

LAMA TRANSVERTER SD-27809-01

MISCELLANEOUS TESTS

NO. 5 CROSSBAR OFFICES

ARRANGED FOR AMA MAGNETIC TAPE RECORDING

1. GENERAL

PAGE

1.01 This section describes a method of testing transverter SD-27809-01 in No. 5 crossbar offices arranged for AMA magnetic tape recording. Tests are also included for transverters arranged for ANI or PBX-AIOD service.

following conditions: (1) When more than one translator start relay is operated. (2) When more than one group relay in the translator is operated. (3) When more than one vertical file relay in the translator is operated. (4) When a cross is detected on an equipment terminal in the translator.

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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. Equipment Test Lists are not affected.

- (a) To delete, "TVMB lamp lighted," under verification.
- (b) To revise Test E, Step 20.
- (c) To revise Test G, Steps 2 and 18a.

D. Trunk Control Cross-Detection

Features: This test checks that a trouble record is taken under the following conditions: (1) Over registration of the trunk control number registers. (2) When more than one trunk control start relay is operated. (3) When a false ground is detected on the ICK lead. (4) When more than one tens or units relay is operated in the call identity indexer. (5) When a false ground is detected on the DS lead.

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1.03 The tests covered are:

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A. Standing Test Cross Detection:

This test checks that a trouble record is taken when false battery or ground is detected on certain leads when the transverter is normal.

3

B. Registration Error Check:

This test checks that a trouble record is taken under the following conditions: (1) Over registration of directory number information received from the translator. (2) Over registration of information received from the sender.

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C. Translator Cross-Detection

Features: This test checks that a trouble record is taken under the

E. Sender Registration Error—ANI:

This test checks that a trouble record is taken if ground is detected on an unused directory number lead when calling line identification is registered in the sender on ANI calls.

18

F. Recording Progression Check:

This test checks the recording progression checking feature which insures that the data transmitted to the recorder is in proper sequence.

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G. Progression Timing:

This test checks that a trouble record is taken if the transverter fails to complete a

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function or group of functions in a predetermined time interval during the progress of a call.	28	
H. Trouble Recording, Trunk Control Busy and Translator		
Busy Timing: This test checks the following features: (1) Alarm and lamp indications when a trouble record request is not completed within the timing interval. (2) A trouble record is taken when the transverter encounters a trunk control which is service-busy and fails to seize the circuit within the timing interval. (3) A trouble record is taken when the transverter encounters a translator which is service-busy and fails to seize the circuit within the timing interval.	31	
I. Overall Timing: This test checks the following features. (1) Alarm and lamp indications due to an overall time-out. (2) Proper release signal to the transverter connector.	32	
J. Fuse Alarms and Associated Make-Busy Features: This test checks the following features: (1) Major alarm and lamp indications due to an operated fuse. (2) That the transverter is made-busy to the transverter connector due to an operated fuse.		33
K. All-Transverter-Busy Alarm: This test checks the all-transverter-busy alarm feature.	34	
1.04 Tests of trouble detecting features, other than those covered in this section, and transverter tests using the master test control circuit are covered in Section 218-173-501.		
1.05 All tests require actions and verifications at the MTF and transverter frame. Test K requires actions and verifications at the associated switchboard if the all-transverters-busy alarm is arranged to bring in an alarm at the associated switchboard.		
1.06 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 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 This section contains tests of the transverter frame equipped with 30 inch mounting plates and the transverter frame equipped with 23 inch mounting plates provided in an office converted from paper tape to magnetic tape recording. Testing information in the ACTION column of PART 3 preceded by (N) applies to the *new* or 30 inch mounting plate frame and (C) applies to the *converted* or 23 inch mounting plate frame. Testing information not so designated will apply for either type frame.

2. APPARATUS

All Tests

2.01 322A (make-busy) plugs as required.

All Tests Except K

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

Tests A, B, D Through G

2.03 38B lamp socket equipped with a 2Y lamp for use as a portable test lamp.

Test A Through F, J

2.04 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, one 411A (test pick) tool or one 624-type (terminal connector) tool (for applying battery or ground to test points).

Tests A, B, C, E

2.05 Testing cord, 893 cord, 3 feet long, equipped with two 360 tools (1W13A cord), one KS-6278 connecting clip, one 639A (contact connector) tool,

one 651-type (contact connector holder) tool (for connecting battery or ground to fixed contacts of wire-spring-type relays).

Test D

2.06 Testing cord, 893 cord, 3 feet long, equipped with two 360 tools (1W13A cord), two 639A (contact connector) tool, two 651-type (contact connector holder) tools (for interconnecting fixed contacts of wire-spring-type relays).

Test K

2.07 Testing cord, 893 cord, 3 feet long, equipped with two 360 tools (1W13A cord), and two 624B (terminal connector) tools (for interconnecting terminal strip terminals).

Tests A, I, J

2.08 67C test set or equivalent, equipped with one KS-6278 connecting clip (for applying resistance ground to test points and testing for presence of battery or ground).

Tests G, H, I

2.09 KS-3008 stopwatch or equivalent.

Test C

2.10 Resistor, 18AJ, 400 ohms ± 5 percent, or equivalent.

2.11 Resistor, 18EW, 5000 ohms ± 5 percent, or equivalent.

Test D

2.12 Resistor, 18BN, 340 ohms ± 1 percent, or equivalent.

2.13 Resistor, 18AP, 500 ohms ± 1 percent, or equivalent.

2.14 When making test connections using apparatus listed in this section, use as covered in Section 069-131-811.

3. METHOD

STEP

ACTION

VERIFICATION

A. Standing Test Cross Detection

Note: Refer to paragraphs 1.07, 1.08.

- | | | |
|---|---|--|
| 1 | At MTF—
Insert make-busy plug into TVMB ₁ jack associated with transverter selected for test. | |
| 2 | At transverter frame—
Connect ground to 4F of TCS00 relay. | |
| 3 | At MTF—
Momentarily operate TRR-AR key. | |
| 4 | At transverter frame—
Remove test connection from TCS00 relay. | |

At MTF— Trouble record taken. Minor alarm sounds. XRB, RB, X designations perforated. Within 9 seconds— Major alarm sounds. At transverter frame— TA lamp lighted.
Minor alarm silenced.

STEP	ACTION	VERIFICATION
5	Momentarily operate AR key.	TA lamp extinguished. Major alarm silenced.
6	Block nonoperated TM3 relay.	
7	Connect battery to 3F of TCS00 relay.	At MTF— Trouble record taken. Minor alarm sounds. XRST, X designations perforated.
8	Momentarily operate TRR-AR key.	Minor alarm silenced.
9	At transverter frame— Remove test connection from TCS00 relay.	
10	Momentarily apply ground to terminal strip— (N) AA, group TVB, terminal 00. (C) AB, group TVC, terminal 56.	At MTF— Trouble record taken. Minor alarm sounds. XNL, X, A0 designations perforated.
11	Momentarily operate TRR-AR key.	Minor Alarm silenced.
12	At transverter frame— Block operated TR, TRB relays.	
13	Block nonoperated TBC2 relay.	
14	Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 44. (C) AB, group TST, terminal 95.	Test lamp not lighted.
15	Momentarily apply ground to terminal strip terminals listed in Table A.	Test lamp momentarily lighted with each application of ground.
16a	If ANI features are provided— Momentarily apply resistance ground to AK_ through GK_ relay terminals in Table A. <i>Note:</i> AK_ through GK_ relays are associated with the ANI office index unit mounted at a relay rack location when testing transverter frames converted from paper tape recording.	Test lamp momentarily lighted with each application of ground.
17	Remove blocking tools from TRB, TBC2 relays.	
18	Momentarily apply ground to terminal strip AA, group TC, terminal 34.	At MTF— Trouble record taken. Minor alarm sounds. XRD, X, RD designations perforated.
19	Momentarily operate TRR-AR key.	Minor alarm silenced.

STEP	ACTION	VERIFICATION
20	At transverter frame— Block operated TRB relay.	
21	Block nonoperated TBC2 relay.	
22	Momentarily apply ground to terminal strip— AA for each terminal in Table B.	Test lamp momentarily lighted with each application of ground.
23	Remove blocking tools from TRB, TR, TBC2 relays.	
24	Momentarily apply ground to terminal strip— (N) AA, group TVC, terminal 33. (C) AB, group TVC, terminal 115.	At MTF— Trouble record taken. Minor alarm sounds. XOF, OF, X designations perforated.
25	Momentarily operate TRR-AR key.	Minor alarm silenced.
26	Momentarily apply ground to terminal strip— (N) AA, group TVC, terminal 34. (C) AB, group TVC, terminal 121.	At MTF— Trouble record taken. Minor alarm sounds. XRL, X designations perforated.
27	Momentarily operate TRR-AR key.	Minor alarm silenced.
28	At transverter frame— Block operated TRB relay.	
29	Block nonoperated TBC2 relay.	
30	Momentarily apply ground to terminal strip— (N) AA, group TVD, terminal 54. (C) AB, group TVC, terminal 114.	Test lamp momentarily lighted.
31	Momentarily apply ground to terminal strip— (N) AA, group E, terminal 06. (C) AA, group D, terminal 06.	Test lamp momentarily lighted.
32	Momentarily apply ground to terminal strip— (N) AA, group E, terminal 19. (C) AB, group TST, terminal 70.	Test lamp momentarily lighted.
33	Momentarily apply ground to terminal strip— (N) AA, group E, terminal 15. (C) AB, group TST, terminal 66.	Test lamp momentarily lighted.
34	Remove blocking tools from TRB, TBC2 relays.	
35	Block nonoperated STE relay.	
36	Connect battery to 4F of STE relay.	At MTF— Trouble record taken.

STEP	ACTION	VERIFICATION
		Minor alarm sounds. XST, X designations perforated.
37	Momentarily operate TRR-AR key.	Minor alarm silenced.
38	At transverter frame— Remove test connection from STE relay.	
39	Remove blocking tools from STE, TM3 relays.	
40	Remove test lamp.	
41	At MTF— Remove make-busy plug from TVMB_ jack.	

B. Registration Error Check

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack of transverter selected for test.	
2	At transverter frame— Connect ground to 8F of VG relay.	
3	Block operated TBC1, ON1, OFF0 relays.	
4a	If OFT_ relays are provided— Block operated OFT0 relay.	
5	Momentarily apply ground to terminal strip— (N) AA, group D, terminal 41. (C) AB, group TST, terminal 2.	At MTF— Trouble record taken— Minor alarm sounds. XRE designation perforated.
6	Momentarily operate TRR-AR key.	Minor alarm silenced.
7	At transverter frame— Momentarily remove blocking tool from TBC1 relay.	
8	Block nonoperated TR1 relay.	
9	Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 74. (C) AA, group D, terminal 74.	Test lamp not lighted.
10a	If OFT_ relays are provided— Momentarily apply ground to terminal strip—	Test lamp momentarily lighted.

STEP

ACTION

VERIFICATION

TABLE A

(N) TERM. STRIP AA			(C) TERM. STRIP AB			RELAYS	
GROUP			GROUP				
TVA	TVB	TVE	TVC			DESIG	TERM.
*10	01	†04	*148	67	†105	AK1	16
*11	02	10	*149	58	71	AK2	26
*12	03	11	*150	59	72	BK1	36
*13	04	12	*151	60	73	BK2	46
*14	10	13	*152	61	74	CK1	56
*30	11	14	*153	62	75	CK2	16
*31	12	20	*154	63	81	DK1	26
*32	13	21	*155	64	82	DK2	36
*33	14	22	*156	65	83	EK1	46
*34	20	23	*157	66	84	EK2	56
	21	24		67	85	FK1	16
	22	30		68	91	FK2	26
	23	31		69	92	GK1	36
	24	32		70	93	GK2	46
	30	33		76	94		
	31	34		77	95		
	32	40		78	51		
	33	41		79	52		
	34	42		80	53		
	40	43		86	54		
	41	44		87	55		
	42	†50		88	†106		
	43	†51		89	†107		
	44	†52		90	†108		
	50	†53		96	†109		
	51	†54		97	†110		
	52			98			
	53			99			
	54			100			

*If Tandem Features provided
†If IDDD Features provided

(N) AA, group D, terminal 51.

(C) AA, group SU, terminal 30.

11a Momentarily apply ground to terminal strip— Test lamp momentarily lighted.

(N) AA, group D, terminal 52.

(C) AA, group SU, terminal 31.

12 Momentarily apply ground in succession to terminal strip— Test lamp momentarily lighted with each application of ground.

STEP

ACTION

VERIFICATION

TABLE B

TERM. STRIP AA		
GROUP		
REC	RECA	TC
02	10	42
03	11	
10	12	
11	13	
12	14	
13	20	
14	21	
20	22	
21	23	
22	24	
23	30	
24	31	
30	32	
31	33	
32	34	
33	40	
34	41	
40	42	
41	43	
42	44	
43	50	
44	54	

(N) AA, group D, terminals 42 through 49.
 (C) AB, group TST, terminals 3 through 6.
 (C) AA, group SU, terminals 0 through 3.

- 13 Block operated TH0 relay.
- 14 Momentarily apply ground in succession to terminal strip—
 (N) AA, group D, terminals 31 through 39.
 (C) AB, group TST, terminals 12 through 20.
 Test lamp momentarily lighted with each application of ground.
- 15 Block operated HN0 relay.
- 16 Momentarily apply ground in succession to terminal strip—
 (N) AA, group D, terminals 21 through 29.
 (C) AB, group TST, terminals 22 through 30.
 Test lamp momentarily lighted with each application of ground.
- 17 Block operated T0 relay.

STEP	ACTION	VERIFICATION
18	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 11 through 19. (C) AB, group TST, terminals 32 through 40.	Test lamp momentarily lighted with each application of ground.
19	Block nonoperated DNK relay.	
20	Block operated U0 relay.	
21	Momentarily ground in succession to terminal strip— (N) AA, group D, terminals 01 through 09. (C) AB, group TST, terminals 42 through 50.	Test lamp momentarily lighted with each application of ground.
22b	If transverter serves subscribers in one numbering plan area only and provides POTS and DTWX service— Block operated POT0 relay.	
23b	Momentarily apply ground to U winding terminal of TW0 relay.	Test lamp momentarily lighted.
24b	Remove blocking tool from POT0 relay.	
25c	If transverter serves subscribers in one numbering plan area only and provides POTS, DTWX, and WATS service— Block operated POT0 relay.	
26c	Momentarily apply ground to U winding terminal of TW0 and W0 relays in succession.	Test lamp momentarily lighted with each relay operation.
27c	Remove blocking tool from POT0 relay.	
28d	If transverter serves subscribers in more than one numbering plan area— Block operated LA0 relay.	
29d	Momentarily apply ground to U winding terminal of LA1 and LA2 relays in succession.	Test lamp momentarily lighted with each relay operation.
30d	Remove blocking tool from LA0 relay.	
31e	If transverter serves subscribers in more than one numbering plan area and provides POTS and DTWX service— Block operated POT0 relay.	
32e	Block nonoperated LA1, LA2 relays.	

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STEP	ACTION	VERIFICATION
33e	Momentarily apply ground to U winding terminal of POT1, POT2, TW0, TW1, TW2 relays in succession.	Test lamp momentarily lighted with each relay operation.
34e	Remove blocking tools from POT0, LA1, LA2 relays.	
35f	If transverter serves subscribers in more than one numbering plan area and provides POTS, DTWX and WATS service— Block operated POT0 relay.	
36f	Block nonoperated LA1, LA2 relays.	
37f	Momentarily apply ground to U winding terminal of POT1, POT2, TW0, TW1, TW2, W0, W1, W2 relays in succession.	Test lamp momentarily lighted with each relay operation.
38f	Remove blocking tools from POT0, LA1, LA2 relays.	
39	Remove test connection from VG relay.	
40a	If OFT_ relays are provided— Remove blocking tool from OFT0 relay.	
41	Remove blocking tools from OFF0, TH0, HN0, T0, U0, DNK relays.	
42	Insulate 12M of XRE relay.	
43g	If traffic sampling features are provided— Block operated SPC, SCH relays.	
44g	Momentarily apply ground to U winding terminal of NSP, SNC relays in succession.	Test lamp momentarily lighted with each relay operation.
45	Block operated MB0, MB1 relays.	
46	Momentarily apply ground to U terminal of MB2, MB4, MB7 relays in succession.	Test lamp momentarily lighted with each relay operation.
47h	If IDDD features are provided— Block operated IDD, 7DG relays.	
48h	Momentarily apply ground to U winding terminal of 8DG, 9DG, 10DG, 11DG relays in succession.	Test lamp momentarily lighted with each relay operation.
49	Block operated OBS, CP0, CP1 relays.	

STEP	ACTION	VERIFICATION
50	Momentarily apply ground to U winding terminal of NOB, CP2, CP4, CP7 relays in succession.	Test lamp momentarily lighted with each relay operation.
51	Block operated 4DG relay.	
52i	If information code 411 if provided— Momentarily apply ground to U winding terminal of LST relay.	Test lamp momentarily lighted.
53j	If tandem recording features are provided— Momentarily apply ground to U winding terminal of 5DG relay.	Test lamp momentarily lighted.
54k	If wideband features are provided— Momentarily apply ground to U winding terminal of L5D relay.	Test lamp momentarily lighted.
55	Block operated TP relay.	
56	Momentarily apply ground to U winding terminal of RP relay.	Test lamp momentarily lighted.
57	Block operated SC relay.	
58	Momentarily apply ground to U winding terminal of TVT relay.	Test lamp momentarily lighted.
59	Block operated 1TR relay.	
60	Momentarily apply ground to U winding terminal of 2TR relay.	Test lamp momentarily lighted.
61	Block operated FU0, FU1 relays.	
62	Momentarily apply ground to U winding terminal of FU2, FU4, FU7 relays in succession.	Test lamp momentarily lighted with each relay operation.
63	Block operated VG0, VG1 relays.	
64	Momentarily apply ground to U winding terminal of VG2, VG4, VG7, VG10 relays in succession.	Test lamp momentarily lighted with each relay operation.
65l	If FT_ relays are operated on a 1 out of 4 basis— Block operated FT0 relay.	
66l	Momentarily apply ground to U winding terminal of FT1, FT2, FT3, FTA1, FTA2, FTA3 relays in succession.	Test lamp momentarily lighted with each relay operation.

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STEP	ACTION	VERIFICATION
67m	If FT_ relays are operated on a 2 out of 4 basis— Block operated FT0, FT1 relays.	
68m	Momentarily apply ground to U winding terminal of FT2, FT3, FTA0, FTA2, FTA3, FTA4, FTA5 relays in succession.	Test lamp momentarily lighted with each relay operation.
69	Remove blocking tools from all relays except ON1, TBC1, TR1 relays.	
70	Remove insulator from XRE relay.	
71	Block operated AC1 relay.	
72	Block nonoperated NAC2, NAC3 relays.	
73	Momentarily apply ground to U winding terminal of NAC1 relay.	Test lamp momentarily lighted.
74	Remove blocking tool from NAC2 relay.	
75	Block nonoperated NAC1 relay.	
76	Momentarily apply ground to U winding terminal of NAC2 relay.	Test lamp momentarily lighted.
77	Remove blocking tool from NAC3 relay.	
78	Block nonoperated NAC2 relay.	
79	Momentarily apply ground to U winding terminal of NAC3 relay.	Test lamp momentarily lighted.
80	Remove blocking tools from AC1, NAC1, NAC2 relays.	
81	Block operated NAC1 relay.	
82	Block nonoperated AC2, AC3 relays.	
83	Momentarily apply ground to U winding terminal of AC1 relay.	Test lamp momentarily lighted.
84	Remove blocking tool from AC2 relay.	
85	Block nonoperated AC1 relay.	
86	Momentarily apply ground to U winding terminal of AC2 relay.	Test lamp momentarily lighted.
87	Remove blocking tool from AC3 relay.	

STEP	ACTION	VERIFICATION
88	Block nonoperated AC2 relay.	
89	Momentarily apply ground to U winding terminal of AC3 relay.	Test lamp momentarily lighted.
90	Remove blocking tools from NAC1, AC1, AC2 relays.	
91	Block nonoperated MRST relay.	
92	Block operated MUA relay.	
93	Connect ground to 2F of TR1 relay.	
94	Momentarily apply ground to U winding terminal of TSA, MUD, TTKA relays in succession.	Test lamp momentarily lighted with each relay operation.
95	Remove test connection from TR1 relay.	
96	Remove blocking tools from MRST, MUA relays.	
97n	If office indexes 10-29 are provided— Block operated OFT0 relay.	OT0A, OT0B, OT0C, OT0D relays operated.
98n	Momentarily apply ground to U winding terminal of OT1A, OT1B, OT1C OT1D relays in succession.	Test lamp momentarily lighted with each relay operation.
99n	Momentarily apply ground to U winding terminal of OT2A, OT2B, OT2C, OT2D relays in succession.	Test lamp momentarily lighted with each relay operation.
100n	Remove blocking tool from OFT0 relay.	OT0A, OT0B, OT0C, OT0D relays released.
101n	Block operated OFT1 relay.	OT1A, OT1B, OT1C, OT1D relays operated.
102n	Momentarily apply ground to U winding terminal of OT0A, OT0B, OT0C, OT0D relays in succession.	Test lamp momentarily lighted with each relay operation.
103n	Momentarily apply ground to U winding terminal of OT2A, OT2B, OT2C, OT2D relays in succession.	Test lamp momentarily lighted with each relay operation.
104n	Remove blocking tool from OFT1 relay.	OT1A, OT1B, OT1C, OT1D relays released.
105n	Block operated OFT2 relay.	OT2A, OT2B, OT2C, OT2D relays operated.

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STEP	ACTION	VERIFICATION
106n	Momentarily apply ground to U winding terminal of OT0A, OT0B, OT0C, OT0D relays in succession.	Test lamp momentarily lighted with each relay operation.
107n	Momentarily apply ground to U winding terminal of OT1A, OT1B, OT1C, OT1D relays in succession.	Test lamp momentarily lighted with each relay operation.
108n	Remove blocking tool from OFT2 relay.	OT2A, OT2B, OT2C, OT2D relays released.
109	Momentarily apply ground to terminal XRE on terminal strip AC.	Test lamp momentarily lighted.
110	Remove test lamp from AA terminal strip and battery terminal.	
111	Remove blocking tools from TBC1, ON1, TR1 relays.	
112	At MTF— Remove make-busy plug from TVMB- jack.	

C. Translator Cross-Detection Features

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	
2	At transverter frame— Block operated TBC1 relay.	
3	Connect ground to 1L winding terminal of TS00 relay.	TS00 relay operated.
4	Connect ground to 1U winding terminal of TS01 relay.	TS01 relay operated. At MTF— Trouble record taken. Minor alarm sounds. XTS designation perforated.
5	Momentarily operate TRR-AR key.	Minor alarm silenced.
6	At transverter frame— Momentarily remove blocking tool from TBC1 relay.	
7	Remove ground connection from TS00, TS01 relays.	TS00, TS01 relays released.

STEP	ACTION	VERIFICATION
8	Connect battery with 400-ohm resistor to terminal strip— (N) AA, group TLRC, terminal 04. (C) AB, group T, terminal 17.	At MTF— Trouble record taken. Minor alarm sounds. XVG designation perforated.
9	Momentarily operate TRR-AR key.	Minor alarm silenced.
10	At transverter frame— Remove test connection from terminal strip AA or AB.	
11	Momentarily remove blocking tool from TBC1 relay.	
12	Connect ground to terminal strip— (N) AA, group TLRB, terminal 10. (C) AB, group T, terminal 16.	At MTF— Trouble record taken. Minor alarm sounds. XVF designation perforated.
13	Momentarily operate TRR-AR key.	Minor alarm silenced.
14	At transverter frame— Remove test connection from terminal strip AA or AB.	
15	Momentarily remove blocking tool from TBC1 relay.	
16	Connect ground with 5000-ohm resistor to terminal strip— (N) AA, group TLRD, terminal 00. (C) AB, group T, terminal 11.	At MTF— Trouble record taken. Minor alarm sounds. XET designation perforated.
17	Momentarily operate TRR-AR key.	Minor alarm silenced.
18	At transverter frame— Remove test connection from terminal strip AA or AB.	
19	Remove blocking tool from TBC1 relay.	
20	At MTF— Remove make-busy plug from TVMB- jack.	

D. Trunk Control Cross-Detection Features

Refer to paragraph 1.08.

- | | | |
|---|---|--|
| 1 | At MTF—
Insert make-busy plug into TVMB_ jack associated with transverter selected for test. | |
|---|---|--|

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STEP	ACTION	VERIFICATION
2	At transverter frame— Interconnect 10F of ON, 12F of RN0 relay.	
3	Block operated TBC1, RN0, RN1 relays.	
4	Momentarily apply ground to U winding terminal of RN2 relay.	At MTF— Trouble record taken. Minor alarm sounds. XRN designation perforated.
5	Momentarily operate TRR-AR key.	Minor alarm silenced.
6	At transverter frame— Momentarily remove test connection from 10F of ON relay.	
7	Momentarily remove blocking tool from TBC1 relay.	
8	Block nonoperated TR1 relay.	
9	Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 76. (C) AA, group D, terminal 76.	Test lamp not lighted.
10	Insulate 10M of XRN relay.	
11	Momentarily apply ground to U winding terminal of RN4, RN7 relays in succession.	Test lamp momentarily lighted with each relay operation.
12a	If trunk controls 10-19 are provided— Block operated RNT0 relay.	
13a	Momentarily apply ground to U winding terminal of RNT1 relay.	Test lamp momentarily lighted.
14	Block operated RTR, TCS00 relays.	
15	Momentarily apply ground to U winding terminal of each equipped TCS_ relay in succession.	Test lamp momentarily lighted with each relay operation.
16	Remove test connection from ON, RN0 relays.	
17	Remove test lamp from AA terminal strip and battery terminal.	
18	Remove blocking tools from RN0, RN1, TCS00, RTR, TR1 relays.	
19	Remove insulator from XRN relay.	

STEP	ACTION	VERIFICATION
20a	If trunk controls 10-19 are provided— Remove blocking tool from RNT0 relay.	
21	Connect ground to terminal strip AA, group TC, terminal 30.	At MTF— Trouble record taken. Minor alarm sounds. XICK designation perforated.
22	Momentarily operate TRR-AR key.	Minor alarm silenced.
23	At transverter frame— Remove test connection from terminal strip AA.	
24	Momentarily remove blocking tool from TBC1 relay.	
25	Connect battery with 340-ohm resistor to terminal strip AA, TC group, terminal 54.	At MTF— Trouble record taken. Minor alarm sounds. XU designation perforated.
26	Momentarily operate TRR-AR key.	Minor alarm silenced.
27	At transverter frame— Remove test connection from terminal strip AA.	
28	Momentarily remove blocking tool from TBC1 relay.	
29	Block operated IR relay.	
30	Connect battery with 500-ohm resistor to terminal strip AA, group TC, terminal 53.	At MTF— Trouble record taken. Minor alarm sounds. XU, IRY designations perforated.
31	Momentarily operate TRR-AR key.	Minor alarm silenced.
32	At transverter frame— Remove test connection from terminal strip AA.	
33	Remove blocking tool from IR relay.	
34	Momentarily remove blocking tool from TBC1 relay.	
35	Block nonoperated BA1 relay.	
36	Block operated BA relay.	

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STEP	ACTION	VERIFICATION
37	Connect ground to terminal strip AA, TC group, terminal 42.	At MTF— Trouble record taken. Minor alarm sounds. XDS designation perforated.
38	Momentarily operate TRR-AR key.	Minor alarm silenced.
39	At transverter frame— Remove test connection from terminal strip AA.	
40	Remove blocking tools from TBC1, BA, BA1 relays.	
41	At MTF— Remove make-busy plug from TVMB_ jack.	

E. Sender Registration Error-ANI

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	
2	At transverter frame— Block operated TBC1 relay.	
3	Connect ground to 16F of ACI1 relay. <i>Note:</i> ACI_ relays are associated with the ANI office index unit mounted at a relay rack location when testing transverter frames converted from paper tape recording.	
4	Connect ground to terminal strip— (N) AA, group D, terminal 30. (C) AB, group TST, terminal 11.	At MTF— Trouble record taken. Minor alarm sounds. XS, TH4, TH7 designations perforated.
5	Momentarily operate TRR-AR key.	Minor alarm silenced.
6	At transverter frame— Remove test connection from terminal strip AA or AB.	
7	Momentarily remove blocking tool from TBC1 relay.	
8	Block nonoperated TR1 relay.	

STEP	ACTION	VERIFICATION
9	Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 95. (C) AA, group D, terminal 95.	Test lamp not lighted.
10	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 33, 35, 36, 38, 39. (C) AB, group TST, terminals 14, 16, 17, 19, 20.	Test lamp momentarily lighted with each application of ground.
11	Remove ground connection from 16F of AC11 relay and connect to 17F of AC11 relay.	
12	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 30, 32, 34, 36, 37, 39. (C) AB, group TST, terminals 11, 13, 15, 17, 18, 20.	Test lamp momentarily lighted with each application of ground.
13	Remove ground connection from 17F of AC11 and connect to 18F of AC11 relay.	
14	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 30, 31, 34, 35, 37, 38. (C) AB, group TST, terminals 11, 12, 15, 16, 18, 19.	Test lamp momentarily lighted with each application of ground.
15	Remove ground connection from 18F of AC11 relay and connect to 19F of AC11 relay.	
16	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 31, 32, 33, 37, 38, 39. (C) AB, group TST, terminals 12, 13, 14, 18, 19, 20.	Test lamp momentarily lighted with each application of ground.
17	Remove ground connection from 19F of AC11 relay and connect to 20F of AC11 relay.	
18	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 31, 32, 33, 34, 35, 36. (C) AB, group TST, terminals 12, 13, 14, 15, 16, 17.	Test lamp momentarily lighted with each application of ground.

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STEP	ACTION	VERIFICATION
19	Remove ground connection from 20F of ACI1 relay and connect to 1F of ACI2 relay.	
20	◆Block operated ACI2 relay.◆	
21	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 20, 23, 25, 26, 28, 29. (C) AB, group TST, terminals 21, 24, 26, 27, 29, 30.	Test lamp momentarily lighted with each application of ground.
22	Remove ground connection from 1F of ACI2 relay and connect to 2F of ACI2 relay.	
23	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 20, 22, 24, 26, 27, 29. (C) AB, group TST, terminals 21, 23, 25, 27, 28, 30.	Test lamp momentarily lighted with each application of ground.
24	Remove ground connection from 2F of ACI2 relay and connect to 3F of ACI2 relay.	
25	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 20, 21, 24, 25, 27, 28. (C) AB, group TST, terminals 21, 22, 25, 26, 28, 29.	Test lamp momentarily lighted with each application of ground.
26	Remove ground connection from 3F of ACI2 relay and connect to 4F of ACI2 relay.	
27	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 21, 22, 23, 27, 28, 29. (C) AB, group TST, terminals 22, 23, 24, 28, 29, 30.	Test lamp momentarily lighted with each application of ground.
28	Remove ground connection from 4F of ACI2 relay and connect to 5F of ACI2 relay.	
29	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 21, 22, 23, 24, 25, 26. (C) AB, group TST, terminals 22, 23, 24, 25, 26, 27.	Test lamp momentarily lighted with each application of ground.

STEP	ACTION	VERIFICATION
30	Remove ground connection from 5F of ACI2 relay and connect to 6F of ACI2 relay.	
31	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 10, 13, 15, 16, 18, 19. (C) AB, group TST, terminals 31, 34, 36, 37, 39, 40.	Test lamp momentarily lighted with each application of ground.
32	Remove ground connection from 6F of ACI2 relay and connect to 7F of ACI2 relay.	
33	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 10, 12, 14, 16, 17, 19. (C) AB, group TST, terminals 31, 33, 35, 37, 38, 40.	Test lamp momentarily lighted with each application of ground.
34	Remove ground connection from 7F of ACI2 relay and connect to 8F of ACI2 relay.	
35	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 10, 11, 14, 15, 17, 18. (C) AB, group TST, terminals 31, 32, 35, 36, 38, 39.	Test lamp momentarily lighted with each application of ground.
36	Remove ground connection from 8F of ACI2 relay, and connect to 9F of ACI2 relay.	
37	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 11, 12, 13, 17, 18, 19. (C) AB, group TST, terminals 32, 33, 34, 38, 39, 40.	Test lamp momentarily lighted with each application of ground.
38	Remove ground connection from 9F of ACI2 relay and connect to 10F of ACI2 relay.	
39	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 11, 12, 13, 14, 15, 16. (C) AB, group TST, terminals 32, 33, 34, 35, 36, 37.	Test lamp momentarily lighted with each application of ground.
40	Remove ground connection from 10F of ACI2 relay and connect to 11F of ACI2 relay.	

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STEP	ACTION	VERIFICATION
41	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 00, 03, 05, 06, 08, 09. (C) AB, group TST, terminals, 41, 44, 46, 47, 49, 50.	Test lamp momentarily lighted with each application of ground.
42	Remove ground connection from 11F of ACI2 relay and connect to 12F of ACI2 relay.	
43	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 00, 02, 04, 06, 07, 09. (C) AB, group TST, terminals 41, 43, 45, 47, 48, 50.	Test lamp momentarily lighted with each application of ground.
44	Remove ground connection from 12F of ACI2 relay and connect to 13F of ACI2 relay.	
45	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 00, 01, 04, 05, 07, 08. (C) AB, group TST, terminals 41, 43, 45, 46, 48, 49.	Test lamp momentarily lighted with each application of ground.
46	Remove ground connection from 13F of ACI2 relay and connect to 14F of ACI2 relay.	
47	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 01, 02, 03, 07, 08, 09. (C) AB, group TST, terminals 42, 43, 44, 48, 49, 50.	Test lamp momentarily lighted with each application of ground.
48	Remove ground connection from 14F of ACI2 relay and connect to 15F of ACI2 relay.	
49	Momentarily apply ground in succession to terminal strip— (N) AA, group D, terminals 01, 02, 03, 04, 05, 06. (C) AB, group TST, terminals 42, 43, 44, 45, 46, 47.	Test lamp momentarily lighted with each application of ground.
50	Remove ground connection from 15F of ACI2 relay.	
51	Block operated OFA_, OI_ relays, as required, for a working office index listed in Table C.	

STEP	ACTION	VERIFICATION
52	Momentarily apply ground to each terminal listed in the A_, B_, C_ columns of Table C for office index under test.	Test lamp momentarily lighted with each application of ground.
53	Remove blocking tools, as required, from relays blocked operated in Step 51.	
54	Repeat Steps 51 through 53 for remaining working office indexes listed in Table C.	
55	Remove test lamp from terminal strip AA and battery terminal.	
56	Remove blocking tools from TR1, ACI2, TBC1 relays.	
57	At MTF— Remove make-busy plug from TVMB_ jack.	

F. Recording Progression Check

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	TVMB- lamp lighted.
2	At transverter frame— Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 73. (C) AA, group D, terminal 73.	Test lamp not lighted.
3	Momentarily apply ground to U winding terminal of BR1A relay.	Test lamp momentarily lighted.
4	Block operated AR1 relay.	
5	Momentarily apply ground to U winding terminal of BR1A relay.	Test lamp not lighted.
6	Block operated TTKA relay.	
7	Momentarily apply ground to U winding terminal of BR1A relay.	Test lamp momentarily lighted.
8	Remove blocking tool from TTKA, AR1 relays.	
9	Momentarily apply ground to U winding terminal of CR1A relay.	Test lamp momentarily lighted.
10	Block operated BR1 relay.	

TABLE C

OFFICE INDEX	OFFICE CODE	BLOCK OPERATED RELAYS * †	TERMINALS ON TERMINAL STRIP AE OR AB GROUP G								
			A-	A-	A-	B-	B-	B-	C-	C-	C-
00		OFA0, OI0A, OI0B, OI0C									
01		OFA1, OI0A, OI0B, OI0C									
02		OFA2, OI0A, OI0B, OI0C									
03		OFA3, OI0A, OI0B, OI0C									
04		OFA4, OI0A, OI0B, OI0C									
05		OFA5, OI0A, OI0B, OI0C									
06		OFA6, OI0A, OI0B, OI0C									
07		OFA7, OI0A, OI0B, OI0C									
08		OFA8, OI0A, OI0B, OI0C									
09		OFA9, OI0A, OI0B, OI0C									
10		OFA0, OI1A, OI1B, OI1C									
11		OFA1, OI1A, OI1B, OI1C									
12		OFA2, OI1A, OI1B, OI1C									
13		OFA3, OI1A, OI1B, OI1C									
14		OFA4, OI1A, OI1B, OI1C									
15		OFA5, OI1A, OI1B, OI1C									
16		OFA6, OI1A, OI1B, OI1C									
17		OFA7, OI1A, OI1B, OI1C									
18		OFA8, OI1A, OI1B, OI1C									
19		OFA9, OI1A, OI1B, OI1C									
20		OFA0, OI2A, OI2B, OI2C									
21		OFA1, OI2A, OI2B, OI2C									
22		OFA2, OI2A, OI2B, OI2C									
23		OFA3, OI2A, OI2B, OI2C									
24		OFA4, OI2A, OI2B, OI2C									
25		OFA5, OI2A, OI2B, OI2C									
26		OFA6, OI2A, OI2B, OI2C									
27		OFA7, OI2A, OI2B, OI2C									
28		OFA8, OI2A, OI2B, OI2C									
29		OFA9, OI2A, OI2B, OI2C									

Preparation of TABLE C

Determine from local office records an office code for each working office index and enter in the OFFICE CODE column.

Determine the AE or AB terminal strip terminal from the information following for each unused lead associated with each digit of the office code and enter in the A-, B-, C- columns.

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STEP	ACTION	VERIFICATION
25	Momentarily apply ground to U winding terminal of CR2A relay.	Test lamp momentarily lighted.
26	Block operated BR2 relay.	
27	Momentarily apply ground to U winding terminal of CR2A relay.	Test lamp <i>not</i> lighted.
28a	If MU relay is provided— Block operated MU relay.	
29a	Momentarily apply ground to U winding terminal of CR2A relay.	Test lamp momentarily lighted.
30a	Remove blocking tool from MU relay.	
31	Remove blocking tool from BR2 relay.	
32	Momentarily apply ground to U winding terminal of DR2A relay.	Test lamp momentarily lighted.
33	Block operated CR2 relay.	
34	Momentarily apply ground to U winding terminal of DR2A relay.	Test lamp <i>not</i> lighted.
35	Remove blocking tool from CR2 relay.	
36	Momentarily apply ground to U winding terminal of AR3A relay.	Test lamp momentarily lighted.
37	Block operated DR2 relay.	
38	Momentarily apply ground to U winding terminal of AR3A relay.	Test lamp <i>not</i> lighted.
39	Remove blocking tool from DR2 relay.	
40	Momentarily apply ground to U winding terminal of BR3A relay.	Test lamp momentarily lighted.
41	Block operated AR3 relay.	
42	Momentarily apply ground to U winding terminal of BR3A relay.	Test lamp <i>not</i> lighted.
43	Remove blocking tool from AR3 relay.	
44	Momentarily apply ground to U winding terminal of CR3A relay.	Test lamp momentarily lighted.
45	Block operated BR3 relay.	

STEP	ACTION	VERIFICATION
46	Momentarily apply ground to U winding terminal of CR3A relay.	Test lamp <i>not</i> lighted.
47	Block operated TS relay.	
48	Momentarily apply ground to U winding terminal of CR3A relay.	Test lamp momentarily lighted.
49	Remove blocking tool from TS relay.	
50b	If wiring is provided on 2F of MUD relay— Block operated MUD relay.	
51b	Momentarily apply ground to U winding terminal of CR3A relay.	Test lamp momentarily lighted.
52b	Remove blocking tool from MUD relay.	
53c	If IDDD features are provided— Block operated TS, IDD relays.	
54c	Momentarily apply ground to U winding terminal of CR3A relay.	Test lamp <i>not</i> lighted.
55c	Momentarily apply ground to U winding terminal of DR3A relay.	Test lamp momentarily lighted.
56c	Block operated CR3 relay.	
57c	Momentarily apply ground to U winding terminal of DR3A relay.	Test lamp <i>not</i> lighted.
58c	Remove blocking tools from TS, IDD, CR3 relays.	
59	Remove blocking tool from BR3 relay.	
60	Connect ground to U winding terminal of BR1A relay.	Test lamp lighted.
61	Momentarily apply ground to 1F of PREA relay.	TVR relay <i>not</i> operated.
62	Remove ground connection from BR1A relay.	Test lamp extinguished.
63	Remove test lamp from terminal strip AA and battery terminal.	
64	At MTF— Remove make-busy plug from TVMB_ jack.	

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STEP	ACTION	VERIFICATION
G. Progression Timing		
Refer to paragraph 1.08.		
1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	TVMB- lamp lighted.
2	At transverter frame— ◆Block nonoperated ON relay.◆	
3	Block operated CH2, CK6 relays.	At MTF— Trouble record taken. Minor alarm sounds. TM1 designation perforated.
4	Momentarily operate TRR-AR key.	Minor alarm silenced.
5	At transverter frame— Remove blocking tool from CK6 relay.	
6	Block nonoperated TR1 relay.	
7	Connect one lead of 38B lamp socket to battery, connect other lead to terminal strip— (N) AA, group E, terminal 83. (C) AB, group TST, terminal 106.	Test lamp not lighted.
8	Block operated TVT2 relay.	
9	Block operated CK6 relay.	Test lamp <i>not</i> lighted.
10	Block operated TIK relay.	Test lamp lighted.
11	Remove blocking tools from TVT2, TIK, CK6 relays.	Test lamp extinguished.
12	Block operated PK, CK6 relays.	Test lamp lighted. RCT relay operated.
13	Block operated EXT relay.	Test lamp extinguished. RCT relay remains operated.
14	Remove blocking tool from EXT relay.	Test lamp lighted. RCT relay remains operated.
15	Block operated SP relay.	Test lamp extinguished. RCT relay remains operated.
16	Remove blocking tool from SP relay.	Test lamp lighted. RCT relay remains operated.

STEP	ACTION	VERIFICATION
	Note: If testing transverter frame equipped with 23 inch mounting plates and ANI features are provided, proceed to Step 22b.	
17a	If testing transverter frame equipped with 30 inch mounting plates and ANI features are provided— Block nonoperated XL relay.	Test lamp momentarily extinguished. RCT relay released.
18a	Block operated RGC, RL relays.	Test lamp momentarily extinguished. RCT relay operated.
19a	Remove blocking tool from CK6 relay.	Test lamp extinguished. RCT relay released.
20a	Remove blocking tools from RGC, RL relays.	
21a	Block operated CK6 relay.	
22b	If testing transverter frame equipped with 23 inch mounting plate and ANI features are provided— At transverter frame— Block RCT relay in the operated position.	
23b	At relay rack location of ANI office index unit— Block operated RGC relay.	
24b	At transverter frame— Remove blocking tool from RCT relay.	Test lamp momentarily extinguished. RCT relay released.
25b	Block operated RL relay.	Test lamp momentarily extinguished. RCT relay operated.
26b	Remove blocking tool from CK6 relay.	Test lamp extinguished. RCT relay released.
27b	Remove blocking tool from RL relay.	
28b	At relay rack location of ANI office index unit— Remove blocking tool from RGC relay.	
29b	At transverter frame— Block operated CK6 relay.	Test lamp lighted. RCT relay operated.
30	Block operated RK relay.	Test lamp momentarily extinguished. RCT relay released.
31	Block operated MRST relay; start timing.	Test lamp extinguished. RCT relay operated.

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STEP	ACTION	VERIFICATION
		In 2 seconds— Test lamp lighted.
32	Block operated AR1A relay.	Test lamp momentarily extinguished. RCT relay released.
33	Block operated BLD relay.	Test lamp momentarily extinguished. RCT relay operated.
34	Block operated TR relay.	
35	Block operated TVR relay.	Test lamp momentarily extinguished. RCT relay released.
36	Block operated RL relay.	Test lamp momentarily extinguished. RCT relay operated.
37	Remove blocking tool from CK6 relay.	Test lamp extinguished. RCT relay released.
38	Insulate 1B of TVT relay.	
39	Block operated TRB, TRST relays.	
40	Block operated CK6 relay.	Test lamp <i>not</i> lighted. RCT relay operated.
41	Remove blocking tool from TRST, CK6 relays.	Test lamp <i>not</i> lighted. RCT relay released.
42	Remove insulator from TVT relay.	
43	Block operated BA1 relay.	
44	Block operated CK6 relay.	Test lamp <i>not</i> lighted. RCT relay operated.
45	Remove blocking tools from CK6, BA1 relays.	Test lamp <i>not</i> lighted. RCT relay released.
46	Block operated CBG relay.	
47	Block operated CK6 relay.	Test lamp <i>not</i> lighted. RCT relay operated.
48	Remove blocking tools from CK6, CBG relays.	Test lamp <i>not</i> lighted. RCT relay released.
49	Block operated TBG relay.	
50	Block operated CK6 relay.	Test lamp <i>not</i> lighted. RCT relay operated.

STEP	ACTION	VERIFICATION
51	Remove blocking tool from TBG relay.	Test lamp lighted.
52	Block operated CBG relay.	Test lamp remains lighted.
53	Remove blocking tools from CK6, CBG relays.	Test lamp extinguished. RCT relay released.
54	Remove all blocking tools.	
55	Remove test lamp connections.	
56	At MTF— Remove make-busy plug from TVMB_ jack.	

H. Trouble Recording, Trunk Control Busy, and Translator Busy Timing

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	
2	At transverter frame— Insulate 5B of TRB, 1B of TVT relays.	
3	Block operated TBC1 relay.	
4	Block operated TRST relay; <i>start timing.</i>	In 3 to 4 seconds— TRB relay operated. TRT, TA lamps lighted. Major alarm sounds.
5	Momentarily operate AR key.	TRT, TA lamps extinguished. Major alarm silenced.
6	Remove blocking tool from TRST relay.	
7	Remove insulator from TRB, TVT relays.	
8	Momentarily remove blocking tool from TBC1 relay.	TRB relay released.
9	Block operated BA1 relay.	In 3 to 4 seconds— TRB relay operated. TRT, TA lamps lighted. Major alarm sounds.
10	Momentarily operate AR key.	TRT, TA lamps extinguished. Major alarm silenced.
11	Remove blocking tool from BA1 relay.	

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STEP	ACTION	VERIFICATION
12	Momentarily remove blocking tool from TBC1 relay.	TRB relay released.
13	Block operated CBG relay.	In 3 to 4 seconds— At MTF— Trouble record taken. Minor alarm sounds. TM2, BY designations perforated.
14	Momentarily operate TRR-AR key.	Minor alarm silenced.
15	At transverter frame— Remove blocking tool from CBG relay.	
16	Momentarily remove blocking tool from TBC1 relay.	
17	Block operated TBG relay.	In 3 to 4 seconds— At MTF— Trouble record taken. Minor alarm sounds. TM2 designation perforated.
18	Momentarily operate TRR-AR key.	Minor alarm silenced.
19	At transverter frame— Remove blocking tool from TBG, TBC1 relays.	
20	At MTF— Remove make-busy plug from TVMB_ jack.	
I. Overall Timing		
Refer to paragraph 1.08.		
1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	
2	At transverter frame— Block nonoperated TM1 relay.	
3	Block operated CK6 relay; start timing.	In 7 to 9 seconds— TA lamp lighted. Major alarm sounds. At MTF— TV_ lamp associated with transverter under test lighted.
4	At transverter frame— Test for ground at terminal strip—	Ground present.

STEP	ACTION	VERIFICATION
	(N) AA, group TVD, terminal 54. (C) AB, group TVC, terminal 114.	
5	Remove blocking tool from CK6, TM1 relays.	At MTF— TV_ lamp extinguished.
6	At transverter frame— Momentarily operate AR key.	Major alarm silenced. TA lamp extinguished.
7	Insulate 1M of CH1 relay.	In 7 to 9 seconds— TA lamp lighted. Major alarm sounds.
8	Remove insulator from CH1 relay.	
9	Momentarily operate AR key.	Major alarm silenced. TA lamp extinguished.
10	Insulate 6B of XL relay.	In 7 to 9 seconds— TM3 relay momentarily operated. TA lamp lighted. Major alarm sounds.
11	Remove insulator from XL relay.	
12	Momentarily operate AR key.	Major alarm silenced. TA lamp extinguished.
13	At MTF— Remove make-busy plug from TVMB_ jack.	

J. Fuse Alarms and Associated Make-Busy Features

Refer to paragraph 1.08.

1	At MTF— Insert make-busy plug into TVMB_ jack associated with transverter selected for test.	
2	At transverter frame— Block operated MB relay.	
3	Remove AF fuse holder and fuse from fuse panel.	
4	Place an operated fuse of the required type in AF fuse holder.	
5	Replace AF fuse holder in fuse panel.	Major alarm sounds. FA lamp lighted.

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STEP	ACTION	VERIFICATION
6	Remove AF fuse holder from fuse panel.	Major alarm silenced. FA lamp extinguished. FG lamp lighted. At MTF— TVFG lamp lighted.
7	At transverter frame— Remove blocking tool from MB relay.	MB relay remains operated.
8	Test for ground at terminal strip— (N) AA, group TVD, terminal 04. (C) AB, group TVC, terminal 1.	Ground present.
9	Remove operated fuse from AF fuse holder and replace good fuse.	
10	Replace fuse holder in fuse panel.	
11	Connect battery to 1L winding terminal of FA2 relay.	FA lamp lighted. FG lamp extinguished. Major alarm sounds.
12	Remove battery from FA2 relay.	FA lamp extinguished. FG lamp lighted. Major alarm silenced.
13	Momentarily operate AR key.	FG lamp extinguished. MB relay remains operated. At MTF— TVFG lamp extinguished.
14	Remove make-busy plug from TVMB- jack.	

K. All-Transverters-Busy Alarm

Refer to paragraph 1.08.

1	At each transverter frame except the highest-numbered, interconnect terminals 35, 36 at terminal strip— (N) AB, group K. (C) AA, group C.	
2	At MTF— Insert make-busy plug into TVMB_ jack of highest numbered transverter; <i>start timing</i> .	ATVB lamp lighted. In 40 to 68 seconds— TVBA lamp lighted. Minor alarm sounds. If the all-transverters-busy circuit is arranged to bring in an auxiliary signal— At associated switchboard— Auxiliary lamp lighted.

STEP	ACTION	VERIFICATION
3	At master traffic control circuit for transverter connectors— Momentarily operate SRA relay.	TMA relay momentarily operated.
4	Momentarily operate SRB relay.	TMB relay momentarily operated.
5	At MTF— Remove make-busy plug from TVMB_ jack.	ATVB lamp extinguished.
6	Momentarily operate ATVB-AR key.	TVBA lamp extinguished. Minor alarm silenced.
7a	If all-transverters-busy circuit is arranged to bring in an auxiliary signal— At associated switchboard— Momentarily operate RL key.	Auxiliary lamp extinguished.
8	At all transverter frames except highest numbered— Remove test connections from AB or AA terminal strip.	

