JUNCTOR CIRCUIT SD-27713-01
FOR USE AS OFF-NET ACCESS LINE
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing junctor circuit SD-27713-01, for use as an off-net access line using the master test control circuit SD-25800-01 and the trunk test circuit SD-25918-01 in No. 5 crossbar offices.

1.02 This section is reissued for the reasons listed below. Revision arrows are used to emphasize significant changes. Equipment Test Lists are affected.

(a) To revise Tests A, C, E, F, G, I, and J for calling Data Transmitter (CDT) features.

(b) To indicate test K is not for offices equipped with ETS.

1.03 The tests covered are:

1.04 Tests D, F through K require actions and verifications at the master test frame (MTF) and the relay rack.

1.05 Tests F and K require all junctor circuits to be made busy.

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

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

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

1.09 On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, such as DT, ORIG, ITDO, ITNP, OGT, etc.

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

218-798-308—Taking LAMA-C Equipment Out-of-Service.

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

1.11 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk supervisory scanning to be repeated on the FT, CS, and S1 lamps at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, supervision will continue to be repeated on the lamps, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk, or (2) the command ***STOP:TRK TST*** is entered at the maintenance TTY.

1.12 When CDT (calling data transmitter) billing system is provided in the office, this trunk may or may not handle billable calls. When it is arranged for billable calls, supervisory scan points will be assigned and supervision will be repeated from the scan points on test calls to the MTF by CS and S1 lamps.

1.13 When CDT is provided, there may be several configurations in the office - single controller, dual controller with the trunk assigned to one controller, or dual controller and the trunk is assigned to both controllers. When assigned to both controllers in a dual controller configuration, one test must be made to each controller to verify scan points for each controller

2. APPARATUS

Tests A Through J

2.01 Master test control circuit, SD-25800-01.

2.02 Trunk test circuit, SD-25918-01.

Tests A, C, D, F, I, and J

2.03 KS-3008 stopwatch, or equivalent.

Test D

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

Tests D, F, and K

2.05 322A (make-busy) plugs as required.

Test K

2.06 Oscillator J94730B (SD-95616-01) part of 1A fault locator test set J94730A.

2.07 Testing cord, W1AK cord, 6 feet long, equipped with one 1P (P44B, 490) banana plug, one 360B tool, and one 624B tool.

2.08 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), two KS-6278 connecting clips or one KS-6278 connecting clip, and one 624B tool as required [for connecting high resistance ground (HRG) to terminal strip terminal].

3. PREPARATION

STEP	ACTION	VERIFICATION
	Refer to paragraphs 1.04 through 1.13.	
	All Tests Except K	
1	At MTF— Restore all keys; set all switches to OFF.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select completing marker.	
4	Select route advance as required.	
5	Operate TLK, KY keys.	
6a	If the office is arranged for traffic sampling and AMA record is required— Operate SMPL key.	
7	Select originating class of call with LT3 translator indication.	
8	Select class of service and rate treatment having access to junctor under test.	
9	Select junctor to be tested.	
10b	If ETS provided— Operate PCS, PTS keys.	

STEP	ACTION	VERIFICATION
Tests A Through C, E, G, Through J		
11	Operate FS, TS keys.	
Tests A, B, D Through J		
12	Select OGT class of test.	
13	Select A through K digits as required to select route served by junctor under test.	
Tests B, H, and J		
14	Select TAN subclass of test.	TAN lamp lighted.
Tests A, C, E, F, G, I and J		
15c	If trunk is to be tested for CDT— Operate CDTT key.	
16c	When trunk is assigned to CDT dual controllers, select controller— Operate CDC 0/1 key.	
17c	When a trouble record is to be taken from the CDT translator access (TA) circuit— Operate TREC key.	
18c	When the CDT controller operates with both shared and dedicated translator circuits and a particular translator circuit is to be used for the test— Operate TAD key to select dedicated TA circuit, or operate TAS key to select shared TA circuit. ***Note:*** When a TA circuit is not selected, the controller will select the next available TA circuit.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Junctor Circuit Seizure and Release—Subscriber Outgoing (SOG)		
19	Operate ANS key.	
20	Momentarily operate ST key.	◗If CDTT key is operated— S1 lamp lighted.◖ If ETS provided—

STEP	ACTION	VERIFICATION
		FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. High tone heard. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ IE, RN_, T_, U_ lamps lighted.
21	Restore ANS key; ***start timing.***	▶If CDTT key is operated— CS lamp lighted.◀ If ETS or LAMA-C provided— CS lamp lighted. OGT-CS lamp lighted. High tone silenced. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ In 2 to 5 seconds— AE lamp lighted.
22	Dial digit 9.	All lamps remain lighted.
23	Restore TLK key.	▶If CDTT key is operated— S1, CS lamps extinguished.◀ If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. OGT-CS, AS lamps extinguished. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ DE lamp lighted.
24	Momentarily operate RL key.	All lamps extinguished.
25d	If SMPL key is operated— Restore SMPL key.	
26d	Repeat Steps 19 through 24.	
27	Restore all keys and switches not required in next test.	
B.	**Junctor Circuit Seizure and Release—Tandem Outgoing (TOG)**	
15	Operate ANS key.	
16	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS lamp lighted. High tone heard.

STEP	ACTION	VERIFICATION
17	Restore ANS key.	OGT-CS lamp lighted. High tone silenced.
18	Restore TLK key.	If ETS provided— FT lamp extinguished. OGT-CS, AS lamps extinguished.
19	Momentarily operate RL key.	All lamps extinguished except TAN.
20	Restore all keys and switches not required in next test.	TAN lamp extinguished.
C. Supervision—Terminating End Disconnects—SOG		
19	Select MISC class of test.	
20	Select A through K digits as required to select route served by junctor and local C.O. terminating test line.	
21	Momentarily operate ST key; ***start timing.***	▶If CDTT key is operated— CS, S1 lamps lighted.◀ If ETS provided— CS, FT, S1 lamps lighted. If LAMA-C provided— CS, S1 lamps lighted. Ringing tone heard. R- lamp flashed in unison with ringing tone. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ IE, RN_, T_, U_ lamps lighted. In 2 to 5 seconds.— AE lamp lighted.
22	Operate ANS key.	▶If CDTT key is operated— CS lamp extinguished.◀ R- lamp extingished. Ringing tone silenced. High tone heard. If ETS or LAMA-C provided— CS lamp extinguished.
23	In 2 minutes— Restore ANS key; ***start timing.***	▶If CDTT key is operated— CS lamp lighted.◀ If ETS or LAMA-C provided— CS lamp lighted. High tone silenced. In 13 to 33 seconds— AS, TS lamps extinguished. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ DE lamp lighted.

STEP	ACTION	VERIFICATION
		If ETS provided— CS, FT, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. ▶If CDTT key is operated— S1, CS lamps extinguished.◀
24	Momentarily operate RL key.	All lamps extinguished.
25	Restore all keys and switches not required in next test.	

D. Cancel Disconnect Entry (ETS, ▶CDT,◀ or LAMA-C not Provided)

14	Operate NTTS, NTFS keys.	
15	Insert make-busy plug into MB jack associated with junctor circuit under test.	
16	At MTF— Operate ANS key.	
17	Momentarily operate ST key.	AS lamp lighted. High tone heard. If SMPL key is operated— IE, RN_, T_, U_, lamps lighted.
18	Restore ANS key; ***start timing.***	OGT-CS lamp lighted. High tone silenced. If SMPL key is operated— In 2 to 5 seconds— AE lamp lighted. At relay rack location of junctor under test— MA relay operated.
19	Insulate 6B of S2 relay associated with junctor circuit under test.	
20	At MTF— Restore TLK key.	OGT-CS, AS lamps extinguished. DE lamp ***not*** lighted.
21	At relay rack location of junctor under test— When CS relay released; ***start timing.***	In 2 to 5 seconds— TR relay operated. MA relay released.
22	Remove insulating tool from S2 relay.	
23	At MTF— Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
24	Remove make-busy plug inserted in Step 15.	
25	Restore all keys and switches not required in next test.	

E. Noncharge Supervision

19	Operate ANS key.	
20	Momentarily operate ST key.	◗If CDTT key is operated— S1 lamp lighted.◖ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. If SMPL key is operated and ETS or LAMA-C not provided, ◗or CDTT key is not operated—◖ IE, RN_, T_, U_ lamps lighted.
21	Restore ANS key for 1-1/2 seconds.	If ETS or LAMA-C provided ◗or if CDTT key is operated◖ — CS lamp lighted while ANS key restored. AE, DE lamps ***not*** lighted.
22	Restore TLK key.	◗If CDTT key is operated— S1 lamp extinguished.◖ If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. AS lamp extinguished.
23	Momentarily operate RL key.	All lamps extinguished.
24	Restore all keys and switches not required in next test.	

F. Junctor Circuit Busy

19	Operate NTFS, TS, and ANS keys.	
20	Insert make-busy plub into MB jack associated with junctor circuit under test.	
21	At MTF— Momentarily operate ST key.	TRL lamp lighted.
22	Momentarily operate RL key.	All lamps extinguished.
23	Remove make-busy plug used in Step 15.	

STEP	ACTION	VERIFICATION
24	At MTF— Momentarily operate ST key; ***start timing.***	▶If CDTT key is operated— CS, S1 lamps lighted.◀ If ETS provided— CS, FT, S1 lamps lighted. If LAMA-C provided— CS, S1 lamps lighted. AS lamp lighted. High tone heard. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key not operated—◀ IE, RN_, T_, U_ lamps lighted. In 2 to 5 seconds— AE lamp lighted.
25	Restore ANS, TLK keys.	▶If CDTT is operated— S1, CS lamps extinguished. If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished.◀ AS lamp extinguished. High tone silenced. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key not operated—◀ DE lamp lighted.
26	Momentarily operate RL key.	All lamps extinguished.
27	Operate ANS, TLK keys.	
28	Operate NTTS, FS keys.	
29	Insert make-busy plugs into all MB jacks associated with junctor circuits of same route on same trunk link frame as junctor circuit under test.	
30	At MTF— Momentarily operate ST key.	TRL lamp lighted.
31	Momentarily operate RL key.	All lamps extinguished.
32	Remove make-busy plugs used in Step 29.	
33	While junctor circuit is idle— Momentarily operate ST key; ***start timing.***	▶If CDTT key is operated— CS, S1 lamps lighted.◀ If ETS provided— CS, FT, S1 lamps lighted. If LAMA-C provided— CS, S1 lamps lighted. AS lamp lighted. High tone heard.

STEP	ACTION	VERIFICATION
		If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ IE, RN_, T_, U_ lamps lighted. In 2 to 5 seconds— AE lamp lighted.
34	Restore ANS, TLK keys.	▶If CDTT key is operated— S1, CS lamps extinguished.◀ If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. AS lamp extinguished. High tone silenced. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ DE lamp lighted.
35	Momentarily operate RL key.	All lamps extinguished.
36	Restore all keys and switches not required in next test.	

G. Reorder (SOG)

19	Operate ROT key.	
20	Momentarily operate ST key.	▶If CDTT key is operated— S1 lamp lighted.◀ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS lamp lighted. Overflow tone heard.
21	Restore TLK key.	▶If CDTT key is operated— S1 lamp extinguished.◀ If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. AS lamp extinguished. Overflow tone silenced.
22	Momentarily operate RL key.	All lamps extinguished.
23	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
H. Reorder (TOG)		
15	Operate ROT key.	
16	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS lamp lighted. Overflow tone heard.
17	Restore TLK key.	If ETS provided— FT lamp extinguished. AS lamp extinguished. Overflow tone silenced.
18	Momentarily operate RL key.	All lamps extinguished.
19	Restore all keys and switches not required in next test.	
I. Universal Pad Control (SOG)		
19	Operate 2WD, ANS keys.	
20	Momentarily operate ST key.	▶If CDTT key is operated— S1 lamp lighted.◀ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS lamp lighted. High tone heard. If SMPL key is operated and ETS and LAMA-C not provided, ▶or CDTT key is not operated—◀ IE, RN_, T_, U_ lamps lighted. At relay rack— PC relay associated with circuit under test operated.
21	At MTF— Restore ANS key; ***start timing.***	If CDTT key is operated— CS lamp lighted.◀ If ETS or LAMA-C provided— CS lamp lighted. OGT-CS lamp lighted. High tone silenced. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ In 2 to 5 seconds— AE lamp lighted.
22	Restore TLK key.	▶If CDTT key is operated— S1, CS lamps extinguished.◀ If ETS provided—

STEP	ACTION	VERIFICATION
		FT, S1, CS lamps extinguished. If LAMA-C provided— S1, CS lamps extinguished. AS lamp extinguished. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ DE lamp lighted. At relay rack— PC relay released.
23	At MTF— Momentarily operate RL key.	All lamps extinguished.
24	Restore all keys and switches not required in next test.	
J. Universal Pad Control (TOG)		
19	Operate 2WD, ANS keys.	
20	Momentarily operate ST key.	▶If CDTT key is operated— S1 lamp lighted.◀ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS lamp lighted. High tone heard. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ IE, RN_, T_, U_ lamps lighted. At relay rack— PC relay associated with circuit under test operated.
21	At MTF— Restore ANS key; ***start timing.***	▶If CDTT key is operated— CS lamp lighted.◀ If ETS or LAMA-C provided— CS lamp lighted. OGT-CS lamp lighted. High tone silenced. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ In 2 to 55 seconds— AE lamp lighted.
22	Restore TLK key.	▶If CDTT key is operated— S1, CS lamps extinguished.◀ If ETS provided— FT, S1, CS lamps extinguished. If LAMA-C provided— S1, CS lamps extinguished.

STEP	ACTION	VERIFICATION
		AS lamp extinguished. If SMPL key is operated and ETS or LAMA-C not provided, ▶or CDTT key is not operated—◀ DE lamp lighted. At relay rack— PC relay released.
23	At MTF— Momentarily operate RL key.	All lamps extinguished.
24	Restore all keys and switches not required in next test.	

K. False-Busy and False-Idle Condition ▶ETS not Provided◀

1	At relay rack— Connect power to 1A fault locator.	
2	At 1A fault locator— Operate W-T switch to position W.	
3	Operate HR-LRT switch to position HR.	Whistle heard.
4	Connect test cord from WT jack of 1A fault locator to terminal 45 of terminal strip A associated with trunk under test.	Whistle not heard.
5	At relay rack— While circuit being tested is idle— Block nonoperated MA, S1 relays.	
6	Block operated D relay.	If trunk under test is the only idle trunk or the only trunk using the same route on same trunk link frame— Whistle heard.
7	At jack, lamp, and key circuit— Insert make-busy plugs into all MB jacks of trunks of the same route on the same trunk link frame as trunk under test.	At relay rack— Whistle heard when last trunk of same route is made busy.
8	At relay rack— Momentarily remove blocking tool from D relay.	Whistle not heard while blocking tool was momentarily removed.
9	At jack, lamp, and key circuit— Remove make-busy plugs used in Step 7.	Whistle not heard if any trunks idle.
10	At relay rack— Connect HRG terminal to terminal 55 of	

STEP	ACTION	VERIFICATION
	terminal strip A associated with trunk under test.	
11	Disconnect test cord from terminal 45 of terminal strip A and connect to terminal 15.	Whistle heard.
12	Remove blocking tools from MA and S1 relays.	Whistle not heard.
13	Remove test connections from terminal 15 and 55 of terminal strip A.	
14	Remove power from 1A fault locator.	