Remove blocking tool from LV_ or SMCT_ relay as applicable.	
24	At markers— Remove blocking tools from PRL relays in all markers except marker used in test.	
25	At MTF— Restore all keys and switches.	