

COMBINED AND COMPLETING MARKERS
MISCELLANEOUS TESTS
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section describes a method of making miscellaneous tests of combined and completing markers without the use of the master test control circuit in No. 5 crossbar offices.

D. Trouble Recorder Timer: This test checks the timing of the trouble recorder timer and the lighting of proper alarm lamps. **5**

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.

E. Pattern Feature: This test checks that the proper channel relays operate for each junctor subgroup. **5**

(a) To revise Test F to include verification of the MFG, M-C₁ lamps at the master test frame and the HFA relay in the marker.

F. Make-Busy Feature: This test checks that the marker is made busy when a fuse blows or a plug is inserted into the make-busy jack for the marker. **5**

(b) To revise Test G to indicate blocking the AMB relay nonoperated while checking the C AMB lamp at the master test frame.

G. All-Markers-Busy Alarm: This test checks the timing of the all-markers-busy alarm. **7**

(c) To make minor changes as required.

H. Trunk Test and Selection Feature: This test checks that trunks are tested and selected in the correct sequence. **8**

1.03 The tests covered are:

PAGE

A. Trouble Detecting Features for False Ground, Battery, and Crosses: This test checks the cross detecting relays for proper operation under trouble conditions. **3**

I. Early Disconnect Feature (Combined Markers Only): This test checks that the marker disconnects if a dial tone job is abandoned after vertical group, horizontal group, or vertical file selection and before a connection to a register is established. **9**

B. Recycle of Work Timer: This test checks the recycle feature of the work timer. **4**

1.04 All tests require that the marker being tested be made busy.

C. Seize Frame Timer—Miscellaneous: This test checks the starting and stopping of the seize frame timer on all conditions other than frame seizures. **4**

1.05 Tests A, D, F, and G require action at the marker frame and verification at the master test frame (MTF). Test G also may require action and verification at the associated switchboard.

NOTICE

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

1.06 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 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.

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

1.08 Registers associated with the TPC lead will be operated during these tests as indicated in Table A. Local instructions should be followed for recording register operations caused by performing these tests.

TABLE A

TEST	TEST TABLE	STEP	REGISTER OPERATED	
			LEAD DESIG	CONNECTING CIRCUIT
A	C	233 through 245	TPC	Traffic Reg Ckt
			TPC	Plant Reg Ckt
		161	TPC	Plant Reg Ckt
B	E	34	TPC TPC	Traffic Reg Ckt Plant Reg Ckt

2. APPARATUS

All Tests

- 2.01** 322A (make-busy) plugs as required.
- 2.02** Blocking tools as required. Use tools and apply as covered in Section 069-020-801.

Test A

- 2.03** Two testing cords, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), a 419A (test connector) tool, and a KS-6278 connecting clip (for main frame patching).
- 2.04** Patching cord, P3D cord, 6 feet long, equipped with two 309 plugs (3P3A cord) (for MTF patching).
- 2.05** 32A (remote control) test set.
- 2.06** Two testing cords, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one equipped with two KS-6278 connecting clips, the other equipped with one KS-6278 connecting clip and one 411A (test pick) tool (for connecting ground or battery to resistor and point under test).
- 2.07** The following resistors or their equivalent:

CODE RECOMMENDED	VALUE	
	OHMS	TOLERANCE
18AK	60	±5%
18Y	90	±5%
18P	130	±5%
18F	150	±5%
18G	200	±5%
18AD	240	±5%
18AF	300	±5%
18AN	350	±5%
18AJ	400	±5%
19GP	475	±5%
18AE	600	±5%

Tests D, G

- 2.08** KS-3008 stopwatch or equivalent.

Tests F, H

2.09 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), a 419A tool, and a KS-6278 connecting clip (for making test connections to nonwire-spring-type relays or terminals).

3. PREPARATION**STEP****ACTION****VERIFICATION****All Tests Except G**

- | | | |
|---|---|--|
| 1 | At MTF—
Insert make-busy plug into MMB_ or M-C-MB_ jack for marker under test. | |
|---|---|--|

4. METHOD**STEP****ACTION****VERIFICATION****A. Trouble Detecting Features for False Ground, Battery, and Crosses**

- | | | |
|----|--|--|
| 2 | Operate CTOS key. | |
| 3 | Patch TRR-AR jack to RC-AR M jack. | |
| 4 | At main distributing frame—
Cross-connect R and S terminals of RC-AR M jack multiple to corresponding terminals of SP jack for marker under test. | |
| 5 | At marker under test—
Insert plug of 32A test set into SP jack. | |
| 6a | If nonwire-spring-relay type marker is under test—
Connect ground or battery, as required, to terminals in order indicated in Table B. | Trouble recorder request alarm sounded.
Trouble record taken.
Designations perforated as indicated in Table B. |
| 7b | If wire-spring-relay type marker is under test—
Momentarily connect ground or battery, as required, to terminals in order indicated in Table C. | Trouble recorder request alarm sounded.
Trouble record taken.
Designations perforated as indicated in Table C. |
| 8 | Momentarily operate red button of 32A test set. | Trouble recorder request alarm silenced. |
| 9 | At main distributing frame—
Remove test connection. | |

Test H

2.10 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), two 639A (relay contact connector) tools, and two 651D (relay contact connector holder) tools (for strapping fixed contacts of wire-spring-type relays).

STEP	ACTION	VERIFICATION
10	At marker under test— Remove plug of 32A test set from SP jack.	
11	At MTF— Restore CTOS key.	
12	Remove patching cord.	
13c	If no other tests are to be made— Remove make-busy plug from MMB_ or M-C-MB_ jack.	
B. Recycle of Work Timer		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
3a	If marker is non-wire-spring-relay type— At marker under test— Block relays, as required, in order indicated in Table D.	Relays function as indicated in Table D.
4b	If marker is wire-spring-relay type— At marker under test— Block relays, as required, in order indicated in Table E.	Relays function as indicated in Table E.
5c	If no other tests are to be made— At MTF— Remove make-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	
C. Seize Frame Timer—Miscellaneous		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
	Caution: Perform this test as rapidly as possible to prevent the prolonged conduction of the cold cathode tubes.	
3a	If marker is nonwire-spring-relay type— At marker under test— Block relays, as required, in order indicated in Table F.	Relays function as indicated in Table F.
4b	If marker is wire-spring-relay type— At marker under test— Block relays, as required, in order indicated in Table G.	Relays function as indicated in Table G.

STEP	ACTION	VERIFICATION
5c	If no other tests are to be made— At MTF— Remove make-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	
D. Trouble Recorder Timer		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
3	At marker under test— Block TR1 relay nonoperated.	
4	Block SDT relay operated; <i>start timing</i> .	Within 2 to 4 seconds— TRT, TA lamps lighted. Major alarm sounded.
5	Remove blocking tool from TR1 relay.	At MTF— TRR, DL M_ lamps lighted. Minor alarm sounded.
6	At marker under test— Remove blocking tool from SDT relay.	
7	Momentarily operate AR key.	TRT, TA lamps extinguished. Major alarm silenced.
8	At MTF— Momentarily operate TRR-AR key.	TRR, DL M_ lamps extinguished. Minor alarm silenced.
9a	If no other tests are to be made— Remove make-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	
E. Pattern Feature		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
3	At marker under test— Block relays operated, as required, in order indicated in Table H.	Relays function as indicated in Table H.
4a	If no other tests are to be made— At MTF— Remove make-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	
F. Make-Busy Feature		
2	At marker frame— Block operated all MCB_ relays.	

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STEP	ACTION	VERIFICATION
3	At jack, lamp, and key circuit— Remove make-busy plug from MMB_ or M-C-MB_ jack for marker under test.	M-C_lamp lighted.
4	Insert make-busy plug into MMB_ or M-C-MB_ jack for marker under test.	M-C_ lamp extinguished.
5	At marker frame— Remove blocking tools from MCB_ relays.⚡	
6	At wiring side of marker frame— Connect 48-volt battery to 48-volt fuse alarm bar.	FA1, MB relays operated. FA lamp lighted. Major alarm sounds.
7	Remove test connection from 48-volt battery and 48-volt fuse alarm bar.	FA lamp extinguished. FG lamp lighted. ⚡At MTF— MFG lamp lighted.⚡ Major alarm silenced.
8	Remove make-busy plug from MMB_ or M-C-MB_ jack.	At marker under test— MB relay remains operated.
9	Momentarily operate AR key.	FG lamp extinguished. MB, FA1 relays released. ⚡At MTF— MFG lamp extinguished.⚡
10	At marker under test— Block nonoperated FA1 relay.	
11	Momentarily operate FA relay.	MB relay operated momentarily.
12	Remove blocking tool from FA1 relay.	
13	At MTF— Insert make-busy plug into MMB_ or M-C-MB_ jack of marker under test.	
14	At wiring side of marker under test— Connect 130-volt battery to 130-volt fuse alarm bar.	⚡HFA,⚡ FA1, MB relays operated. FA lamp lighted. Major alarm sounds.
15	Remove test connection from 130-volt battery and 130-volt fuse alarm bar.	⚡HFA, FA relays released.⚡ FA lamp extinguished. FG lamp lighted. ⚡At MTF— MFG lamp lighted.⚡ Major alarm sounds.

STEP	ACTION	VERIFICATION
16a	If no other tests are to be made— Remove make-busy plug from MMB_ or M-C-MB_ jack.	At marker under test— MB relay remains operated.
17	Momentarily operate AR key.	FG lamp extinguished. MB, FA1 relays released. ◆At MTF— MFG lamp extinguished.◆
G. All-Markers-Busy Alarm		
<i>Note:</i> This test should not be made while the line insulation test frame is in use.		
1	At MTF— Insert make-busy plug into MMB_ or M-C-MB_ jack of marker under test.	At marker under test— AMB relay operated.
2	At MTF— Remove make-busy plug from MMB_ or M-C-MB_ jack.	At marker under test— AMB relay released.
3	Repeat Steps 1 and 2 for each combined or completing marker.	
4	At master traffic control unit— Block nonoperated ALA, ALB relays.	At MTF— CMGA or CMGB lamps may light. Major alarm may sound.
5	At master traffic control unit— Block operated SRA, SRB relays.	
6	Block operated AMB relay in all combined or completing markers.	At MTF— C AMB lamp lighted. Within 40 to 66 seconds— C MBA lamp lighted. Minor alarm sounded. At master traffic control unit— TMA, TMB relays operated. If combined markers or completing markers arranged for originating line identification is provided— At line load control circuit— MBA lamp lighted.
7	◆At marker frame— In turn momentarily block nonoperated the AMB relay of each combined or completing marker.◆	At MTF— ◆C AMB lamp extinguished while AMB relay is momentarily blocked nonoperated. At master traffic control unit— TMA, TMB relays release while AMB relay is momentarily blocked nonoperated.◆

STEP	ACTION	VERIFICATION
8	At marker frame— Remove blocking tools from all AMB relays.	At MTF— C AMB lamp extinguished. ◆At master traffic control unit— TMA, TMB relays released.◆
9	At master traffic control unit— Remove blocking tools from SRA, SRB, ALA, ALB relays.	
10	Momentarily operate AMB_AR key.	Minor alarm silenced. C MBA lamp extinguished. If combined markers or completing markers arranged for originating line identification is provided— At line load control circuit— MBA lamp extinguished.
11a	If auxiliary signal at associated switchboard is provided— At switchboard— Operate RL key.	Auxiliary signal silenced.
H. Trunk Test and Selection Feature		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
3a	If nonwire-spring-relay type marker is under test— At marker under test— Block operated TSE1, TSE2, TSE3, TLC2 relays.	
4a	Momentarily connect ground to 1T of highest numbered TS_ relay.	Highest numbered TS_ relay operated.
5a	Momentarily connect ground to 1T of remaining TS_ relays, from highest to lowest numbered, in turn.	TS_ relay to which ground was connected operated. Next higher numbered TS_ relay released.
6a	Remove blocking tools from TSE1, TSE2, TSE3, TLC2 relays.	
7b	If wire-spring-relay type marker is under test— At marker under test— Block operated MAK1, TBK, TSE2, TLC1 relays.	
8b	Strap 10 of TBK relay to 8 of TGT relay, using testing cord with 639A tools.	

STEP	ACTION	VERIFICATION
9b	Momentarily connect ground to 4M of highest numbered TS_ relay.	Highest numbered TS_ relay operated.
10b	Momentarily connect ground to 4M of remaining TS_ relays, from highest to lowest numbered, in turn.	TS_ relay to which ground was connected operated. Next higher numbered TS_ relay released.
11b	Momentarily remove blocking tool from TLC1 relay.	Lowest numbered TS_ relay released.
12b	Momentarily connect ground to 2M of highest numbered TS_ relay.	Highest numbered TS_ relay operated.
13b	Momentarily connect ground to 2M of remaining TS_ relays, from highest to lowest numbered in turn.	TS_ relay to which ground was connected operated. Next higher numbered TS_ relay released.
14b	Remove test connection from TBK, TGT relays.	
15b	Remove blocking tools from MAK1, TBK, TSE2, TLC1 relays.	
16c	If no other tests are to be made— At MTF— Remove-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	
I. Early Disconnect Feature (Combined Markers Only)		
2	Insert make-busy plug into TRMB M_ jack associated with marker under test.	
3	At marker frame— Block relays in order indicated in Table I.	Relays function as indicated in Table I.
4a	If no other tests are to be made— At MTF— Remove make-busy plugs from TRMB M_ and MMB_ or M-C-MB_ jacks.	

TABLE B

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER													
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	FRAME OR UNIT	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED				AT	CONNECT	CONNECTION MADE TO					
								TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL	TERMINAL STRIP			
										DESIG			PORTION USED
1	XPG			PA, PB	Com Eqpt	CD	MTFC-A1	GRD	46, 47		XPG, PA, PB		
2	XTB			TB0, TB1	Com Eqpt	CD	MTFC-A2	GRD	30, 31		XTB, TB0, TB1	21	
3	XTG			TG0, TG1	Com Eqpt	CD	MTFC-A2	GRD	40, 41		XTG, TG0, TG1	21, 42	
4	XTS1	TSE1		TSX	Com Eqpt	CD	TLC-A	GRD	3		XTS1		
5	XTG1			TG0	Com Eqpt	CD	TLC-A	GRD	30		XTG1		
6	XTG1			TG1	Com Eqpt	CD	TLC-A	GRD	31		XTG1		
7	XTG1			TG2	Com Eqpt	CD	TLC-A	GRD	32		XTG1		
8	XTG1			TG3	Com Eqpt	CD	TLC-A	GRD	33		XTG1		
9	XTG1			TG4	Com Eqpt	CD	TLC-A	GRD	34		XTG1		
10	XTG1			TG5	Com Eqpt	CD	TLC-A	GRD	35		XTG1		
11	XTG1			TG6	Com Eqpt	CD	TLC-A	GRD	36		XTG1		
12	XTG1			TG7	Com Eqpt	CD	TLC-A	GRD	37		XTG1		
13	XTG1			TG8	Com Eqpt	CD	TLC-A	GRD	38		XTG1		
14	XTG1			TG9	Com Eqpt	CD	TLC-A	GRD	39		XTG1		
15	XTG1			TG10	Com Eqpt	CD	TLC-A	GRD	40		XTG1		
16	XTG1			TG11	Com Eqpt	CD	TLC-A	GRD	41		XTG1		
17	XTG1			TG12	Com Eqpt	CD	TLC-A	GRD	42		XTG1		
18	XTG1			TG13	Com Eqpt	CD	TLC-A	GRD	43		XTG1		
19	XTG1			TG14	Com Eqpt	CD	TLC-A	GRD	44		XTG1		
20	XTG1			TG15	Com Eqpt	CD	TLC-A	GRD	45		XTG1		

TABLE B (Cont)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
21	XTG1			TG16	Com Eqpt	CD	TLC-A	GRD	46		XTG1	
22	XTG1			TG17	Com Eqpt	CD	TLC-A	GRD	47		XTG1	
23	XTG1			TG18	Com Eqpt	CD	TLC-A	GRD	48		XTG1	
24	XTG1			TG19	Com Eqpt	CD	TLC-A	GRD	49		XTG1	
25	XSL	FAK, HMT1		AST	Com Eqpt	CD	TLC-B	GRD	46		XSL	
26	XFT, XAFT		400	XFT	Com Eqpt	CD	TLC-B	RES GRD	51		XFT	
27	XAB			FAK, FBK	Com Eqpt	CD	TLC-B	GRD	53,54		XAB,FAK,FBK	
28	XSL	FBK, HMT1		BST	Com Eqpt	CD	TLC-B	GRD	56		XSL	
29	XPT			ONN,ITB or ISE	Com Eqpt	CD	TLC-C	GRD	40,41		XPT,RN0,RN1	21
30	XPTN, XAPTN	BX		P0,P1	Com Eqpt	CD	TLC-C	GRD	10,11		XPTN,P0,P1	
31	XRS3			RS0,RS1	Com Eqpt	CA	MTFC-C2	GRD	20,21		XRS1,RS0,RS1	
32	XRS4			RS2,RS3	Com Eqpt	CA	MTFC-C2	GRD	22,23		XRS1,RS2,RS3	
33	XCH, XACH			LL0	Com Eqpt	CB	LLC-A	GRD	45		XCH	
34	XLO			L0	Com Eqpt	CB	LLC-B	GRD	0		XLO	
35	XLO			LOB	Com Eqpt	CB	LLC-B	GRD	1		XLO	
36	XLO			LOK	Com Eqpt	CB	LLC-B	GRD	2		XLO	
37	XLO			G	Com Eqpt	CB	LLC-B	GRD	10		XLO	

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
38	XCS			CS-, CS-	Com Eqpt	CB	LLC-B	GRD	30-39		XCS, CS-, CS-	20, 21
39	XTC	MAK		TC	Com Eqpt	CB	LLMC-B, LLMC-A	GRD GRD	1 2		XTC XTC	1
40	XTC1	MAK		TC1	Com Eqpt	CB	LLMC-B, LLMC-A	GRD GRD	2 3		XTC1, TC1 XTC1, TC1	2
41	XRL	CHE, CB5 FBK		RL	Com Eqpt	CD	ORMC-CD	GRD	59		XRL, RL	
42	XTRK	TR2E		TRK	Com Eqpt	CB	ORMC-CD	GRD	54		XTRK, TRK	
43	XMRL			MRL	Com Eqpt	CB	ORMC-CD	GRD	57		XMRL, MRL	
44	XBT			BT	Com Eqpt	CB	ORMC-CD	GRD	58		XBT, BT	
45	XTRL			TRL	T & RR	AC		GRD	186		XTRL, TRL	
46	XHG XAHG		150	HGK	Com Eqpt	CB	LLC-A	RES GRD	34		XHG, HGK	
47	XS		350	XS	Com Eqpt	CC		RES GRD	220		XS	
48	XSA	CKG6, OGC	350	XSA	Com Eqpt	CC		RES GRD	221		XSA	3
49	XLV, XALV		150	LVK	Com Eqpt	CD	TLC-B	RES GRD	5		XLV	
50	XLC, XALC	SCB	60	ALC	Com Eqpt	CD	TLC-B	RES GRD	49		XLC	
51	XLC, XALC		60	BLC	Com Eqpt	CD	TLC-B	RES GRD	59		XLC, BLC	
52	XCKR			XCKR				GRD		7B of TER 4	XCKR	4

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
53	XVGA, XAVGA		200	VGA			RES GRD		1B of DIS1	XVGA	5	
54	XLG, XALG		200	BS			RES GRD		2T of HGK	XLG		
55	XVGB XAVGB		475	VGB			RES GRD		2B of VTK1	XVGB/XCW	25	
56	XF, XAF		475	XF			RES GRD		7T of PR	XF		
57	XJC, XAJC		150	XJC			RES GRD		5T of JG0	XJC		
58	XJG, XAJG	GC	350	XJG			RES GRD		8T of JG0	XJG		
59	XLR, XALR		130	XLR			RES GRD		4B of FUT0	XLR		
60	XJS, XAJJS	ONX	300	JSO			RES GRD		12T of CH0	XJS	24	
60.1	XJS1, XAJJS	ONX	300	SBA2			RES GRD		1 of XJS1	XJS		
61	XTS, XATS	ONX	150	TSX	Com Eqpt	CD	TLC-A	RES BAT.	3	XTS		
62	XRS1, XARS		90	RS0	Com Eqpt		TLC-A	RES BAT.	50	XRS		
63	XRS1, XARS		90	RS1	Com Eqpt	CD	TLC-A	RES BAT.	51	XRS		
64	XRS1, XARS		90	RS2	Com Eqpt	CD	TLC-A	RES BAT.	52	XRS		

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
65	XRS1, XARS		90	RS3	Com Eqpt	CD	TLC-A	RES BAT.	53		XRS	
66	XRS1, XARS		90	RS4	Com Eqpt	CD	TLC-A	RES BAT.	54		XRS	
67	XRS2, XARS		90	RS5	Com Eqpt	CD	TLC-A	RES BAT.	55		XRS	
68	XRS2, XARS		90	RS6	Com Eqpt	CD	TLC-A	RES BAT.	56		XRS	
69	XRS2, XARS		90	RS7	Com Eqpt	CD	TLC-A	RES BAT.	57		XRS	
70	XRS2, XARS		90	RS8	Com Eqpt	CD	TLC-A	RES BAT.	58		XRS	
71	XRS2, XARS		90	RS9	Com Eqpt	CD	TLC-A	RES BAT.	59		XRS	
72	XTS, XATS	ONX	150	ASM	Com Eqpt	CD	TLC-B	RES BAT.	45		XTS	
73	XTS, XATS	ONX	150	BSM	Com Eqpt	CD	TLC-B	RES BAT.	55		XTS	
74	XSS XSSA	SSA, ONX	300	SS0	Com Eqpt	CD	TLC-D	RES BAT.	50		XSS	6, 7, 29
75	XSS XSSA	SSA, ONX	300	SS1	Com Eqpt	CD	TLC-D	RES BAT.	51		XSS	6, 7, 29
76	XSS XSSA	SSA, ONX	300	SS2	Com Eqpt	CD	TLC-D	RES BAT.	52		XSS	6, 7, 29
77	XSS XSSA	SSA, ONX	300	SS3	Com Eqpt	CD	TLC-D	RES BAT.	53		XSS	6, 7, 29

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
78	XSS XSSA	SSA, ONX	300	SS4	Com Eqpt	CD	TLC-D	RES BAT.	54		XSS	6, 7, 29
79	XSS XSSA	SSA, ONX	300	SS5	Com Eqpt	CD	TLC-D	RES BAT.	55		XSS	6, 7, 29
80	XSS XSSA	SSA, ONX	300	SS6	Com Eqpt	CD	TLC-D	RES BAT.	56		XSS	6, 7, 29
81	XSS XSSA	SSA, ONX	300	SS7	Com Eqpt	CD	TLC-D	RES BAT.	57		XSS	6, 7, 29
82	XSS XSSA	SSA, ONX	300	SS8	Com Eqpt	CD	TLC-D	RES BAT.	58		XSS	6, 7, 29
83	XSS XSSA	SSA, ONX	300	SS9	Com Eqpt	CD	TLC-D	RES BAT.	59		XSS	6, 7, 29
84	XSS XSSA	SSB, ONX	300	SS0	Com Eqpt	CD	TLC-D	RES BAT.	50		XSS	6, 7, 29
85	XSS XSSA	SSB, ONX	300	SS1	Com Eqpt	CD	TLC-D	RES BAT.	51		XSS	6, 7, 29
86	XSS XSSA	SSB, ONX	300	SS2	Com Eqpt	CD	TLC-D	RES BAT.	52		XSS	6, 7, 29
87	XSS XSSA	SSB, ONX	300	SS3	Com Eqpt	CD	TLC-D	RES BAT.	53		XSS	6, 7, 29
88	XSS XSSA	SSB, ONX	300	SS4	Com Eqpt	CD	TLC-D	RES BAT.	54		XSS	6, 7, 29
89	XSS XSSA	SSB, ONX	300	SS5	Com Eqpt	CD	TLC-D	RES BAT.	55		XSS	6, 7, 29
90	XSS XSSA	SSB, ONX	300	SS6	Com Eqpt	CD	TLC-D	RES BAT.	56		XSS	6, 7, 29

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (5)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
91	XSS XSSA	SSB, ONX	300	SS7	Com Eqpt	CD	TLC-D	RES BAT.	57		XSS	6, 7, 29
92	XSS XSSA	SSB, ONX	300	SS8	Com Eqpt	CD	TLC-D	RES BAT.	58		XSS	6, 7, 29
93	XSS XSSA	SSB, ONX	300	SS9	Com Eqpt	CD	TLC-D	RES BAT.	59		XSS	6, 7, 29
94	XTB1		350	TB0	Com Eqpt	CE	TLC-E	RES BAT.	01		XTB1	
95	XTB1		350	TB1	Com Eqpt	CE	TLC-E	RES BAT.	02		XTB1	
96	XTB1		350	TB2	Com Eqpt	CE	TLC-E	RES BAT.	03		XTB1	
97	XTB1		350	TB3	Com Eqpt	CE	TLC-E	RES BAT.	04		XTB1	
98	XTB1		350	TB4	Com Eqpt	CE	TLC-E	RES BAT.	05		XTB1	
99	XTB1		350	TB5	Com Eqpt	CE	TLC-E	RES BAT.	06		XTB1	
100	XLS		300	SM0	Com Eqpt	CB	LLC-A	RES BAT.	25		XLS	
101	XLS		300	SM1	Com Eqpt	CB	LLC-A	RES BAT.	26		XLS	
102	XLS		300	SM2	Com Eqpt	CB	LLC-A	RES BAT.	27		XLS	
103	XLS		300	SM3	Com Eqpt	CB	LLC-A	RES BAT.	28		XLS	

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
104	XLS		300	SM4	Com Eqpt	CB	LLC-A	RES BAT.	29		XLS	
105	XLS		300	SM5	Com Eqpt	CB	LLC-A	RES BAT.	35		XLS	
106	XLS		300	SM6	Com Eqpt	CB	LLC-A	RES BAT.	36		XLS	
107	XLS		300	SM7	Com Eqpt	CB	LLC-A	RES BAT.	37		XLS	
108	XLS		300	SM8	Com Eqpt	CB	LLC-A	RES BAT.	38		XLS	
109	XLS		300	SM9	Com Eqpt	CB	LLC-A	RES BAT.	39		XLS	
110	RCN1, RCN2 XRCN, XRCT	RGTA	475	RC01, RC02	Com Eqpt	CB	NGC-B	RES BAT	20,21		XRCT,RCT1, RCT2,XRS1 XFUT	8,9 21
111	RCN1, RCN3, XRCN, XRCT	RGTA	475	RC01, RC03	Com Eqpt	CB	NGC-B	RES BAT.	20,22		XRCT,RCT1, RCT3,XRS1, XFUT	8,9 21
112	RCN1, RCN4, XRCN, XRCT	RGTA	475	RC01, RC04	Com Eqpt	CB	NGC-B	RES BAT.	20,23		XRCT,RCT1, RCT4,XRS1, XFUT	8,9 21
113	RCN1, RCN5, XRCN, XRCT	RGTA	475	RC01, RC05	Com Eqpt	CB	NGC-B	RES BAT.	20,24		XRCT,RCT1, RCT5,XRS1 XFUT	8,9 21
114	RCN1, RCN6, XRCN, XRCT	RGTA	475	RC01, RC06	Com Eqpt	CB	NGC-B	RES BAT.	20,25		XRCT,RCT1, RCT6,XRS1, XFUT	8,9 21

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
115	RCN1, RCN7, XRCN, XRCT	RGTA	475	RC01, RC07	Com Eqpt	CB	NGC-B	RES BAT.	20,26		XRCT,RCT1, RCT7,XRS1, 21 XFUT	8,9,
116	RCN1, RCN8, XRCN, XRCT	RGTA	475	RC01, RC08	Com Eqpt	CB	NGC-B	RES BAT.	20,27		XRCT,RCT1, RCT8,XRS1, XFUT	8,9, 21
117	RCN1, RCN9, XRCN, XRCT	RGTA	475	RC01, RC09	Com Eqpt	CB	NGC-B	RES BAT.	20,28		XRCT,RCT1, RCT9,XRS1, XFUT	8,9, 21
118	RCN1, RCN10, XRCN, XRCT	RGTA	475	RC01, RC10	Com Eqpt	CB	NGC-B	RES BAT.	20,29		XRCT,RCT1, RCT10,XRS1, XFUT	8,9, 21
119	RCN1, RCN11, XRCN, XRCT	RGTA	475	RC01, RC11	Com Eqpt	CB	NGC-B	RES BAT.	20, 30		XRCT, RCT1, RCT11, XRS1, XFUT	8, 9, 21
120	RCN1, RCN12, XRCN, XRCT	RGTA	475	RC01, RC12	Com Eqpt	CB	NGC-B	RES BAT.	20, 31		XRCT, RCT1, RCT12, XRS1, XFUT	8, 9, 21
121	RCN1, RCN13, XRCN, XRCT	RGTA	475	RC01, RC13	Com Eqpt	CB	NGC-B	RES BAT.	20, 32		XRCT, RCT1, RCT13, XRS1, XFUT	8, 9 21
122	RCN1, RCN14, XRCN, XRCT	RGTA	475	RC01, RC14	Com Eqpt	CB	NGC-B	RES BAT.	20, 33		XRCT, RCT1, RCT14, XRS1, XFUT	8, 9, 21

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
			DESIG	PORTION USED								
123	RCN1, RCN15, XRCN, XRCT	RGTA	475	RC01, RC15	Com Eqpt	CB	NGC-B	RES BAT.	20, 34		XRCT, RCT1, RCT15, XRS1, XFUT	8, 9, 21
124	XN	TRN1, BNA		XN							XN	10, 23
125	XN	TRN1, RIA		XN							XN	10, 23
126	XN	TRN1, NE		XN							XN	10
127	XN	TRN1, TBIA		XN							XN	10,23
128	XN	TBIA, NE		XN							XN	10
129	XN	TBIA, BNA		XN							XN	10
130	XN	TBIA, RIA		XN							XN	10
131	XN	TBIA, TRN		XN							XN	10,11
132	XN	VCIA, RIA		XN							XN	10,12
133	XN	VCIA, TBIA		XN							XN	10,12
134	XN	VCIA, DCIA		XN							XN	10,12, 13

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
135	XN	OAN, OBN		XN							XN	10,14
136	XN	OCN, ECN		XN							XN	10
137	XN	NE, KK		XN							XN	10
138	XN	NE, DCIA		XN							XN	10,13
139	XN	RIA, BNA		XN							XN	10
140	XN	AIC3, NAIC		XN							XN	5
141	XFG	FG0, FG1		XFG							XFG	5, 10
142	XLF, FK		150	FK	Com Eqpt	CB	LLC-B	RES GRD	43		XLF, FK	18
143	XARN XACR			AROP ARIP	CC-RR	CVD		GRD	ARPO ARP1		XCR	

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
144	XARN XACR			AR0S AR1S	CC-RR	CVD		GRD	ARS0 ARS1		XCR	
145	XBRN XACR			BR0P BR1P	CC-RR	CVF		GRD	BRP0 BRP1		XCR	
146	XBRN XACR			BR0S BR1S	CC-RR	CVF		GRD	BRS0 BRS1		XCR	
147	XDR			LFD LFMF	ORIG REG SELECTED	A		GRD	00, 47		XCL, D, MF	
148	XLH LHT	DT3, CKG7, LK1	475	XLH				RES BAT.		6B of GLH	XLH	15
149 150	MXT FSO	SQA FTCO		MXT FSO							SQA FSO, FTCK	
151	FS_	FTC_ (to last equipped FTC_ relay)									FTCK, FS_ (to last equipped FTC_ relay operated)	
152	XT5, XT1			CL1	Translator & Route Relay	AA	OSC-A	GRD	11		XT5, CL1	5
153	XT5, XT1			CL2	Translator & Route Relay	AA	OSC-A	GRD	12		XT5, CL2	5
154	XT5, XT1			CL3	Translator & Route Relay	AA	OSC-A	GRD	13		XT5, CL3	5

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CON- TACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
155	XT5, XT1			CL4	Translator & Route Relay	AA	OSC-A	GRD	14		XT5, CL4	5
156	XT5 XT1			CL5	Translator & Route Relay	AA	OSC-A	GRD	15		XT5, CL5	5
157	XT5, XT1			CL6	Translator & Route Relay	AA	OSC-A	GRD	16		XT5, CL6	5
158	XT5, XT1			CL7	Translator & Route Relay	AA	OSC-A	GRD	17		XT5, CL7	5
159	XT5, XT1			CL8	Translator & Route Relay	AA	OSC-A	GRD	18		XT5, CL8	5
160	XT5, XT1			CR0	Translator & Route Relay	AA	OSC-B	GRD	25		XT5, CR0	5
161	XT5, XT1			CR1	Translator & Route Relay	AA	OSC-B	GRD	26		XT5, CR1	5
162	XT5, XT1			CR2	Translator & Route Relay	AA	OSC-B	GRD	27		XT5, CR2	5
163	XT5, XT1			CR4	Translator & Route Relay	AA	OSC-B	GRD	28		XT5, CR4	5

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
164	XT5, XT1			CR7	Translator & Route Relay	AA	OSC-B	GRD	29		XT5, CR7	5
165	XT5, XT2			BR0	Translator & Route Relay	AA	OSC-B	GRD	35		XT5, BR0	5
166	XT5, XT2			BR1	Translator & Route Relay	AA	OSC-B	GRD	36		XT5, BR1	5
167	XT5, XT2			BR2	Translator & Route Relay	AA	OSC-B	GRD	37		XT5, BR2	5
168	XT5, XT2			BR4	Translator & Route Relay	AA	OSC-B	GRD	38		XT5, BR4	5
169	XT5, XT2			BR7	Translator & Route Relay	AA	OSC-B	GRD	39		XT5, BR7	5
170	XT5, XT1			AR0	Translator & Route Relay	AA	OSC-B	GRD	45		XT5, AR0	5
171	XT5, XT1			AR1	Translator & Route Relay	AA	OSC-B	GRD	46		XT5, AR1	5
172	XT5, XT1			AR2	Translator & Route Relay	AA	OSC-B	GRD	47		XT5, AR2	5

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
173	XT5, XT1			AR4	Translator & Route Relay	AA	OSC-B	GRD	48		XT5, AR4	5
174	XT5, XT1			AR7	Translator & Route Relay	AA	OSC-B	GRD	49		XT5, AR7	5
175	XT5, XT1			DL1	Translator & Route Relay	AA	OSC-B	GRD	51		XT5, DL1	5
176	XT5, XT1			DL2	Translator & Route Relay	AA	OSC-B	GRD	52		XT5, DL2	5, 26
177	XT5, XT1			DL3	Translator & Route Relay	AA	OSC-B	GRD	53		XT5, DL3	5, 26
178	XT5, XT1			DL4	Translator & Route Relay	AA	OSC-B	GRD	54		XT5, DL4	5, 26
179	XT5, XT1			DL5	Translator & Route Relay	AA	OSC-B	GRD	55		XT5, DL5	5, 26
180	XT5, XT1			DL6	Translator & Route Relay	AA	OSC-B	GRD	56		XT5, DL6	5, 26
181	XT5, XT2			CP0	Translator & Route Relay	AA	OSC-C	GRD	35		XT5, CP0	5, 26

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT*	CONNECTION MADE TO			
						TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
182	XT5, XT2			CP1	Translator & Route Relay	AA	OSC-C	GRD	36		XT5, CP1	5
183	XT5, XT2			CP2	Translator & Route Relay	AA	OSC-C	GRD	37		XT5, CP2	5, 26
184	XT5, XT2			CP4	Translator & Route Relay	AA	OSC-C	GRD	38		XT5, CP4	5, 26
185	XT5, XT2			CP7	Translator & Route Relay	AA	OSC-C	GRD	39		XT5, CP7	5
186	XT5, XT2			MB0	Translator & Route Relay	AA	OSC-C	GRD	40		XT5, MB0	5, 26
187	XT5, XT2			MB1	Translator & Route Relay	AA	OSC-C	GRD	41		XT5, MB1	5, 26
188	XT5, XT2			MB2	Translator & Route Relay	AA	OSC-C	GRD	42		XT5, MB2	5, 26
189	XT5, XT2			MB4	Translator & Route Relay	AA	OSC-C	GRD	43		XT5, MB4	5, 26
190	XT5, XT2			MB7	Translator & Route Relay	AA	OSC-C	GRD	44		XT5, MB7	5, 26

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
191	XT5, XT1			AMA	Translator & Route Relay	AA	OSC-C	GRD	45		XT5, AMA	5
192	XT5, XT1 or XT2			OBS	Translator & Route Relay	AA	OSC-C	GRD	48		XT5, OBS'	5, 19
193	XT5, XT2			NOB	Translator & Route Relay	AA	OSC-C	GRD	49		XT5, NOB'	5
194	XT5, XT2			4DG	Translator & Route Relay	AA	OSC-C	GRD	50		XT5, 4DG	5
195	XT5, XT2			5DG	Translator & Route Relay	AA	OSC-C	GRD	51		XT5, 5DG	5
196	XT5, XT2			LST	Translator & Route Relay	AA	OSC-C	GRD	52		XT5, LST	5
197	XT5, XT2			L5D	Translator & Route Relay	AA	OSC-C	GRD	53		XT5, L5D	5
198	XT5, XT2			SC	Translator & Route Relay	AA	OSC-C	GRD	55		XT5, SC	5
199	XT5, XT2			TVT	Translator & Route Relay	AA	OSC-C	GRD	56		XT5, TVT	5

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS			RELAY CONTACT OR WINDING TERMINAL
200	XT			OA, OB	Translator & Route Relay	AB	IRMC-AB	GRD	50, 51		XT, OA, OB	
201	XCLC			INC, TAN	Translator & Route Relay	AB	IRMC-AB	GRD	52, 53		XCLC, INC, TAN	22
202	XOB			OBS, NOB	Translator & Route Relay	AA	MTFC-C3	GRD	35, 36		XOB, OBS, NOB	
203	XTV			TVA, SCC	Translator & Route Relay	AC		GRD	319, 320		XTV	5
204	XN, XNS			NSS0, NSS1	Translator & Route Relay	AD		GRD	0, 1		XN	5
205	XN			XN	Translator & Route Relay	AF	PBX ALLR	GRD	62		XN	16
206	XCLC, XTAN			TAN0, TAN1	Translator & Route Relay	AF	TCS	GRD	08, 09		XCLC, TAN	
207	XFUT, XFUN		475	FU0, FU1	Translator & Route Relay	AB	NGC-A	RES BAT.	25, 26		XFUT, FUT0, FUT1	17, 21
208	XFUT, XFUN		475	FU0, FU2	Translator & Route Relay	AB	NGC-A	RES BAT.	25, 27		XFUT, FUT0, FUT2	17, 21

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
209	XFUT/ XFUN		475	FU0, FU3	Translator & Route Relay	AB	NGC-A	RES BAT.	25, 28		XFUT, FUTO, FUT3	17, 21
210	XFUT/ XFUN		475	FU0, FU4	Translator & Route Relay	AB	NGC-A	RES BAT.	25, 29		XFUT, FUTO, FUT4	17, 21
211	XFUT/ XFUN		475	FU0, FU5	Translator & Route Relay	AB	NGC-A	RES. BAT.	25,35		XFUT,FUTO, FUT5	17, 21
212	XFUT/ XFUN		475	FU0, FU6	Translator & Route Relay	AB	NGC-A	RES BAT.	25,36		XFUT,FUTO, FUT6	17, 21
213	XFUT/ XFUN		475	FU0, FU7	Translator & Route Relay	AB	NGC-A	RES BAT.	25,37		XFUT,FUTO, FUT7	17, 21
214	XFUT/ XFUN		475	FU0, FU8	Translator & Route Relay	B	NGC-A	RES BAT.	25,38		XFUT,FUTO, FUT8	17, 21
215	XFUT/ XFUN		475	FU0, FU9	Translator & Route Relay	AB	NGC-A	RES BAT.	25,39		XFUT,FUTO, FUT9	17, 21
216	XFTT/ XFTN		475	FU0, FT1	Translator & Route Relay	AB	NGC-A	RES BAT.	45,46		XFTT,FTT0, FTT1,XFUT	17,27
217	XFTT/ XFTN		475	FT0, FT2	Translator & Route Relay	AB	NGC-A	RES BAT.	45,47		XFTT,FTT0, FTT2,XFUT	17,27

TABLE B (Cont'd)

CROSS DETECTING RELAYS FOR NONWIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
218	XFTT/ XFTN		475	FT0, FT3	Translator & Route Relay	AB	NGC-A	RES BAT.	45, 48	XFTT, FTT0, FTT3, XFUT	17, 27	
219	XCP, XACP		400	TX	Translator & Route Relay	AC		RES GRD	231	XCP		
220	XDL, XADL		400	TX	Translator & Route Relay	AC		RES GRD	232	XDL		
221	XMB, XAMB		400	TX	Translator & Route Relay	AC		RES GRD	233	XMB		
222	XCL, XACL		400	TX	Translator & Route Relay	AC		RES GRD	234	XCL		
223	XCR, XACR,		400	TX	Translator & Route Relay	AC		RES GRD	235	XCR		
224	XCHS	OLO LKA	300	BTO	Com Eqpt	CD	TLC-A	RES BAT.	10	XCH	28	

Notes:

1. Connect to 1 on earlier type of combined markers (when terminal 3 is not wired).
2. Connect to 2 on earlier types of combined markers (when terminal 3 is not wired).
3. When pulse conversion is provided.
4. Connect to 9B of the DT2 relay on earlier types of combined markers (when 9B and 10B of DT2 are wired).
5. When equipped.
6. The SSA and SSB relays are located in translator and route relay frame.

Notes (Cont'd):

7. Release ONX relay between tests of SS0 through SS9 leads.
8. Block RGTA relay when equipped.
9. XRCT designation perforated when provided.
10. TRN1, BNA, RIA, NE, TBIA, TRN, VCIA, DCIA, OAN, OBN, ECN, KK, FG0, and FG1 located in translator and route relay frame.
11. Block TRN relay when equipped.
12. Block VCIA relay when equipped.
13. Block DCIA relay when equipped.
14. Block OAN and OBN relays when equipped.
15. Block LK1 relay operated after connecting battery to 6B of GLH.
16. When PBX allotter is provided.
17. XFUT — XQ option (MD); XFUN — XR option (STD).
XFTT — XQ option (MD); XFTN — XR option (STD).
18. If App Fig. 208 is provided.
19. XT1 — KK option (STD); XT2 — KJ option (MD).
20. Consult office records and record two class-of-service groups that will cause the XCS relay to operate.
21. Perforations will vary depending on 2/5 or 1/10 trouble record card.
22. If App Fig. 153 is provided, block operated TCA and CHG2 relays.
23. If App Fig. 151 is provided, block operated TRN instead of TRN1.
24. If App Fig. 191 is provided, block operated 10LV relay.
25. XVG5 — CE option; XCW — App. Fig. 194.
26. Not required if ETS provided.
27. XFTT designaton — XQ option, XFUT designation — XR option.
28. If App. Fig. 203 is provided.
29. XSSA — If App. Fig. 204 is provided.

TABLE C

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
1	XPG			PA,PB	Com Eqpt	CE	MTFC-A1 MTC-43	GRD	46,47 41, 42		XPG, PA, PB	1
2	XTS1	TSE1		TSX	Com Eqpt	CE	TLC-MA1	GRD	11		XTS1	
3	XTG1			TG0	Com Eqpt	CE	TLC-MA1	GRD	40		XTG1	
4	XTG1			TG1	Com Eqpt	CE	TLC-MA1	GRD	41		XTG1	
5	XTG1			TG2	Com Eqpt	CE	TLC-MA1	GRD	42		XTG1	
6	XTG1			TG3	Com Eqpt	CE	TLC-MA1	GRD	43		XTG1	
7	XTG1			TG4	Com Eqpt	CE	TLC-MA1	GRD	44		XTG1	
8	XTG1			TG5	Com Eqpt	CE	TLC-MA1	GRD	50		XTG1	
9	XTG1			TG6	Com Eqpt	CE	TLC-MA1	GRD	51		XTG1	
10	XTG1			TG7	Com Eqpt	CE	TLC-MA1	GRD	52		XTG1	
11	XTG1			TG8	Com Eqpt	CE	TLC-MA1	GRD	53		XTG1	
12	XTG1			TG9	Com Eqpt	CE	TLC-MA1	GRD	54		XTG1	
13	XTG1			TG10	Com Eqpt	CE	TLC-MA2	GRD	40		XTG1	
14	XTG1			TG11	Com Eqpt	CE	TLC-MA2	GRD	41		XTG1	
15	XTG1			TG12	Com Eqpt	CE	TLC-MA2	GRD	42		XTG1	
16	XTG1			TG13	Com Eqpt	CE	TLC-MA2	GRD	43		XTG1	
17	XTG1			TG14	Com Eqpt	CE	TLC-MA2	GRD	44		XTG1	
18	XTG1			TG15	Com Eqpt	CE	TLC-MA2	GRD	50		XTG1	
19	XTG1			TG16	Com Eqpt	CE	TLC-MA2	GRD	51		XTG1	
20	XTG1			TG17	Com Eqpt	CE	TLC-MA2	GRD	52		XTG1	
21	XTG1			TG18	Com Eqpt	CE	TLC-MA2	GRD	53		XTG1	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			FRAME OR UNIT	AT		CONNECT	CONNECTION MADE TO			
						DESIG	PORTION USED		TERMINAL (S) ON TS	RELAY CON- TACT OR WINDING TERMINAL		
22	XTG1			TG19	Com Eqpt	CE	TLC-MA2	GRD	54		XTG1	
23	XSL	FAK		AST	Com Eqpt	CE	TLC-MB2	GRD	11		XSL	
24	XSL	FBK		BST	Com Eqpt	CE	TLC-MC2	GRD	11		XSL	
25	XPT	RUNA		ONN, 1TB/1SE	Com Eqpt	CE	TLC-MC2	GRD	20, 21		XPT, RN0, RN1 1TB/1SE	2, 3, 31
26	XRS3			RS0, RS1	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	20, 21		XRS1, RS0, RS1	4
27	XRS4			RS2, RS3	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	22, 23		XRS1, RS2, RS3	4
28	XRC, RCT1	RCT10, RCL		RCT1	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	31		XRS1, RCT1	4, 31
29	XRC, RCT2	RCT10, RCL		RCT2	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	32		XRS1, RCT2	4, 31
30	XRC, RCT3	RCT10, RCL		RCT3	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	33		XRS1, RCT3	4, 31
31	XRC, RCT4	RCT10, RCL, NT		RCT4	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	34		XRS1, RCT10, RCT4	4, 5, 31
32	XRC, RCT5	RCT10, RCL, NT		RCT5	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	35 30		XRS1, RCT10, RCT5	4, 5, 31
33	XRC, RCT6	RCT10, RCL		RCT6	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	36 31		XRS1, RCT6	4, 31
34	XRC, RCT7	RCT10, RCL		RCT7	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	37 32		XRS1, RCT7	4, 31
35	XRC, RCT8	RCT10, RCL		RCT8	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	38 33		XRS1, RCT8	4, 31

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
36	XRC, RCT9	RCT10, RCL		RCT9	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	39 34		XRS1, RCT9	4, 31
37	XRC, RCT10	RCT11, RCL, NT		RCT10	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	40		XRS1, RCT10, RCT11	4, 5, 31
38	XRC, RCT11	RCT10, RCL		RCT11	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	41		XRS1, RCT11	4, 31
39	XRC, RCT12	RCT10, RCL		RCT12	Com Eqpt	Ca	MTFC-C2 MTC-C4	GRD	42		XRS1, RCT12	4, 31
40	XRC, RCT13	RCT10, RCL		RCT13	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	43		XRS1, RCT13	4, 31
41	XRC, RCT14	RCT10, RCL		RCT14	Com Eqpt	CA	MTFC-C2 MTC-C4	GRD	44		XRS1, RCT14	4, 31
42	XRC, RCT15	RCT10, RCL		RCT15	Com Eqpt	CA	MTFC-C2 MTC-C5	GRD	45 40		XRS1, RCT15	4, 31
43	XFT, XAFT			XFT	Com Eqpt	CE	TLC-M	GRD	22		XFT	
44	XCH, XACH			LL0, LL1	Com Eqpt	CB	LLC-MA2	GRD	00,01		XCH	
45	XLO			LO	Com Eqpt	CB	LLC-MB2	GRD	10		XLO	
46	XLO			LOB	Com Eqpt	CB	LLC-MB2	GRD	11		XLO	
47	XLO			LOK	Com Eqpt	CB	LLC-MB2	GRD	12		XLO	
48	XLO			G	Com Eqpt	CB	LLC-MB2	GRD	14		XLO	
49	XRL	CB, FBK		RL	Com Eqpt	CC		GRD	32		XRL, RL	
50	XMRL			MRL	Com Eqpt	CC		GRD	10		XMRL, MRL	
51	XBT			BT	Com Eqpt	CC		GRD	11		XBT, BT	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER													
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT				CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS		RELAY CONTACT OR WINDING TERMINAL			
						DESIG	PORTION USED						
52	XTRL	TR2	150	TRL	Com Eqpt	CC		GRD	16		XTRL, TRL	36	
53	XTRK			TRK	Com Eqpt	CC		GRD	23		XTRK, TRK		
54	XI			XI	Com Eqpt	CJ		T	GRD		03		XI
55	XHG			HGK	Com Eqpt	CB		LLC-MA1	RES GRD		12		XHG, HGK
56	XS	CKG5, OGC	350	XS	Com Eqpt	CF	OSC-CONT	RES GRD	24		XS	6	
57	XSA		XSA	Com Eqpt	CF	OSC-CONT	RES GRD	11	XSA				
58	XLV		LVK	Com Eqpt	CE	TLC-MB2	RES GRD	01	XLV				
59	XLC, XALC		BX	60	ALC	Com Eqpt	CE	TLC-MB2	RES GRD	14			XLC
60	XLC, XALC	BX	60	BLC	Com Eqpt	CE	TLC-MC2	RES GRD	14		XLC	13F of TERI	
61	XCKR			XCKR				GRD			XCKR		
62	XLG		200	BS				RES GRD		2F of HGK	XLG		
63	XVGB, XAVGB	JG0	475/240	XVGB				RES GRD		17F of LLC1	XVGB	7	
64	XF, XAF		475	XF				RES GRD		10F of PR	XF	37	
65	XJC, XAJC		60	XJC				RES GRD		3F of JG0	XJC	37	
66	XJG, XAJG		350	XJG				RES GRD		4F of JG0	XJG		

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORMED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
67	XLR, XALR		130	XLR			RES GRD		9F of FUT0	XLR		
68	XJS, XAJS	ONX	300	JS0			RES GRD		12F of CH0	XJS	35	
68.1	XJS1, XAJS	BX, ONX	300	SBA2			RES GRD		8F of BX	XJS		
69	XCDS		150	PG-			RES GRD		4M of CD1	XCS	13	
70	XPRE		150	PRE-			RES GRD		6F of NET	XCS	13	
71	XTA/XT		130	XT			RES GRD		6F of RO	XT	8	
72	XCS, XACS	*(Notes)	475	XCS			RES GRD		1/2 of XCS	XCS	9 *38	
73	XCS, XACS		475	XCS			RES GRD		1 of XCS	XCS	10	
74	XCDA		150	CDA-			RES GRD		1U of XCDA	XCS	13	
75	XCDB		150	CDB-			RES GRD		1U of XCDB	XCS	13	
76	XRD		150	RD-			RES GRD		1U of XRD	XCR	13	
77	XTS, XATS	ONX	300	TSX	Com Eqpt	CE TLC-MA1	RES BAT.	11		XTS		
78	XRS1 XARS		90	RSO	Com Eqpt	CE TLC-MC2	RES BAT.	40		XRS		

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
79	XRS1, XARS		90	RS1	Com Eqpt	CE	TLC-MC2	RES BAT.	41		XRS	
80	XRS1, XARS		90	RS2	Com Eqpt	CE	TLC-MC2	RES BAT.	42		XRS	
81	XRS1, XARS		90	RS3	Com Eqpt	CE	TLC-MC2	RES BAT.	43		XRS	
82	XRS1, XARS		90	RS4	Com Eqpt	CE	TLC-MC2	RES BAT.	44		XRS	
83	XRS2, XARS		90	RS5	Com Eqpt	CE	TLC-MC2	RES BAT.	50		XRS	
84	XRS2, XARS		90	RS6	Com Eqpt	CE	TLC-MC2	RES BAT.	51		XRS	
85	XRS2, XARS		90	RS7	Com Eqpt	CE	TLC-MC2	RES BAT.	52		XRS	
86	XRS2, XARS		90	RS8	Com Eqpt	CE	TLC-MC2	RES BAT.	53		XRS	
87	XRS2, XARS		90	RS9	Com Eqpt	CE	TLC-MC2	RES BAT.	54		XRS	
88	XTS, XATS	ONX	300	BSM	Com Eqpt	CE	TLC-MC2	RES BAT.	10		XTS	
89	XTS, XATS	ONX	300	ASM	Com Eqpt	CE	TLC-MB2	RES BAT.	10		XTS	
90	XSS	SSA, ONX, TLS	300	SS0	Com Eqpt	CE	TLC-M	RES BAT.	30		XSS	11,12
91	XSS	SSA, ONX, TLS	300	SS1	Com Eqpt	CE	TLC-M	RES BAT.	31		XSS	11,12

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
92	XSS	SSA, ONX, TLS	300	SS2	Com Eqpt	CE	TLC-M	RES	32		XSS	11,12
93	XSS	SSA, ONX, TLS	300	SS3	Com Eqpt	CE	TLC-M	RES BAT.	33		XSS	11,12
94	XSS	SSA, ONX, TLS	300	SS4	Com Eqpt	CE	TLC-M	RES BAT.	34		XSS	11,12
95	XSS	SSA, ONX, TLS	300	SS5	Com Eqpt	CE	TLC-M	RES BAT.	40		XSS	11,12
96	XSS	SSA, ONX, TLS	300	SS6	Com Eqpt	CE	TLC-M	RES BAT.	41		XSS	11,12
97	XSS	SSA, ONX, TLS	300	SS7	Com Eqpt	CE	TLC-M	RES BAT.	42		XSS	11,12
98	XSS	SSA, ONX, TLS	300	SS8	Com Eqpt	CE	TLC-M	RES BAT.	43		XSS	11,12
99	XSS	SSA, ONX, TLS	300	SS9	Com Eqpt	CE	TLC-M	RES BAT.	44		XSS	11,12
100	XSS	SSB, ONX, TLS	300	SS0	Com Eqpt	CE	TLC-M	RES BAT.	30		XSS	11,12

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
101	XSS	SSB, ONX, TLS	300	SS1	Com Eqpt	CE	TLC-M	RES BAT.	31		XSS	11,12
102	XSS	SSB, ONX, TLS	300	SS2	Com Eqpt	CE	TLC-M	RES BAT.	32		XSS	11,12
103	XSS	SSB, ONX, TLS	300	SS3	Com Eqpt	CE	TLC-M	RES BAT.	33		XSS	11,12
104	XSS	SSB, ONX, TLS	300	SS4	Com Eqpt	CE	TLC-M	RES BAT.	34		XSS	11,12
105	XSS	SSB, ONX, TLS	300	SS5	Com Eqpt	CE	TLC-M	RES BAT.	40		XSS	11,12
106	XSS	SSB, ONX, TLS	300	SS6	Com Eqpt	CE	TLC-M	RES BAT.	41		XSS	11,12
107	XSS	SSB, ONX, TLS	300	SS7	Com Eqpt	CE	TLC-M	RES BAT.	42		XSS	11,12
108	XSS	SSB, ONX, TLS	300	SS8	Com Eqpt	CE	TLC-M	RES BAT.	43		XSS	11,12
109	XSS	SSB, ONX, TLS	300	SS9	Com Eqpt	CE	TLC-M	RES BAT.	44		XSS	11,12
110	XTB1		350	TB0	Com Eqpt	CE	TLC-M	RES BAT.	10		XTB1	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
111	XTB1		350	TB1	Com Eqpt	CE	TLC-M	RES BAT.	11		XTB1	
112	XTB1		350	TB2	Com Eqpt	CE	TLC-M	RES BAT.	12		XTB1	
113	XTB1		350	TB3	Com Eqpt	CE	TLC-M	RES BAT.	13		XTB1	
114	XTB1		350	TB4	Com Eqpt	CE	TLC-M	RES BAT.	14		XTB1	
115	XTB1		350	TB5	Com Eqpt	CE	TLC-M	RES BAT.	20		XTB1	
116	XTB1		350	TB6	Com Eqpt	CE	TLC-M	RES BAT.	23		XTB1	14
117	XTB1		350	TB7	Com Eqpt	CH	TLC-ME	RES BAT.	40		XTB1	14
118	XTB1		350	TB8	Com Eqpt	CH	TLC-ME	RES BAT.	41		XTB1	14
119	XTB1		350	TB9	Com Eqpt	CH	TLC-ME	RES BAT.	42		XTB1	14
120	XLS		350	SM0	Com Eqpt	CB	LLC-MA2	RES BAT.	20		XLS	
121	XLS		350	SM1	Com Eqpt	CB	LLC-MA2	RES BAT.	21		XLS	
122	XLS		350	SM2	Com Eqpt	CB	LLC-MA2	RES BAT.	22		XLS	
123	XLS		350	SM3	Com Eqpt	CB	LLC-MA2	RES BAT.	23		XLS	
124	XLS		350	SM4	Com Eqpt	CB	LLC-MA2	RES BAT.	24		XLS	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
139	XN	TBIA, NE		XN						XN	16	
140	XN	SAE,UC		XN						XN		
141	XN	ECN, OCN		XN						XN		
142	XN	TRN, NE		XN						XN		
143	XN	KK,NE		XN						XN	32	
144	XN	TRN, DCIA		XN						XN	16	
145	XN	TRN, VCIA		XN						XN	16	
146	XN	DCIA, NE		XN						XN	16	
147	XN	VCIA, NE		XN						XN	16	
148	XN	CIA, TRN		XN						XN	17	
149	XN	CIA, NE		XN						XN	17	
150	XN	PLBA, TRN		XN						XN	18	
151	XN	PLBA, NE		XN						XN	18	
152	XN	RIPA, TRN		XN						XN	19	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CON- TACT OR WINDING TERMINAL			
						DESIG						PORTION USED
153	XN	RIPA, NE		XN						XN	19	
154	XN	ITNA, TRN		XN						XN	20	
155	XN	ITNB, NE		XN						XN	20	
156	XN	UA		XN						XN	21	
157	XN	LRA		XN						XN	22	
158	XN	NANS, AN		XN						XN	23	
159	XN	NANS, ANS		XN						XN	23	
160	XN	NGK, DNGA, DNGB		XN						XN	24	
161	XN	NAI, AIS, CKG7		NAI						XN	25	
162	MXT	SQA		MXT						SQA, MXT	33	
163 164	FTC0 FTC__	FTC0 FTC__ (to last equipped FTC__ relay)		FS0 FS-						FTCK,FSO FTCK,FS__ (to last equipped FTC__relay operated)		

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
165	XNS, XN			NSS0, NSS1	Translator & Code Treatment	TB	NS	GRD	0,1		XN	39
166	XNS, XN			NSS2, NSS3	Translator & Code Treatment	TB	NS	GRD	2,3		XN	39
167	XNS, XN			NSS4, NSS5	Translator & Code Treatment	TB	NS	GRD	4,5		XN	39
168	XT1, XT5			CL1	Translator & Code Treatment	TR	OSC-MA1	GRD	01		XT5,CL1	
169	XT1, XT5			CL2	Translator & Code Treatment	TR	OSC-MA1	GRD	02		XT5,CL2	
170	XT1, XT5			CL3	Translator & Code Treatment	TR	OSC-MA1	GRD	03		XT5,CL3	
171	XT1, XT5			CL4	Translator & Code Treatment	TR	OSC-MA1	GRD	04		XT5,CL4	
172	XT3, XT5			AR0	Translator & Code Treatment	TR	OSC-MB2	GRD	10		XT5,AR0	34
173	XT3, XT5			AR1	Translator & Code Treatment	TR	OSC-MB2	GRD	11		XT5,AR1	34

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON T5	RELAY CON- TACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
174	XT3, XT5			AR2	Translator & Code Treatment	TR	OSC-MB2	GRD	12		XT5,AR2	34
175	XT3, XT5			AR4	Translator & Code Treatment	TR	OSC-MB2	GRD	13		XT5,AR4	34
176	XT3, XT5			AR7	Translator & Code Treatment	TR	OSC-MB2	GRD	14		XT5,AR7	34
177	XT3, XT5			BR0	Translator & Code Treatment	TR	OSC-MB2	GRD	20		XT5,BR0	34
178	XT3, XT5			BR1	Translator & Code Treatment	TR	OSC-MB2	GRD	21		XT5,BR1	34
179	XT3, XT5			BR2	Translator & Code Treatment	TR	OSC-MB2	GRD	22		XT5,BR2	34
180	XT3, XT5			BR4	Translator & Code Treatment	TR	OSC-MB2	GRD	23		XT5,BR4	34
181	XT3, XT5			BR7	Translator & Code Treatment	TR	OSC-MB2	GRD	24		XT5,BR7	34
182	XT2, XT5			CD0	Translator & Code Treatment	TR	OSC-MB2	GRD	30		XT5,CD'0	13

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
183	XT2, XT5			CD1	Translator & Code Treatment	TR	OSC-MB2	GRD	31		XT5,CD'1	13
184	XT2, XT5			CD2	Translator & Code Treatment	TR	OSC-MB2	GRD	32		XT5,CD'2	13
185	XT2, XT5			CD4	Translator & Code Treatment	TR	OSC-MB2	GRD	33		XT5,CD'4	13
186	XT2, XT5			CD7	Translator & Code Treatment	TR	OSC-MB2	GRD	34		XT5,CD'7	13
187	XT1, XT5			CL5	Translator & Code Treatment	TR	OSC-MB2	GRD	52		XT5,CL5	
188	XT1, XT5			CL6	Translator & Code Treatment	TR	OSC-MB2	GRD	53		XT5,CL6	
189	XT2, XT5			DL1	Translator & Code Treatment	TR	OSC-MB2	GRD	40		XT5,DL1	
190	XT2, XT5			DL2	Translator & Code Treatment	TR	OSC-MB2	GRD	41		XT5,DL2	41
191	XT2, XT5			DL3	Translator & Code Treatment	TR	OSC-MB2	GRD	42		XT5,DL3	41

TABLE C (CONT'D)

SECTION 218-122-550

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG				PORTION USED		
192	XT2, XT5			DL4	Translator & Code Treatment	TR	OSC-MB2	GRD	43		XT5,DL4	41
193	XT2, XT5			DL5	Translator & Code Treatment	TR	OSC-MB2	GRD	44		XT5,DL5	41
194	XT2, XT5			DL6	Translator & Code Treatment	TR	OSC-MB2	GRD	50		XT5,DL6	41
195	XT1, XT5			CP0	Translator & Code Treatment	TR	OSC-MC1	GRD	50		XT5,CP0	41
196	XT1, XT5			CP1	Translator & Code Treatment	TR	OSC-MC1	GRD	51		XT5,CP1	
197	XT1, XT5			CP2	Translator & Code Treatment	TR	OSC-MC1	GRD	52		XT5,CP2	41
198	XT1, XT5			CP4	Translator & Code Treatment	TR	OSC-MC1	GRD	53		XT5,CP4	41
199	XT1, XT5			CP7	Translator & Code Treatment	TR	OSC-MC1	GRD	54		XT5,CP7	
200	XT2, XT5			MB0	Translator & Code Treatment	TR	OSC-MC1	GRD	40		XT5,MB0	41

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
201	XT2, XT5			MB1	Translator & Code Treatment	TR	OSC-MC1	GRD	41		XT5,MB1	41
202	XT2, XT5			MB2	Translator & Code Treatment	TR	OSC-MC1	GRD	42		XT5,MB2	41
203	XT2, XT5			MB4	Translator & Code Treatment	TR	OSC-MC1	GRD	43		XT5,MB4	41
204	XT2, XT5			MB7	Translator & Code Treatment	TR	OSC-MC1	GRD	44		XT5,MB7	41
205	XT3, XT5			CR0	Translator & Code Treatment	TR	OSC-MB1	GRD	20		XT5,CR0	
206	XT3, XT5			CR1	Translator & Code Treatment	TR	OSC-MB1	GRD	21		XT5,CR1	
207	XT3, XT5			CR2	Translator & Code Treatment	TR	OSC-MB1	GRD	22		XT5,CR2	
208	XT3, XT5			CR4	Translator & Code Treatment	TR	OSC-MB1	GRD	23		XT5,CR4	
209	XT3, XT5			CR7	Translator & Code Treatment	TR	OSC-MB1	GRD	24		XT5,CR7	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CON- TACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
210	XT2, XT5			SC	Translator & Code Treatment	TR	OSC-MB1	GRD	30		XT5,SC	
211	XT2, XT5			TVT	Translator & Code Treatment	TR	OSC-MB1	GRD	31		XT5,TVT	
212	XT1, XT5			CL7	Translator & Code Treatment	TR	OSC-MB1	GRD	32		XT5,CL7	40
213	XT1, XT5			CL8	Translator & Code Treatment	TR	OSC-MB1	GRD	33		XT5,CL8	40
214	XT2, XT5			AMA	Translator & Code Treatment	TR	OSC-MC1	GRD	24		XT5,AMA	
215	XT2, XT5			OBS	Translator & Code Treatment	TR	OSC-MC1	GRD	20		XT5,OBS'	
216	XT2, XT5			NOB	Translator & Code Treatment	TR	OSC-MC1	GRD	21		XT5,NOB'	
217	XT1, XT5			L5D	Translator & Code Treatment	TR	OSC-MC1	GRD	31		XT5,L5D	
218	XT1, XT5			LST	Translator & Code Treatment	TR	OSC-MC1	GRD	32		XT5,LST	
219	XT1, XT5			4DG	Translator & Code Treatment	TR	OSC-MC1	GRD	33		XT5,4DG	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CON- TACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
220	XT1, XT5			5DG	Translator & Code Treatment	TR	OSC-MC1	GRD	34		XT5,5DG	
221	XT			OA,OB	Translator & Code Treatment	TS	IRMC-MC	GRD	21,22		XT,OA,OB	
222	XCLC	TCA		INC,RO	Translator & Code Treatment	TS	IRMC-MA	GRD	04,52		XCLC,INC,RO	26
223	XOB	NCMJ, CHA1		OBS, NOB	Translator & Code Treatment	TS	ORMC-MC	GRD	22,23		XOB,OBS,NOB	27,28
224	XTV			TVA, SCC	Translator & Code Treatment	TQ		GRD	240,241		XTV/XBT	29
225	XDL			DL0P, DL1P	Translator & Code Treatment	TP	RR	GRD	12,13		XDL	41
226	XDL			DL0S, DL1S	Translator & Code Treatment	TP	RR	GRD	19,20		XDL	41
227	XCR			CR0P, CR1P	Translator & Code Treatment	TP	RR	GRD	01,02		XCR	41
228	XCR			CR0S, CR1S	Translator & Code Treatment	TP	RR	GRD	06,07		XCR	41

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER													
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT				CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS		RELAY CONTACT OR WINDING TERMINAL			
						DESIG	PORTION USED						
229	XCP			CP0P, CP1P	Translator & Code Treatment	TP	RR	GRD	38,39		XCP	41	
230	XCP			CP0S, CP1S	Translator & Code Treatment	TP	RR	GRD	48,49		XCP	41	
231	XCL			CL0P, CL1P	Translator & Code Treatment	TP	RR	GRD	26,27		XCL	41	
232	XCL			CL0S, CL1S	Translator & Code Treatment	TP	RR	GRD	32,33		XCL	41	
233	XFUN, FUN0, FUN1	CKG1	475	FU0,FU1	Com Eqpt	CB	NGC-MCB	RES BAT.	40,41		XFUT		
234	XFUN, FUN0, FUN2	CKG1	475	FU0,FU2	Com Eqpt	CB	NGC-MCB	RES BAT.	40,42		XFUT		
235	XFUN, FUN0, FUN3	CKG1	475	FU0,FU3	Com Eqpt	CB	NGC-MCB	RES BAT.	40,43		XFUT		
236	XFUN, FUN0, FUN4	CKG1	475	FU0,FU4	Com Eqpt	CB	NGC-MCB	RES BAT.	40,44		XFUT		
237	XFUN, FUN0, FUN5	CKG1	475	FU0,FU5	Com Eqpt	CB	NGC-MCB	RES BAT.	40,50		XFUT		

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
238	XFUN, FUN0, FUN6	CKG1	475	FU0,FU6	Com Eqpt	CB	NGC-MCB	RES BAT.	40,51		XFUT	
239	XFUN, FUN0, FUN7	CKG1	475	FU0,FU7	Com Eqpt	CB	NGC-MCB	RES BAT.	40,52		XFUT	
240	XFUN, FUN0, FUN8	CKG1	475	FU0,FU8	Com Eqpt	CB	NGC-MCB	RES BAT.	40,53		XFUT	
241	XFUN, FUN0, FUN9	CKG1	475	FU0,FU9	Com Eqpt	CB	NGC-MCB	RES BAT.	40,54		XFUT	
242	XFTN, FTN0, FTN1	CKG1	475	FT0,FT1	Com Eqpt	CB	NGC-MCB	RES BAT.	01,02		XFUT	
243	XFTN, FTN0, FTN2	CKG1	475	FT0,FT2	Com Eqpt	CB	NGC-MCB	RES BAT.	01,03		XFUT	
244	XFTN, FTN0, FTN3	CKG1	475	FT0,FT3	Com Eqpt	CB	NGC-MCB	RES BAT.	01,04		XFUT	
245	XFTN, FTN4, FTN5	CKG1	475	FT4,FT5	Com Eqpt	CB	NGC-MCB	RES BAT.	11,12		XFUT	
246	XARN			AR0P, AR1P	Code Conversion	CVC		GRD	ARP0, ARP1		XCR	41
247	XARN			AR0S, AR1S	Code Conversion	CVC		GRD	ARS0, ARS1		XCR	41

TABLE C (CONT'D)

SECTION 218-122-550

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
248	XBRN			BR0P, BR1P	Code Conversion	CVC		GRD	BRP0, BRP1		XCR	41
249	XBRN			BR0S, BR1S	Code Conversion	CVC		GRD	BRS0, BRS1		XCR	41
250	XAH			XAN	PBX Allotter			GRD		6F of ANS	XAN	41
251	XAN	ANA0, ANA1, ANON		XAN							XAN	41
252	XCE, CE			CE	4 Wire	MB-B	ORMC-MF	GRD	11		XCE,CE'	13
253	XBRL			BRL	4 Wire	MB-B	ORMC-MF	GRD	12		XBRL,BRL	13
254	XFTG, XAFT			TP1A, TP1B	4 Wire	NA-A		GRD	40,41		XFT	13
255	XFTG, XAFT			TP1C, TP1D	4 Wire	NA-A		GRD	42,43		XFT	13
256	XFTG, XAFT			TP1E, TP2A	4 Wire	NA-A		GRD	44,45		XFT	13
257	XFTG, XAFT			TP2B, TP2C	4 Wire	NA-A		GRD	46,47		XFT	13
258	XFTG, XAFT			TP2D, TP2E	4 Wire	NA-A		GRD	48,49		XFT	13
259	XFTG, XAFT			TP3A, TP3B	4 Wire	NA-A		GRD	50,51		XFT	13
260	XFTG, XAFT			TP3C, TP3D	4 Wire	NA-A		GRD	52,53		XFT	13

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORMED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
261	XFTG, XAFT			TP3E, TP4A	4 Wire	NA-A		GRD	54,55		XFT	13
262	XFTG, XAFT			TP4B, TP4C	4 Wire	NA-A		GRD	56,57		XFT	13
263	XFTG, XAFT			TP4D, TP4E	4 Wire	NA-A		GRD	58,59		XFT	13
264	XLRL			RL	4 Wire	NA-B		GRD	59		XRL,LRL	13
265	XST		400	TS1	4 Wire	NA-A		RES GRD	20		XST	13
266	XST		400	TS2	4 Wire	NA-A		RES GRD	21		XST	13
267	XST		400	TS3	4 Wire	NA-A		RES GRD	22		XST	13
268	XST		400	TS4	4 Wire	NA-A		RES GRD	23		XST	13
269	XST		400	TS5	4 Wire	NA-A		RES GRD	24		XST	13
270	XST		400	TSG	4 Wire	NA-A		RES GRD	05		XST	13
271	XST1	STXA, TSTS	400	TS1	4 Wire	NA-A		RES GRD	20		XST	13
272	XST2	STXA, TSTS	400	TS2	4 Wire	NA-A		RES GRD	21		XST	13
273	XST3	STXA, TSTS	400	TS3	4 Wire	NA-A		RES GRD	22		XST	13

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
274	XST4	STXA, TSTS	400	TS4	4 Wire	NA-A	RES GRD	23		XST	13	
275	XST5	STXA, TSTS	400	TS5	4 Wire	NA-A	RES GRD	24		XST	13	
276	XSTG	STXA, TSTS	400	TSG	4 Wire	NA-A	RES GRD	05		XST	13	
277	XPLF		150	FK	4 Wire	NA-B	RES GRD	51		XLF	13	
278	XSCA	PML, RCT10	200	SCAK	4 Wire	NA-D	RES GRD	55		XSC	13	
279	XSTC		130	TGCB	4 Wire	NA-E	RES GRD	59		XCP	13	
280	XLF		150	FK	4 Wire	NA-H	RES GRD	33		XLF	13	
281	XLSB, XLS		475	P1	4 Wire	NA-A	RES BAT.	06		XLS	13	
282	XLSB, XLS		475	P2	4 Wire	NA-A	RES BAT.	07		XLS	13	
283	XLSB, XLS		475	P3	4 Wire	NA-A	RES BAT.	08		XLS	13	
284	XLSB, XLS		475	P4	4 Wire	NA-A	RES BAT.	09		XLS	13	
285	XSP, XCP	SMC	475	B	Trk Grp Trf Samp	A	RES GRD	48		XCP	41	
286	XFC, XAFT	FC300, FC340		GSA1						XFT	14,41	

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
287	XFC, XAFT	FC210, FC270		GSA2							XFT	14,41
288	XFC, XAFT	FC120, FC180		GSA3							XFT	14,41
289	XFC, XAFT	FC101, FC90		GSA4							XFT	14,41
290	XFC, XAFT	FC0, FC4		GSA5							XFT	14,41
291	XFC, XAFT	FC6, FC8		GSA6							XFT	14,41
292	XACS,	NMR		XNMR							XCS	41
293	XACS	NTMR, TMR		XTMR							XCS,NMR	41
294	XWBA, XWB	WBS		XWB	Wideband Switching Unit	A		GRD	38		XTV	30
295	XFR	FAK, WONX, RSW, WTK	350	RFA	Mkr WB	AA-TLC	M	RES BAT.	12		XLV,WCK	30,33
296	XFR	FBK, WONX, RSW, WTK	350	RFB	Mkr WB	AA-TLC	M	RES BAT.	13		XLV,WCK	30,33
297	XMB			MBC	Mkr WB	AA-LLC	MD	GRD	02		XT5	30,33
298	XMB			MBCK	Mkr WB	AA-LLC	MD	GRD	03		XT5	30,33

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION						DESIGNATIONS PERFORATED	NOTE (S)
	UNDER TEST	BLOCKED OPERATED			AT			CONNECT	CONNECTION MADE TO			
					FRAME OR UNIT	TERMINAL STRIP			TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL		
						DESIG	PORTION USED					
299	XMB			MBCL	Mkr WB	AA-LLC	MD	GRD	04		XT5	30,33
300	XMB			MT	Mkr WB	AA-LLC	MC	GRD	03		XT5	30,33
301	XRSC, RWL	WLC1	150	RLN	Mkr WB	AA-LLC	MB	RES GRD	54		XLG,RWL	30,33
302	XTC TSK	WTC	150	TSK	Mkr WB	AA-TLC	MA	RES GRD	01		XLC,TSK	30,33
303	XVF		350	XVF	Mkr WB	AA-LLC	MA	RES GRD	50		XS	30,33
304	XWCH, XAWCH			A0	Mkr WB	AA-LLC	MC	GRD	10		XCH	30,33
305	XWCH, XAWCH			B0	Mkr WB	AA-TLC	MA	GRD	10		XCH	30,33
306	XWCH, XAWCH			R0	Mkr WB	AA-LLC	MC	GRD	20		XCH	30,33
307	XWJS		350	JS0	Mkr WB	AA-TLC	MA	RES BAT.	30		XJS	30,33
308	XWLS		350	LS0	Mkr WB	AA-LLC	MD	RES BAT.	40		XLS	30,33
309	XWSL	LSW		SLT	Mkr WB	AA-TLC	MA	GRD	03		XSL	30,33
310	XWTS, XAWTS	WONX, LSW	300	TS	Mkr WB	AA-TLC	MA	RES GRD	04		XTS	30,33
311	XWVG	VGTO, WLC	150	VG0				RES BAT.		12F of VGTO	XVGB,VTK1	30,33

TABLE C (CONT'D)

CROSS DETECTING RELAYS FOR WIRE - SPRING - RELAY MARKER												
STEP	RELAY (S)		RES OHMS	LEAD (S) UNDER TEST	ACTION					DESIGNATIONS PERFORATED	NOTE (S)	
	UNDER TEST	BLOCKED OPERATED			AT		CONNECT	CONNECTION MADE TO				
					FRAME OR UNIT	TERMINAL STRIP		TERMINAL (S) ON TS	RELAY CONTACT OR WINDING TERMINAL			
						DESIG						PORTION USED
312	XLLC, XALLC			C0, C1	MKR WB	AA-LLC	MB	GRD	20,21	XJG,LLC0, LLC1	30,33, 42	
313	XCHS	DCT1 TBX	350	SG				BAT	10F of CH0	XCH	43	
314	XLSS, LSK	WLC1	150		MKR WB	AA-LLC	MB	GRD	24	LSK, XHG	30,33, 42	

Notes:

1. Terminals 46, 47 on MTFC-A1 (A&M); terminals 41, 42 on MTC-A3 (STD).
2. Block RUNA relay if equipped (App Fig. 71).
3. 1TB — X option (A&M); 1SE — Y option (STD).
4. MTFC-C2 (A&M); MTC-C4 (STD); MTC-C5 (STD).
5. Block operated NT relay if equipped.
6. When provided (A&M only).
7. 475 ohms without centrex operation (WX option); 240 ohms with centrex (VA option).
8. XTA — XP option; XT — XO option.
9. Terminal 1 — GD option; terminal 2 — GC option.
10. If WX option is provided.
11. Release ONX relay between tests of SS0 through SS9 leads.
12. Block operated TLS relay if equipped (TU option).
13. When 4-wire switching is provided.
14. When equipped.
15. If option YF is provided.
16. If option YG is provided.
17. If option YG and App Fig. 137 are provided.

Notes (Cont'd):

18. If option YG and App Fig. 121 are provided.
19. If options YG and ZQW are provided.
20. If options YG and SM are provided.
21. If App Fig. RO is provided.
22. If App Fig. 88 is provided.
23. If App Fig. 60 is provided.
24. If App Fig. 132 is provided.
25. If App Fig. 128 is provided.
26. If App Fig. 53 is provided, block operated TCA relay.
27. If App Fig. 68 is provided, block operated NCMJ relay to test OBS lead.
28. XOB will be perforated if LT option is provided.
29. XTV — option KK; XBT — option KY.
30. When wideband switching is provided.
31. Perforations will vary depending upon 2/5 or 1/10 trouble card.
32. Option ZXE only.
33. If LU Option is provided, MXT will be perforated.
34. If App Fig. 59 is provided.
35. If option ZZM is provided, block operated 10LV relay.
36. If App Fig. 112 is provided.
37. If Option ZUY is provided, block operated GT3 relay.
38. Block operated DTI (PS option), RDI, CGS (PY option), CGS (PX option).
39. Not required in ETS offices unless direct access to 101 ESS provided.
40. If option UQ is provided.
41. Not required if ETS provided.
42. If App Fig. 167 is provided.
43. If App Fig. 171 is provided.

TABLE D

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
1 2 3 4 5	TMS A TM	TRT R YT1	 TMS	WT R YT	WT	WT	
6 7 8 9 10	AK	R YT1	R YT1 TM AK,A	WT, R YT1	R YT R YT1 WT		
11 12 13 14 15	RAV2 SNK SNK		RAV2 SNK	R YT WT		WT	R YT
16 17 18 19 20	*SFT RCY SP		SNK RCY,SP	R YT	*WT WT R YT		
21 22 23 24	TK,CHE §*NR *OFK RSK			R YT	*R YT		R YT R YT
25 26 27 28	§OFK *†PBXB/ PBXA *‡NT AR			*R YT *R YT R YT	R YT		

*Momentarily

† PBXB — App Fig. G
PBXA — App Fig. H

‡ When equipped.

§ App Fig. J and AS provided; App Fig. AT not provided.

TABLE D (Contd)

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
29 30 31 32	CHE		CHE TK AR		RYT	RYT RYT	
33 34 35 36	TK STP3 *PMO	RAV2		RYT	*RYT	RYT	
37 38 39 40	RK3, SCB2 HTUK		RAV2 STP3		RYT		RYT
41 42 43 44	*AR		TK,CHE RSK,OFK HTUK	*RYT RYT	RYT		
45 46 47 48	NR,TK, CHE RSC		RK3 SCB2	RYT	RYT	RYT RYT	
49 50 51 52	*\$FLG1 GLH *§BY		TK,CHE,NR, RSC	*RYT RYT	*RYT		
53 54 55 56	¶OFH *†RSK GT2 *¶SKA			*†RYT *RYT	RYT **RYT	¶RYT	

* Momentarily.

§ When GF option is provided.

¶ When option 30 is provided.

** When option 106 is provided.

†† If released by Step 53.

TABLE D (Contd)

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
57 58 59 60	¶SKB ¶OST2 ¶RSC *¶GT3			RYT RYT	RYT *RYT		
61 62 63 64	*¶RCTA ¶RCTB *¶RCTA		¶GT2		*RYT RYT		RYT RYT
65 66	 OST1		GLH OFH,SKB, OST2,RSC, RCTB	 ‡‡RYT			
67 68 69 70	*SCB1 §§CHE RK3 *§§SCB2			RYT	*RYT *RYT		RYT
71 72 73 74	 *‡GP2 RCY2	 RCY3	OST1,CHE, RK3	 *RYT RYT	RYT		
75 76 77 78 79	*RCY4 *BNTH TLC2,AR	 MXT,SNK	RCY2, RCY3	 *RYT	*RYT RYT	RYT	

* Momentarily.

‡ When equipped.

¶ When option 30 is provided.

‡‡ RYT operates only if TV wiring is provided (when contact 6B of SCB1 is wired).

§§ Perform this step only if TW wiring is provided (when contacts 5B and 6B of SCB2 are wired).

TABLE D (Contd)

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
80 81 82 83 84	FTCK *FKA TLC2		TLC2 AR	RYT	*RYT RYT	RYT	
85 86 87 88 89	RV1 *†PCL1 *TFK2 ☞☞PCL2		FTCK,RV1, TLC2	RYT	*RYT *RYT RYT	RYT	
90 91 92 93 94	☞☞SLK2 *☞☞TGT *☞☞FAK ☞☞FBK		☞☞SLK2	RYT *RYT RYT	*RYT RYT		
95 96 97 98 99 100 101 102 103 104 105	*☞☞TG *#CA1 *#CBI ##DAC ##DAC1 ##NR ***LLI		☞☞PCL2, FBK ##DAC,DAC1, NR ***LLI SNK,MXT, TRT,RYT1, RAV2	*RYT *RYT RYT RYT RYT	*RYT RYT RYT RYT		

* Momentarily.

† When equipped.

☞☞ Perform these steps only if relay PCL2 is provided.

Located in foreign area translator connector frame.

When App. Fig. 181 is provided.

*** If ETS provided; LLI located in Marker Distributor Control Circuit.

TABLE E

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
1 2 3 4 5	TMS GLH	TRT RYT1	TMS	WT RYT	WT		
6 7 8 9 10	TM GT1	RYT1	RYT1 TM, GLH GT1	RYT1, WT	RYT RYT1 WT	WT	
11 12 13 14 15	RAV1 SNK SNK		RAV1 SNK	RYT WT	RYT	WT	RYT
16 17 18 19	*SFT RCY SP		SNK RCY, SP	RYT	*WT WT RYT		
20 21 22 23 24	*†AGP *LK2 *#NT3 *OFH RSC			*RYT *RYT *RYT *RYT RYT			
25 26 27 28 29 30 31 32 33 34	*SCB2 CK0 *RNG STP LLC1 *STP2 CKG1, ‡OR/ PK, RGT, RV1		RSC CK0 LLC1, STP	RYT RYT RYT	*RYT RYT *RYT RYT *RYT RYT	RYT	

* Momentarily.

† App. Fig. 38 provided.

‡ OR — ZH option

PK — ZI option

App. Fig. 45 provided.

TABLE E (Contd)

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
	OPERATED	NONOPERATED					
35 36 37 38 39	*DIS2 *NR		*CKG1 *‡OR/PK *RGT		*RYT *RYT *RYT *RYT		
40 41 42 43 44	 §GB *§SP		RV1 CKG1, ‡OR/PK, RGT,RV1 §GB	 RYT	RYT *RYT RYT		
45 46 47 48 49	RAV1 *RYT1 ##RLL *LIA		 RAV1	RYT RYT	*RYT RYT *RYT		
50 51 52 53 54	**SMB *TMB (1)DAC		##RLL **SMB	RYT RYT	RYT *RYT RYT		
55 56 57 58 59	*SNG1 (2)CWNT *SP		(1)DAC (2)CWNT	 RYT	*RYT RYT *RYT RYT		

- * Momentarily.
- ‡ OR — ZH option
PK — ZI option
- § GB — XS option.
- ## LC option provided.
- ** App. Fig. 156 provided.
- (1) JJ option provided.
- (2) ZTR option provided.

TABLE E (Contd)

STEP	OPERATIONS			OBSERVATIONS			
				OBSERVE RELAY			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
OPERATED	NONOPERATED						
60 61	(3)LLI		(3)LLI	RYT	RYT		
62	¶ At common eqpt frame, connect ground to terminal strip CA, terminal 3, FAT portion			RYT operates			
63	Remove ground from terminal 3, FAT portion			RYT releases			
64	Remove blocking tool from RYT1, TRT			All relays release			

¶ If the foreign area translator and direct access pretranslator are both provided, the RYT leads will be multiplied on terminal 3. If it is desired to test these leads individually, it will be necessary to do so from the individual pieces of equipment.

(3) LLI relay located in Marker Distributor Control Circuit.

TABLE F

STEP	OPERATIONS			OBSERVATIONS			
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OBSERVE RELAY			
	OPERATED	NONOPERATED		OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE
1	CKG3,SFT TRT *MON1	LDT,TRTR, SDT		SF			SF,SFT
2							
3							
4							
5							
6	*SPL *†SFR TST *†MT13		MON1,SPL	SF SF	SF †SF		
7							
8							
9							
10	†RAV2 *†NTT *†CWNT †TGT		TST CKG3 LDT,TRTR, SDT	†SF †SF †SF	†SF SF		
11							
12							
13							
14							
15							
16							
17							

* When equipped.

† Momentarily.

TABLE G

STEP	OPERATIONS			OBSERVATIONS					
				OBSERVE RELAY					
	BLOCK RELAY		REMOVE BLOCKING TOOL FROM RELAY	OPERATES	RELEASES	DOES NOT OPERATE	DOES NOT RELEASE		
OPERATED	NONOPERATED								
1	CKG2, TRT,TST MON1 *SPL	TRTR,LDT, SDT	TST TRT	SF,SFT					
2									
3				SF		SF,SFT			SF,SFT
4									
5									
6									
7	*†SFR		MON1,SPL CKG2	†SF					
8									
9	*†NTT			†SF					
10									
11	SFT			SF					
12	TGT								
13	†RAV2		SFT TGT SDT,TRTR, LDT	SF					
14									
15				†SF					
16				SF					

* When equipped.

† Momentarily.

TABLE H

RELAYS BLOCKED OPERATED	RELAYS OPERATED
PA,P0 PC,P0 PC,P1 PB,P1 PA,P1	TCH0,TCH7 TCH0,TCH2,TCH4,TCH6,TCH8 TCH1,TCH3,TCH5,TCH7,TCH9 TCH1 TCH1,TCH8
PA,P2 PB,P2 PB,P3 PA,P3 PA,P4	TCH2,TCH4,TCH6 TCH2 TCH3 TCH3,TCH5,TCH9 TCH0,TCH1,TCH7,TCH8
PB,P4 PB,P5 PA,P5 PA,P6 PB,P6	TCH4 TCH5 TCH1,TCH3,TCH5,TCH9 TCH2,TCH4,TCH6,TCH8 TCH6
PB,P7 PA,P7 PA,P8 PB,P8 PB,P9	TCH0,TCH7 TCH1,TCH3,TCH5,TCH7,TCH9 TCH0,TCH2,TCH4,TCH6,TCH8 TCH8 TCH9
PA,P9 PNR *PE,P0A *PE,P1A *PE,P5A	TCH0,TCH1,TCH3,TCH5,TCH7,TCH8,TCH9 TCH0-9 TCHE,TCH4,TCH6 TCH3,TCH5,TCH9 TCH0,TCH1,TCH7,TCH8
*PE,P6A *PE,P7A *PE,P8A *PE,P9A	TCH2,TCH4,TCH6 TCH3,TCH5,TCH9 TCH0,TCH1,TCH3,TCH5,TCH7,TCH8,TCH9 TCH0,TCH1,TCH7,TCH8

* If triple trunk link frame operation is provided.

TABLE I

STEP	OPERATIONS		OBSERVATIONS		
			OBSERVE RELAY		
	BLOCK RELAY OPERATED	REMOVE BLOCKING TOOL FROM RELAY	OPERATES	RELEASES	DOES NOT OPERATE
1 2 3 4	FR,FTK,FTK1,HGR, HTK,HTK1,VGR, VTK,VTK1,HMT1	VGR VTK VTK1	DIS1,DIS2	DIS1,DIS2	
5 6 7 8	*VTK	HGR HTK HTK1	DIS1,DIS2	DIS1,DIS2	DIS1,DIS2
9 10 11 12	*HTK *RCY1	FR HMT1	DIS1,DIS2	*DIS1,DIS2 DIS1,DIS2	DIS1,DIS2
13 14 15 16 17	HMT1 *FTK	FTK FTK1 HMT1	DIS1,DIS2	DIS1,DIS2	DIS1,DIS2

* Momentarily.

