

AUTOMATIC TRUNK TEST CIRCUIT SD-32315-01

MISCELLANEOUS TESTS

STEP-BY-STEP OFFICES ARRANGED FOR ANI-TYPE B

1. GENERAL

1.01 This section describes a method of making miscellaneous tests of the automatic trunk test circuit SD-32315-01 in No. 1 and 350A step-by-step and 355A community dial offices.

1.02 This section is reissued to include tests for checking features provided for testing common control (nonbylink) trunks arranged to handle special toll or station-to-station calls. Tests B, D, G, H, I, and J were revised. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

- A. **Cross Test:** This test checks the cross-detecting features of the test circuit.
- B. **Trunk Busy and Pass Busy:** This test checks the ability to detect a trunk busy in service and to pass by the trunk if the PB key is operated.
- C. **TM1 Timer:** This test checks the timing intervals provided for trunk busy timing and for overall timing.
- D. **TM2, TM3, TM4, TM5, and TM6 Timers:** This test checks the work timing intervals provided for trunk testing.
- E. **Digit Timing — DGTM Relay:** This test checks the DGTM relay timing used to control the simulated first two digits dialed into the trunk.
- F. **RT Relay:** This test checks the timing interval of the repeat time test.
- G. **BLK and AL Relay Verification:** This test checks the integrity of the various operate paths of the BLK and AL relays to ensure that

the test circuit will recognize test failures and circuit time-outs.

H. **Selector Switch Blocking:** This test checks the ability of the selector switch to block progress of the test upon recognition of a test failure.

I. **Tip and Ring Incoming — Resistance Verification:** This test checks the resistance in the loop applied to the originating end of the trunk.

J. **Tip and Ring Outgoing — Resistance Verification:** This test checks the resistance in the loop applied to the terminating end of the trunk.

K. **CT and RST Register Verification:** This test checks the operation of the CT and RST registers.

L. **Trunk Release:** This test checks the ability to restore the trunk when the control advance feature is used.

M. **TTO Relay Verification:** This test checks the ability to recognize a trunk time-out and to block and indicate a blockage on trunk time-out.

1.04 The resistance values shown in Tests I and J are circuit requirements. The tolerance of the test equipment used should be considered when making these tests.

1.05 **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.

2. APPARATUS

2.01 The apparatus required for each test is shown in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses.

TABLE A

APPARATUS	TESTS												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Test Circuit (2.02)	1	1	1	1	1	1	1	1	1	1	1	1	1
35-Type Test Set (2.03)	1	-	-	-	-	-	-	-	-	-	-	-	-
Test Receiver (2.04)	1	1	-	-	-	-	-	-	-	-	-	1	1
KS-3008 Stopwatch	-	-	1	-	-	-	-	-	-	-	-	-	-
Test Set for Timing Test (2.05)	-	-	-	1	1	1	-	-	-	-	-	-	-
Volt-Ohm-Milliammeter (2.06)	-	-	-	-	-	-	-	-	-	1	1	-	-
Cord (2.07)	1	1	-	-	-	-	1	1	2	2	-	-	1
Cord (2.08)	-	-	-	-	-	-	-	-	-	1	-	-	-
Tool (2.09)	√	√	-	√	√	√	√	√	√	√	√	√	√

√ As required.

2.02 Test circuit, outpulser-identifier, SD-95815-01.

2.03 The 35-type test set with one W2W cord, 6 feet long, equipped with one 310 plug, one 360B tool, one 360C tool (2W17A cord), one KS-6278 connecting clip, and one 419A (test connector) tool (for connecting to springs of non-wire spring-type relays) or one 624A terminal

connector (for connecting to winding terminals of wire-spring relays).

2.04 Test receiver, 716C receiver attached to a W2AB cord, equipped with two 360A tools (2W21A cord), a 411A (test pick) tool, and a KS-6278 connecting clip (for use in checking for presence of ground).

2.05 Test set for timing tests, J24753A (SD-25707-01) with one P3K cord, 6 feet long, equipped with two 310 plugs (3P15A cord); and one W3M cord, 6 feet long, equipped with one 310 plug, one 360A tool, one 360B tool, one 360C tool (3W4A cord), one KS-6278 connecting clip, one 624A (terminal connector) tool (for connecting to the winding terminal of wire-spring relays), two 651D (relay contact connector holder) tools, and two 639A (relay contact connector) tools (for connecting to fixed contacts of wire-spring relays). Calibrate and use in accordance with Section 100-130-101.

2.06 KS-14510, L1, volt-ohm-milliammeter and one pair of list 2 leads equipped with connectors and test prods.

2.07 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip (for connecting to ground and to ohmmeter test prod), one 639A (relay contact connector) tool and one 651D (relay contact connector holder) tool (for connecting to fixed contacts of wire-spring relays).

2.08 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip (for connecting to ohmmeter test prod), and one 624A (terminal connector) tool (for connecting to the winding terminals of wire-spring relays).

2.09 Blocking and insulating tools, as required. Apply tools as covered in Section 069-020-801.

3. PREPARATION

STEP	ACTION	VERIFICATION
------	--------	--------------

All Tests

- 1 Restore all lever-type keys to normal.

STEP	ACTION	VERIFICATION
2	Operate RN key in outpulser-identifier test circuit.	N lamp lighted. All other lamps extinguished.
3	Restore RN key in outpulser-identifier test circuit.	N lamp extinguished.

4. METHOD

STEP	ACTION	VERIFICATION
A. Cross Test		
4	Make current flow tests of XTT, CLX relays, using 35-type test set, circuit requirements tables.	Circuit requirements met.
5	Disconnect 35-type test set.	
6	Connect ground to 1F of HE3 relay.	HO, X lamps lighted.
7	Remove ground from 1F of HE3 relay.	HO, X lamps extinguished.
8	Momentarily operate CK1 relay.	X lamp lighted momentarily.
9	Momentarily operate S relay.	X lamp lighted momentarily.
10	Check that ground is present at 1M of STA relay.	
11	Block operate XTT relay.	XTT lamp lighted. Ground absent from 1M of STA relay.
12	Remove blocking tool from XTT relay.	XTT lamp extinguished.
13	Block operated ON1 relay.	
14	Operate manually CLX relay.	CLX, BLK lamps lighted.
15	Remove blocking tool from ON1 relay.	CLX, BLK lamps extinguished.
B. Trunk Busy and Pass Busy		
4	Block nonoperated S, SR1, XCO relays.	
5	Block operated STA relay.	SO, XCO lamps lighted.
6	Check that ground is present at 8F of HA relay, 8 of BT1 relay.	
7	Block operated BT1 relay.	Ground absent from 8F of HA relay, 8 of BT1 relay.
8	Remove blocking tools from BT1, SR1 relays.	
9	Block operated SR1 relay.	Ground absent from 8F of HA relay.
10	Remove blocking tool from SR1 relay.	

SECTION 227-560-500

STEP	ACTION	VERIFICATION
11	Block operated OPT relay.	Ground absent from 8F of HA relay.
12	Block operated AV relay.	Ground present at 8F of HA relay.
13	Block nonoperated SR1 relay.	
14	Block operated HA relay.	Ground absent from 8F of HA relay.
15	Remove blocking tool from SR1 relay.	SR1 relay operated.
16	Remove blocking tools from HA, AV, OPT, STA, S, XCO relays.	SO, XCO lamps extinguished.
17	Connect ground to 12F of CL1 relay.	
18	Block operated CL1 relay.	CL1 lamp lighted.
19	Block nonoperated CK1, CA1 relays.	
20	Operate TT, ST keys in outpulser-identifier test circuit.	S-, H-, BY lamps lighted.
21	Operate PB key.	PB relay operated.
22	Remove blocking tool from CL1 relay.	CL1 lamp extinguished.
23	Block operated CL2 relay.	CL2 lamp lighted.
24	Record reading of PB register.	
25	Restore PB key.	PB register scores once.
26	Remove blocking tool from CL2 relay.	BY, CL2 lamps extinguished.
27	Restore ST, TT keys in outpulser-identifier test circuit.	
28	Remove blocking tool from CK1, CA1 relays.	
29	Remove ground from 12F of CL1 relay.	
30a	If equipped for testing noncommon control, special toll, coin, noncoin, or operator assistance trunks — Block operated STA relay.	Ground present at 8F of HA relay.
31a	Block operated OPT relay.	Ground absent at 8F of HA relay.
32b	If equipped for testing special toll noncoin or operator assistance trunks — Block operated AVB relay.	Ground present at 8F of HA relay.
33b	Remove blocking tool from AVB relay.	
34c	If equipped for testing coin trunks — Block operated AVC relay.	Ground present at 8F of HA relay.

STEP	ACTION	VERIFICATION
35c	Remove blocking tool from AVC relay.	
36a	If equipped for testing noncommon control, special toll, coin, noncoin, or operator assistance trunks — Remove blocking tools from STA, OPT relays.	
37d	If equipped for testing common control trunks — Block operated STA relay.	Ground present at 8F of HA relay.
38d	Block operated OPT relay.	Ground absent at 8F of HA relay.
39d	Block operated AVD relay.	Ground present at 8F of HA relay.
40d	Remove blocking tool from AVD, OPT, STA relays.	
41	Momentarily operate RN key in outpulser-identifier test circuit.	N lamp lighted momentarily. All other lamps extinguished.

C. TM1 Timer

4	Make timing test of TM1 timer, using stopwatch, timing requirements table.	Timing requirements met.
---	--	--------------------------

D. TM2, TM3, TM4, TM5, and TM6 Timers

4	Make timing tests of TM2, TM3, TM4, TM5, and TM6 timers, using test set for timing tests, timing requirements table.	Timing requirements met.
---	--	--------------------------

E. Digit Timing — DGTM Relay

4	Make timing tests of DGTM relay timer, using test set for timing tests, timing requirements table.	Timing requirements met.
---	--	--------------------------

F. RT Relay

4	Make timing tests of RT relay, using test set for timing test and timing requirements table.	Timing requirements met.
---	--	--------------------------

G. BLK and AL Relay Verification

4	Block nonoperated STA relay.	
5	Block operated BT1, ST relays.	ST1 relay operated, option ZG. STM1 relay operated, option ZF.
6	Momentarily operate manually ETM1 relay twice.	ST1 or STM1 relay released. AL relay operated. TM1 selector switch advanced.

SECTION 227-560-500

STEP	ACTION	VERIFICATION
7	Block operated CA3 relay.	AL relay released. TM1 selector switch restored to normal.
8	Remove blocking tool from BT1 relay.	
9	Remove blocking tool from CA3 relay.	ST1 relay operated, option ZG. STM1 relay operated, option ZF.
10	Momentarily operate manually ETM1 relay three times.	BLK lamp lighted. AL relay operated. ST1 or STM1 relay released.
11	Remove blocking tool from ST relay.	BLK lamp extinguished. A1 relay released.
12	Connect ground to 8F of CP1 relay.	BLK lamp lighted.
13	Momentarily operate CP1 relay.	BLK lamp extinguished momentarily. CPK lamp lighted momentarily.
14	Remove ground from 8F of CP1 relay.	BLK lamp extinguished.
15	Connect ground to 8F of MG relay.	
16	Momentarily operate MG relay.	BLK lamp lighted momentarily.
17	Momentarily operate SL relay.	BLK, SL lamps lighted momentarily.
18	Remove ground from 8F of MG relay.	
19	Connect ground to 10F of SL relay.	BLK lamp lighted.
20	Block operated MG relay.	
21	Block operated SL relay.	SL lamp lighted. BLK lamp extinguished.
22	Remove blocking tool from MG relay.	BLK lamp lighted.
23	Block operated CL2 relay.	BLK lamp extinguished. CL2 lamp lighted.
24	Remove ground from 10F of SL relay.	
25	Remove blocking tools from SL, CL2 relays.	SL, CL2 lamps extinguished.
26a	If equipped for testing noncommon control special toll, coin, noncoin, operator assistance, or common control trunks — Connect ground to 8F of CL2 relay.	BLK lamp lighted.
27b	If equipped for testing special toll, noncoin, or operator assistance trunks. Momentarily operate CL5 relay.	BLK lamp extinguished momentarily.
28b	Momentarily operate CL6 relay.	BLK lamp extinguished momentarily.

STEP	ACTION	VERIFICATION
29c	If equipped for testing coin trunks — Momentarily operate CL8 relay.	BLK lamp extinguished momentarily.
30d	If equipped for testing common control trunks — Momentarily operate CL10 relay.	BLK lamp extinguished momentarily.
31d	Momentarily operate CL12 relay.	BLK lamp extinguished momentarily.
32a	If equipped for testing noncommon control special toll, coin, noncoin, operator assist- ance, or common control trunks — Remove ground from 8F of CL12 relay.	BLK lamp extinguished.
33a	Block operated ETM2, SL1 relays.	BLK lamp lighted.
34a	Remove blocking tools from ETM2, SL1 relays.	BLK lamp extinguished.
35a	Block operated ET5A relay and ground 7F of ET5A.	BLK lamp lighted.
36a	Momentarily operate R1 relay.	BLK lamp extinguished momentarily.
37c	If equipped for testing coin trunks — Momentarily operate CRK relay.	BLK lamp extinguished momentarily.
38c	Momentarily operate CCK relay.	BLK lamp extinguished momentarily.
39a	If equipped for testing noncommon control special toll, coin, noncoin or operator assist- ance trunks or common control trunks — Remove blocking tool from ET5A relay and ground from 7F of ET5A.	BLK lamp extinguished.
40a	Block operated ET3A, RBR relays.	BLK lamp lighted.
41a	Remove blocking tools from ET3A, RBR relays.	BLK lamp extinguished.
42c	If equipped for testing coin trunks — Connect ground to 12F of CL8 relay.	
43c	Block operated ET5A relay.	BLK lamp lighted.
44c	Momentarily operate CL8A relay.	BLK lamp extinguished momentarily.
45c	Momentarily operate CL8 relay.	BLK lamp extinguished momentarily.
46c	Block operated CCK relay.	BLK lamp extinguished.
47c	Block operated CRK relay.	BLK lamp lighted.
48c	Remove blocking tools from CRK, CCK, ET5A relays.	BLK lamp extinguished.

SECTION 227-560-500

STEP	ACTION	VERIFICATION
49c	Remove ground from 12F of CL8 relay.	
50c	Connect ground to 9F of WC relay.	
51c	Block operated ET3A relay.	BLK lamp lighted.
52c	Block operated ZC, RP, OFK relays.	BLK lamp extinguished.
53c	Block operated WC relay.	BLK lamp lighted.
54c	Remove blocking tools from WC, ZC, RP, OFK, ET3A relays.	BLK lamp extinguished.
55c	Remove ground from 9F of WC relay.	
56	Connect ground to 6F of I0K relay.	
57	Block operated ETM2 relay.	BLK lamp lighted.
58	Block operated I0K relay.	BLK lamp extinguished.
59	Remove ground from 6F of I0K relay.	
60	Remove blocking tools from I0K, STA relays.	
61	Block operated TP relay.	BLK, TP lamps lighted.
62e	If equipped to test trunks arranged for temporary non-ANI — Momentarily operate NA relay.	BLK lamp extinguished momentarily.
63	Block operated TPT relay.	BLK lamp extinguished.
64	Remove blocking tool from TP relay.	TP lamp extinguished.
65	Block operated RP relay.	BLK, RP lamps lighted.
66e	If equipped to test trunks arranged for temporary non-ANI — Momentarily operate NA relay.	BLK lamp extinguished momentarily.
67	Remove blocking tool from TPT relay.	BLK lamp extinguished.
68	Remove blocking tools from ETM2, RP relays.	RP lamp extinguished.
69d	If equipped for testing common control trunks — Connect ground to 2F of RV1 relay.	BLK lamp lighted.
70	Momentarily operate WK3 relay.	BLK lamp extinguished momentarily.
71d	Remove ground from 2F of RV1 relay.	

H. Selector Switch Blocking**Selector Switch A**

4 Block nonoperated AV relay.

STEP	ACTION	VERIFICATION
5	Momentarily apply ground to 2F of TCI relay.	Selector A advances to position 2. OPT lamp lighted.
6	Block operated BLK relay.	BLK lamp lighted.
7	Momentarily apply ground to 5F of AV relay.	Selector A remains in position 2.
8	Remove blocking tool from BLK relay.	BLK lamp extinguished.
9	Remove blocking tool from AV relay.	Selector A steps through all remaining positions to position 1. OPT lamp extinguished.
Selector Switch B		
10	Block nonoperated AVB relay.	
11	Momentarily apply ground to 7F of NCC relay.	Selector B advances to position 2. OPT lamp lighted.
12	Block operated BLK relay.	BLK lamp lighted.
13	Momentarily apply ground to 5F of AVB relay.	Selector B remains in position 2.
14	Remove blocking tool from BLK relay.	BLK lamp extinguished.
15	Remove blocking tool from AVB relay.	Selector B steps through all remaining positions to position 1. OPT lamp extinguished.
Selector Switch C		
16	Block nonoperated AVC relay.	
17	Momentarily apply ground to 7F of CNC relay.	Selector C advances to position 2. OPT lamp lighted.
18	Block operated BLK relay.	BLK lamp lighted.
19	Momentarily apply ground to 5F of AVC relay.	Selector C remains in position 2.
20	Remove blocking tool from BLK relay.	BLK lamp extinguished.
21	Remove blocking tool from AVC relay.	Selector C steps through remaining positions to position 1. OPT lamp extinguished.
Selector Switch D		
22	Block nonoperated AVD relay.	
23	Momentarily apply ground to 7F of CLC relay.	Selector D advances to position 2. OPT lamp lighted.

SECTION 227-560-500

STEP	ACTION	VERIFICATION
24	Block operated BLK relay.	BLK lamp lighted.
25	Momentarily apply ground to 5F of AVD relay.	Selector D remains in position 2.
26	Remove blocking tool from BLK relay.	BLK lamp extinguished.
27	Remove blocking tool from AVD relay.	Selector D steps through remaining positions to position 1. OPT lamp extinguished.

I. Tip and Ring Incoming — Resistance Verification

4	Block operated CA, S1MW relays.	
5	Connect ohmmeter to 10F, 8F of S1MW relay.	Indicates 950 to 1050 ohms.
6	Remove blocking tool from CA relay.	Indicates open circuit.
7	Remove blocking tool from S1MW relay.	
8	Block operated A relay.	If option R or ZB is provided — Indicates 3394 to 3464 ohms. If option Q or ZM is provided — Indicates open circuit.
9	Momentarily operate AOP relay.	If options R or ZB and T are provided — Indicates 2760 to 2816 ohms. If options R or ZB and S are provided — Indicates 2608 to 2660 ohms. If option Q or ZM is provided — Indicates open circuit.
10	Remove blocking tool from A relay.	AOP relay released.
11	Block operated OPT relay.	Indicates 28,065 to 33,255 ohms.
12a	If office is arranged for —110 volt party test — Block operated GRT relay.	Indicates 86,190 to 89,406 ohms.
13b	If office is arranged for —48 volt party test — Block operated GRT relay.	Indicates 37,860 to 38,120 ohms.
14	Block operated GRF relay.	Indicates open circuit.
15	Move ohmmeter connection from 8F of S1MW relay to 1F of CSO relay.	Indicates 4950 to 5050 ohms.
16	Disconnect ohmmeter.	
17	Remove blocking tools from GRF, GRT, OPT relays.	

STEP	ACTION	VERIFICATION
18	Connect ohmmeter to 3F, 10F of CNC relay.	
19c	If equipped for testing coin trunks — Block operated ZC relay.	Indicates 1819 to 1855 ohms.
20c	Remove blocking tool from ZC relay.	Indicates open circuit.
21c	Block operated WC relay.	Indicates 1819 to 1855 ohms.
22c	Remove blocking tool from WC relay.	Indicates open circuit.
23d	If equipped for testing noncommon control special toll, coin, noncoin or operator as- sistance trunks — Block operated A, SP1 relays.	Indicates 760 to 840 ohms.
24d	Remove blocking tools from A, SP1 relays.	
25c	If equipped for testing coin trunks — Block operated A, RVK relays.	Indicates 28,065 to 33,255 ohms.
26c	Remove blocking tools from A, RVK relays.	
27e	If equipped for testing special toll, noncoin, or operator assistance trunks — Block operated CL5 relay.	Indicates 3467 to 3537 ohms.
28e	Remove blocking tool from CL5 relay.	Indicates open circuit.
29e	Block operated CL3 relay.	Indicates 3960 to 4040 ohms.
30e	Remove blocking tool from CL3 relay.	
31d	If equipped for testing noncommon control special toll, coin, noncoin, or operator as- sistance trunks — Block operated CLA relay.	Indicates 3396 to 3464 ohms.
32d	Block operated AOP relay.	If S option is provided — Indicates 2608 to 2660 ohms. If T option is provided — Indicates 2760 to 2816 ohms.
33c	If equipped for testing coin trunks — Block operated CL8 relay.	If S option is provided — Indicates 2608 to 2660 ohms. If T option is provided — Indicates 2760 to 2816 ohms.
34d	If equipped for testing noncommon control special toll, coin, noncoin, or operator as- sistance trunks — Remove blocking tool from CLA relay.	If S option is provided — Indicates 2608 to 2660 ohms. If T option is provided — Indicates 2760 to 2816 ohms.
35c	If equipped for testing coin trunks — Remove blocking tool from CL8 relay.	

SECTION 227-560-500

STEP	ACTION	VERIFICATION
36e	If equipped for testing special toll, noncoin, or operator assistance trunks — Block operated CL4 relay.	Indicates 2673 to 2727 ohms.
37e	Remove blocking tool from CL4 relay.	
38e	Block operated CL6 relay.	Indicates 2408 to 2456 ohms.
39e	Remove blocking tools from AOP, CL6 relays.	
40c	If equipped for testing coin trunks — Connect ohmmeter to 10F, 8F of S1MW relay.	
41c	Block operated CNO relay.	Indicates 1059 to 1081 ohms.
42c	Move ohmmeter connection from 8F of S1MW relay to 1L of CCK relay.	Indicates 1547 to 1579 ohms.
43c	Remove blocking tool from CNO relay.	
44f	If equipped for testing common control trunks — Block operated A, WK2 relays.	Indicates 28,065 to 33,255 ohms.
45f	Block operated WK1 relay.	Indicates open circuit.
46f	Remove blocking tools from A, WK1, WK2 relays.	
47f	Block operated CL10 relay.	Indicates 3467 to 3537 ohms.
48f	Remove blocking tool from CL10 relay.	
49f	Block operated AOP relay.	
50f	Block operated CL9 relay.	Indicates 2673 to 2727 ohms.
51f	Remove blocking tool from CL9 relay.	
52f	Block operated CL12 relay.	Indicates 2408 to 2456 ohms.
53f	Remove blocking tools from AOP, CL12 relays.	
54f	Connect ohmmeter to 10F of S1MW relay and 1F of CSO relay.	
55f	Block operated WK2 and TPT relays.	Indicates 4950 to 5050 ohms.
56f	Remove blocking tools from WK2 and TPT relays.	

STEP	ACTION	VERIFICATION
57	Disconnect ohmmeter.	
J. Tip and Ring Outgoing — Resistance Verification		
4	Remove K fuse.	
5	Connect ohmmeter to 6F of SOK relay, 1F of CSO relay.	Indicates 8093 to 8262 ohms.
6	Block operated SOK, CSR relays.	
7	Move ohmmeter connection from 1F of CSO relay to 5F of A relay.	Indicates 40,966 to 41,794 or 41,283 to 42,117 ohms.
8	Remove blocking tools from SOK, CSR relays.	
9	Block operated A relay.	
10	Move ohmmeter connection from 6F of SOK relay to 1F of CSO relay.	Indicates 281 to 287 ohms.
11	Remove blocking tool from A relay.	
12	Move ohmmeter connections to 10F of A relay, L terminal of MG relay.	Indicates 665 to 735 ohms.
13	Disconnect ohmmeter.	
14	Replace K fuse.	
15	Remove K, R, 130VA fuses and W fuse if provided.	
16a	If equipped for testing noncommon control special toll, noncoin or operator assistance trunks — Connect ohmmeter to 6F of SOK1, 4F of DTK relay.	Indicates 5643 to 5757 ohms.
17a	Block operated SOK1 relay.	Indicates 1742 to 1778 ohms.
18a	Block operated CSR relay.	
19a	Move ohmmeter connection from 5F of DTK to 12F of CSR relay.	Indicates 0.506 to 0.517 megohms.
20a	Remove blocking tools from SOK1, CSR relays.	
21a	Move ohmmeter connections to 7F of RB relay, terminal 19 of MISC terminal strip.	
22a	Block operated RB, RBR relays.	Indicates 3277 to 3343 ohms.
23a	Remove blocking tool from RBR relay.	

SECTION 227-560-500

STEP	ACTION	VERIFICATION
24a	Move ohmmeter connection from terminal 19 of MISC terminal strip to 6F of RBR relay.	Indicates 1059 to 1081 ohms.
25a	Move ohmmeter connection from 6F of RBR relay to 8F of RRT relay.	
26a	Block operated RRT relay.	Indicates 29,106 to 29,694 ohms.
27a	Remove blocking tools from RRT, RB relays.	
28a	Disconnect ohmmeter.	
29b	If equipped for testing coin trunks — Block operated A1 relay.	
30b	Connect ohmmeter to 6F of DTK relay, 11F of CSO1 relay.	Indicates 1668 to 1702 ohms.
31b	Remove blocking tool from A1 relay.	
32b	Move ohmmeter connection from 11F of CSO1 relay to 7F of CSR relay.	Indicates 5425 to 5535 ohms.
33b	Move ohmmeter connections to 7F of CSR relay, 7F of RBR relay.	
34b	Block operated CSR relay.	Indicates 0.506 to 0.516 megohms.
35b	Remove blocking tool from CSR relay.	
36b	Move ohmmeter connections to terminal 19 of MISC terminal strip, 4F of CC relay.	Indicates 2625 to 2679 ohms.
37b	Move ohmmeter connection from terminal 19 of MISC terminal strip to 4F of CNO relay.	
38b	Block operated CNO relay.	Indicates 4455 to 4545 ohms.
39b	Remove blocking tool from CNO relay.	
40b	Move ohmmeter connections to 9F of CC relay, L terminal of MGB relay.	Indicates 1980 to 2020 ohms.
41b	Disconnect ohmmeter.	
42c	If equipped for testing common control trunks — Block operated RBNO relay.	
43c	Connect ohmmeter to 7F of RBNO relay, 1F of RB relay.	
44c	Block operated RB relay.	Indicates 41,021 to 41,849 ohms.
45c	Disconnect ohmmeter.	

STEP	ACTION	VERIFICATION
46c	Remove blocking tools from RBNO, RB relays.	
47c	Connect ohmmeter to 2F of RB relay, L terminal of MGB relay.	
48c	Block operated RB relay.	Indicates 11,088 to 11,312 ohms.
49c	Remove blocking tool from RB relay.	
50c	Move ohmmeter connections to 1F of CSO relay, 1F of SOK1 relay.	Indicates 5643 to 5757 ohms.
51c	Block operated SOK1 relay.	Indicates 36.6 to 37.4 ohms.
52c	Block operated CSR1 relay.	Indicates 505,927 to 516,147 ohms.
53c	Disconnect ohmmeter.	
54c	Remove blocking tools from SOK1, CSR1 relays.	
55	Replace K, R, W, 130V A fuses.	

K. CT and RST Register Verification

4	Record reading of CT, RST registers.	
5	Block operated OK1, STTA relays.	
6	Block operated REP relay.	CT register scores once.
7	Momentarily operate manually AV relay.	RST register scores once.
8	Remove blocking tools from OK1, STTA, REP relays.	

L. Trunk Release

4	Check that ground is present at 3F of CSR relay.	
5	Block operated ON1 relay.	
6	Momentarily operate manually A relay.	A relay locked operated.
7	Block operated REP, SL relays.	
8	Momentarily operate manually CA relay.	CA relay locked operated. A relay released. Ground absent from 3F of CSR relay.
9	Remove blocking tool from REP relay.	CA relay released.
10	Remove blocking tools from ON1, SL relays.	

STEP	ACTION	VERIFICATION
M. TTO Relay Verification		
4	Connect ground to 3F of SP2 relay.	
5	Block operated SP2 relay.	SP1 lamp lighted. Ground present at 2F of TTO relay.
6	Block operated ON1 relay.	
7	Momentarily operate manually TTO relay.	TTO lamp lighted. Ground absent from 2F of TTO relay.
8	Remove blocking tools from SP2, ON1 relays.	SP1, TTO lamps extinguished.
9	Remove ground from 3F of SP2 relay.	
10	Connect ground to 10F of CSO relay.	TTO lamp lighted.
11	Block operated GRT relay.	TTO lamp extinguished.
12	Block operated GRF relay.	TTO lamp lighted.
13	Block operated SP2 relay.	TTO lamp extinguished.
14	Remove ground from 10F of CSO relay.	
15	Remove blocking tools from SP2, GRF, GRT relays.	