NO. 1 TRUNK CONCENTRATOR CIRCUIT SD-97569-01

TESTS

COMMON SYSTEMS

1. GENERAL

1.01 This section describes a method of testing the No. 1 trunk concentrator circuit.

1.02 This issue affects the Equipment Test List.

1.03 The tests covered are:

1.04 It is recommended that the tests covered in this section be performed during periods of light traffic.

1.05 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 3 or 4 of this section, indicates an action which may or may not be required, depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply all steps designated by that letter should be omitted.

2. APPARATUS

Tests A and B

2.01 258C (dummy) plug.

Tests A Through C

2.02 376A (make-busy) plugs as required.

Tests A Through D

2.03 Blocking tools as required.

Test B

2.04 Insulating tools as required.

Test D

2.05 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), and two KS-6278 connecting clips.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1a	If ANI trunks are associated with switch under test— At jack, key, and lamp panel on incoming trunk frame— Operate MB_ key for each ANI trunk associated with switch.	MB_ lamp lighted for each trunk made busy.
2b	If incoming trunks associated with switch under test are other than ANI trunks— At distant office— Arrange to have incoming trunks associated with switch under test made busy.	
3	At trunk concentrator miscellaneous and alarm circuit— Block MJC and MNC relays non-operated.	
Tests A and B		
4	At jack, key, and lamp panel associated with switch under test— Operate MB_ key for switch under test.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Operational Test		
5	Refer to Table A and select a switch, level, and vertical.	
6	At jack, key and lamp panel associated with switch under test— Operate the LEVEL SELECT switch to the level selected in Step 5.	
7	Operate MB_ key associated with OGT located on the switch level selected in Step 5. *Note:* Refer to office records for a listing of the outgoing trunks assigned to each level of each half switch.	OGT MB_ lamp lighted (after released from service).
8	At jack, key and lamp panel associated with switch under test— Insert 258C dummy plugs into the RCV and TRMT jacks associated with the outgoing	

STEP	ACTION	VERIFICATION

TABLE A

SWITCH LEVEL	A HALF SWITCH VERTICAL	B HALF SWITCH VERTICAL
0	0	10
1	1	11
2	2	12
3	3	13
4	4	14
5	5	15
6	6	16
7	7	17
8	8	18
9	9	19
10	9	19
11	9	19

	trunk appearing on the switch level selected in Step 5.	
9	At jack, key, and lamp panel associated with switch under test— Insert 376A make-busy plug into TST jack associated with vertical selected in Step 5.	
10	Momentarily operate ST key.	ST, CT, and OGT ON_ lamps lighted.
11	Momentarily operate RLS key.	ST, CT, and OGT ON_ lamps extinguished.
12	At trunk concentrator frame— Manually operate TBL relay.	At jack, key, and lamp panel— AR lamp lighted. MNR_ lamp lighted for switch under test.
13	Repeat Steps 10 and 11.	
14	Momentarily operate SWITCH RESTART key for switch under test.	At trunk concentrator frame— TBL relay released. At jack, key, and lamp panel— MNR_ lamp extinguished.
15	Momentarily operate AR key.	AR lamp extinguished.
16	Repeat Steps 5 through 15 for all switch levels and verticals in switch half "A" as shown in Table A.	

STEP	ACTION	VERIFICATION
17	Repeat Steps 1a through 15 for all switch levels and verticals in switch half "B" as shown in Table A.	
18	At jack, key and lamp panel associated with switch under test— Remove 376A make-busy plug from TST jack.	
19	Remove 258C dummy plugs from RCV and TRMT jacks.	
20	Restore MB_ key associated with OGT made busy.	OGT MB_ lamp extinguished.
21c	If no further tests are to be made on this switch— Restore all incoming trunks to service.	If ANI incoming trunks— MB_ lamps extinguished.
22c	Restore MB_ key for switch under test.	Switch MB_ lamp extinguished.
23c	At trunk concentrator miscellaneous and alarm circuit— Remove blocking tools from MJC and MNC relays.	

B. Trouble Time-Out

TO Timer—Lower Half

5	At jack, key and lamp panel associated with switch under test— Insert 376A make-busy plug into TST 0 jack associated with switch under test.	
6	Operate the LEVEL SELECT switch to level 0.	
7	Operate MB key associated with OGT located on level 0 of switch half "A". ***Note:*** Refer to office records for a listing of the outgoing trunks assigned to each switch half.	OGT MB_ lamp lighted.
8	At trunk concentrator frame— Insulate contact 4M of relay OT0.	
9	At jack, key and lamp panel associated with switch under test— Momentarily operate ST key.	MJR_ lamp flashes then lighted for switch under test. MNR_ lamp lighted for switch under test. AR and ST lamps lighted. OGT MB_ lamp extinguished.

STEP	ACTION	VERIFICATION
10	Momentarily operate AR key.	AR lamp extinguished.
11	Momentarily operate RLS key.	OGT MB_ lamp lighted. ST lamp extinguished.
12	Remove the make-busy plug from TST 0 jack.	
13	Restore OGT MB_ key.	OGT MB_ lamp extinguished.
14	Momentarily operate the SWITCH RESTART key.	MNR_ and MJR_ lamps extinguished.
15	At trunk concentrator frame— Remove insulator from contact 4M of relay OT0.	
16	At jack, key and lamp panel associated with switch under test— Insert 376A make-busy plug into TST 5 jack of switch under test.	
17	Operate the LEVEL SELECT rotary switch to level 1.	
18	Operate MB_ key associated with OGT located on level 1 of switch half "A." ***Note:*** Refer to office records for a listing of the outgoing trunk assigned to each switch half.	OGT MB_ lamp lighted.
19	At trunk concentrator frame— Insulate contact 2B of relay OT0.	
20	Insert 258C dummy plug into REC and TRMT jacks of OGT.	
21	At jack, key and lamp panel associated with switch under test— Momentarily operate ST key.	MNR_ lamp flashes then lighted for switch under test. AR lamp lighted. ST lamp momentarily lighted.
22	Momentarily operate AR key.	AR lamp extinguished.
23	Momentarily operate ST key.	ST, CT, and OGT ON_ lamps lighted.
24	Momentarily operate RLS key.	ST, CT, and OGT ON_ lamps extinguished.
25	Repeat Steps 21 and 22 several times.	MJR_ lamp not lighted for switch under test.

STEP	ACTION	VERIFICATION
26	At trunk concentrator frame— Remove insulator from contact 2B of relay OT0.	
27	At jack, key and lamp panel associated with switch under test— Momentarily operate SWITCH RESTART key for switch under test.	MNR_ lamp extinguished.
TM1 Timer—Lower Half		
28	At trunk concentrator frame— Insulate contact 1B of relay VP0 ***Note:*** Relays may pulse during this operation if VP0 relay is operated.	
29	Momentarily operate the ST key.	MJR_ lamp momentarily lighted for switch under test. ST, CT, and AR lamps lighted. After approximately 1/2 second— MNR_ and OGT ON_ lamps lighted.
30	Momentarily operate AR key.	AR lamp extinguished.
31	Momentarily operate RLS key.	ST, CT, and OGT ON_ lamps extinguished.
32	Momentarily operate SWITCH RESTART key for switch under test.	MNR_ lamp extinguished.
33	Insulate contact 5B of relay VP8. ***Note:*** Relays may pulse during this operation if VP8 relay is operated.	
34	Momentarily operate ST key.	MJR_ lamp flashes then lighted for switch under test. ST, CT, and AR lamps lighted. MNR_ lamp lighted for switch under test.
35	Momentarily operate AR key.	AR lamp extinguished.
36	Momentarily operate RLS key.	ST and CT lamps extinguished.
37	Momentarily operate SWITCH RESTART key.	MJR_ and MNR_ lamps extinguished.
38	At trunk concentrator frame— Remove the insulator from contact 1B of relay VP0 and contact 5B of relay VP8.	
39	Block relay SGA operated.	

STEP	ACTION	VERIFICATION
40	At jack, key, and lamp panel associated with switch under test— Momentarily operate ST key.	ST and AR lamps lighted. After approximately 1/2 second— MNR_ and MJR_ lamps lighted for switch under test.
41	Momentarily operate AR key.	AR lamp extinguished.
42	Momentarily operate RLS key.	ST lamp extinguished.
43	Remove blocking tool from SGA relay.	
44	Momentarily operate SWITCH RESTART key for the switch under test.	MNR_ and MJR_ lamps extinguished.
TO Timer—Upper Half		
45	Operate TRF-TO key.	TFR-TO lamp lighted.
46c	If TFR-TO lamp flashes at 60 ipm after performing Step 45— Momentarily operate ST key and then RLS key.	
47	At trunk concentrator frame— Block non-operated ATB and OT1 relays.	
48	At jack, key and lamp panel associated with switch under test— Momentarily operate ST key.	ST lamp lighted. After approximately 1/2 second— MJR_ lamp flashes then lighted for switch under test. MNR_ lamp lighted for switch under test. AR lamp lighted. After approximately 2 seconds— OGT TO_ lamp lighted.
49	Momentarily operate AR key.	AR lamp extinguished.
50	Momentarily operate RLS key.	ST lamp extinguished.
51	Momentarily operate SWITCH RESTART key.	OGT TO_ lamp extinguished. MNR_ and MJR_ lamps extinguished.
52	Restore TFR-TO key.	TFR-TO lamp extinguished.
53	Operate the TFR-TOA key.	TFR-TOA lamp flashes at 60 ipm.
54	Momentarily operate the ST key.	ST and TFR-TOA lamps lighted. After approximately 1/2 second— MJR_ lamp flashes then lighted for switch under test. MNR_ lamp lighted for switch under test.

STEP	ACTION	VERIFICATION
		AR lamp lighted. After approximately 2 seconds— TOA lamp lighted for switch under test.
55	Momentarily operate AR key.	AR lamp extinguished.
56	Momentarily operate RLS key.	ST lamp extinguished.
57	Momentarily operate SWITCH RESTART key.	TOA lamp extinguished for switch under test. MNR_ and MJR_ lamps extinguished.
58	Restore TFR-TOA key.	TFR-TOA lamp extinguished.
59	Restore OGT MB_ key.	OGT MB_ lamp extinguished.
60	Remove blocking tools from ATB and OT1 relays.	
61	At jack, key and lamp panel associated with switch under test— Remove the make-busy plug from TST 5 jack of the switch.	
62	Remove dummy plugs from RCV and TRMT jacks.	
TM1 Timer—Upper Half		
63	At trunk concentrator frame— Manually operate VPA relay and hold for at least 2 seconds.	At jack, key and lamp panel associated with switch under test— Within 2 seconds— TFR-TO or TFR-TOA and AR lamps lighted.
64	Momentarily operate AR key.	AR lamp extinguished.
65	Repeat previous step until TFR-TO and TFR-TOA lamps are lighted at least once each. ***Note:*** Traffic must be coming in to both halves of the switch in order for both lamps to be lighted once each.	
66	Release VPA relay.	
67	At jack, key and lamp panel associated with switch under test— Momentarily operate RESTART key.	At jack, key and lamp panel associated with switch under test— TFR-TO or TFR-TOA lamps extinguished.
68	At trunk concentrator frame— Manually operate VPB relay and hold for at least 2 seconds.	At jack, key and lamp panel associated with switch under test— Within 2 seconds— TFR-TO or TFR-TOA lamp lighted.

STEP	ACTION	VERIFICATION
69	Release VPB relay.	
70	At jack, key, and lamp panel associated with switch under test— Momentarily operate RESTART key.	At jack, key and lamp panel— TFR-TO or TFR-TOA lamp extinguished.
71	At trunk concentrator frame— Block OTL relay nonoperated and ATB1 relay operated.	
72	Manually operate VPA relay and hold for at least 2 seconds.	At jack, key, and lamp panel associated with switch under test— TFR-TO or TFR-TOA not lighted.
73	Removing blocking tools from OTL and ATB1 relays.	
74d	If no further tests are to be made on this switch— Restore all incoming trunks to service.	If ANI incoming trunks— MB_ lamps extinguished.
75d	Restore MB_ key for switch under test.	Switch MB_ lamp extinguished.
76d	At trunk concentrator miscellaneous and alarm circuit— Remove blocking tools from MJC and MNC relays.	

C. Double Connection

4	At jack, key and lamp panel associated with switch under test— Insert 376A make-busy plug into TST 4 jack of switch under test.	
5	Operate the LEVEL SELECT rotary switch to level 0.	
6	Operate MB_ key associated with OGT located on level 0 of switch half "A." ***Note:*** Refer to office records for a listing of the outgoing trunks assigned to each switch half.	OGT MB_ lamp associated with level 0 lighted.
7	Insert 258C dummy plug into REC jack of trunk made busy.	
8	Momentarily operate the ST key.	ST, CT, and OGT ON_ lamps lighted. OGT MB_ lamp associated with level 0 extinguished.

STEP	ACTION	VERIFICATION
9	At trunk concentrator frame— Block VP5 relay non-operated.	
10	At jack, key, and lamp panel associated with switch under test— Insert 376A make-busy plug into TST 5 jack of switch under test.	
11	At trunk concentrator frame— Manually operate switch hold magnet number 5.	
12	Remove blocking tool from VP5 relay.	
13	Manually operate VP4 and VP5 relays of switch under test.	DCK_ and AR lamps lighted. MNR_ and MJR_ lamps lighted for switch under test.
14	At jack, key, and lamp panel associated with switch under test— Momentarily operate RLS key.	DCK_, OGT ON_, ST, and CT lamps extinguished. OGT MB_ lamp lighted.
15	Momentarily operate SWITCH RESTART key.	MNR_ and MJR_ lamps extinguished.
16	Momentarily operate AR key.	AR lamp extinguished.
17	Restore OGT MB_ key.	OGT MB_ lamp extinguished.
18	Remove the 376A plugs from TST 4 and TST 8 jacks and dummy plug from REC jack of OGT.	
19c	If no further tests are to be made on this switch— Restore all incoming trunks to service.	If ANI trunks— Incoming trunk MB_ lamps extinguished.
20c	At trunk concentrator miscellaneous and alarm circuit— Remove blocking tools from MJC and MNC relays.	

D. False Ground on TO Lead

4	At the incoming trunk terminal strip on the trunk concentrator frame— Ground any TO lead for any incoming trunk.	At jack, key, and lamp ground associated with switch under test— AR and XTO_ lamps associated with switch under test lighted.
5	Remove ground from TO lead.	

STEP	ACTION	VERIFICATION
6	At jack, key, and lamp panel associated with switch under test— Momentarily operate AR key.	AR lamp extinguished.
7	Momentarily operate SWITCH RESTART key associated with switch under test.	XTO_ lamp extinguished.
8c	If no further tests are to be made on this switch— Restore all incoming trunks to service.	If ANI incoming trunks— MB_ lamps extinguished.
9c	At trunk concentrator miscellaneous and alarm circuit— Remove blocking tools from MJC and MNC relays.	