

ATTENDANT LINE CIRCUIT—SD-26378-01
TESTS USING MASTER TEST FRAME
TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES
CENTRALIZED ATTENDANT OPERATION

1. GENERAL

PAGE

1.01 This section describes the tests required for testing the attendant line circuit (reverse battery or E-M lead supervision) SD-26378-01, using the master test frame (MTF) trunk test circuit SD-25918-01, in No. 5 crossbar offices arranged for Phase III centrex and centralized attendant main satellite release link operation.

leads for transfer call. (3) Start-in. (4) Destination answer. (5) Attendant position release. (6) Destination disconnects.

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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. This issue does not affect Equipment Test Lists.

C. Destination Recall: This test checks the ability of the line circuit to recognize a recall signal from the destination after destination answers.

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(a) To revise test procedures to include offices arranged with Electronic Translation System (ETS).

D. Abandoned Calls: This test checks the ability of the line circuit to recognize abandoned calls by the destination (1) after the line circuit seizure and (2) after attendant answers.

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(b) To make minor changes as required.

E. Remote Make-Busy: This test checks that the line circuit may be made busy to service from its associated trunk in the main office.

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1.03 The tests covered are:

PAGE

A. Line Circuit Seizure, Start-In, and Disconnect—LDN Call:

The following features are checked: (1) Connection established to line circuit. (2) Continuity and polarity on tip and ring leads for LDN call. (3) Start-in. (4) Destination answer. (5) Attendant position release. (6) Destination disconnects.

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F. Make-Busy Test: This test checks that the line circuit may be made busy to service and still be seized for testing.

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B. Line Circuit Seizure, Start-In, and Disconnect—Transfer Call:

The following features are checked: (1) Connection established to line circuit. (2) Continuity and polarity on tip and ring

G. Reorder: This test checks the line circuit for proper response to a reorder signal from the sender.

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H. Call-Through Test: This test checks the circuit for completion to the "main" office.

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I. RT Diode Check: This test checks the ring-trip diode in the line circuit.

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	PAGE
J. S1 Lead Check: This test manually checks the sleeve busy lead to the number group or distributor and scanner.♦	10
K. Sub-Group Busy Indication Check: This test manually checks the tens block sub-group busy indication (when provided).	11
L. TM3 Timing Test: This test provides a means for checking the TM3 timer. (All other timers in the line circuit are checked by the trunk test circuit during tests A, B, and C).	12
1.04 Tests J and K require action and verification at the relay rack frame.	
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.	
1.06 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.	
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 A statement between asterisks (* *) after action and verification statements is added to clarify the function being simulated in the test procedures of Parts 3 and 4.	
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 Local instructions should be followed for recording and reporting plant or traffic register operations caused by performing these tests.

1.11 ♦When the office is arranged for 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 section.

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

2. APPARATUS

Tests A Through I, L

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

2.02 Trunk test circuit, SD-25918-01.

Test F, J, and K

2.03 322A (make-busy) plugs as required.

Test J

2.04 67C test set or equivalent, equipped with one KS-6278 connecting clip (for checking the presence or absence of battery or ground).

Test L

2.05 Timing test set—J24753A, SD-25707-01.

2.06 Cord, 3P15A, one P3K cord, 6 feet long, equipped with two 310 plugs (to connect power to timing test set).

2.07 Cord, 3P15A, one P3K cord, 6 feet long, equipped with two 310 plugs (to connect between timing test circuit and trunk test circuit).

3. PREPARATION

STEP	ACTION	VERIFICATION
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Note: Refer to paragraphs 1.04 through 1.11.

All Tests Except J and K

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|----|---|-------------------------|
| 1 | At MTF—
Restore all keys and switches. | |
| 2 | Momentarily operate RL key. | All lamps extinguished. |
| 3 | Operate LLPT, TLK, CATN, CATT, LRR keys. | |
| 4a | If line circuit is arranged for E-M lead supervision—
Operate E-M key. | |
| 5 | Select X11 translator indication. | |
| 6 | Select digit A0. | |
| 7 | ◆Select LLP line circuit under test.◆ | |
| 8 | Select completing marker. | |
| 9 | Select class of service, rate treatment having access to line circuit under test. | |

All Tests Except H, J, and K

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|----|---------------------------|--|
| 10 | Select OGT class of test. | |
|----|---------------------------|--|

Test H

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| 11 | Select MISC class of test. | |
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Line Circuit Seizure, Start-In, and Disconnect—LDN Call

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|----|---|--|
| 11 | Momentarily operate ST key.
Line circuit seizure. | If reverse battery supervision—
AA lamp lighted.
If E-M lead supervision—
E lamp lighted. |
| 12 | Operate LLR key.
Circuit conditioned for LDN call. | |

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STEP	ACTION	VERIFICATION
13	Operate ANS key. *Attendant answer.*	LLS lamp lighted. High tone heard.
14	Momentarily operate CDL key. *Timing test wink.*	LLS lamp remains lighted. RLB lamp <i>not</i> lighted. If reverse battery supervision— AA lamp momentarily extinguished.
15	Momentarily operate CDL key. *Start-in wink.*	LLS lamp momentarily extinguished. If reverse battery supervision— AA lamp momentarily extinguished.
16	Restore LLR key. *Transfer register release.*	
17	Operate 30FL key. *Attendant has keyed digits and awaiting destination answer.*	LLS lamp flashes at 30 ipm. High tone interrupted at 30 ipm.
18	Restore 30FL key. *Destination answer.*	Within 2 seconds— If reverse battery supervision— AA lamp momentarily extinguished. If E-M lead supervision— E lamp momentarily extinguished. *Destination answer wink.*
19	Momentarily operate CDH key. *Timing test wink.*	RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
20	Momentarily operate CDH key. *On-hook wink from attendant trunk—position release.*	LLS lamp extinguished. High tone momentarily silenced. If reverse battery supervision— AA lamp momentarily extinguished.
21	Restore TLK key. *Destination goes on-hook.*	High tone silenced. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished. *Linkage released—circuit normal.*
22	Momentarily operate RL key.	All lamps extinguished.
23	Restore all keys and switches not required in next test.	
B. Line Circuit Seizure, Start-In, and Disconnect—Transfer Call		
11	Momentarily operate ST key. *Line circuit seizure.*	If reverse battery supervision— AA lamp lighted.

STEP	ACTION	VERIFICATION
		If E-M lead supervision— E lamp lighted.
12	Operate ANS key. *Attendant answer.*	LLS lamp lighted. High tone heard.
13	Momentarily operate CDL key. *Timing test wink.*	LLS lamp remains lighted. RLB lamp <i>not</i> lighted. If reverse battery supervision— AA lamp momentarily extinguished.
14	Momentarily operate CDL key. *Release destination wink.*	RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
15	Operate LLR key. *Transfer trunk function.*	
16	Momentarily operate CDL key. *Start-in wink.*	LLS lamp momentarily extinguished. If reverse battery supervision— AA lamp momentarily extinguished.
17	Restore LLR key. *Transfer register release.*	
18	Operate 30FL key. *Attendant has keyed digits and awaiting destination answer.*	LLS lamp flashes at 30 ipm. High tone interrupted at 30 ipm.
19	Restore 30FL key. *Destination answer.*	Within 2 seconds— If reverse battery supervision— AA lamp momentarily extinguished. If E-M lead supervision— E lamp momentarily extinguished. *Destination answer wink.*
20	Momentarily operate CDH key. *Timing test wink.*	RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
21	Momentarily operate CDH key. *On-hook wink from attendant trunk—position release.*	LLS lamp extinguished. High tone momentarily silenced. If reverse battery supervision— AA lamp momentarily extinguished.
22	Restore TLK key. *Destination goes on-hook.*	High tone silenced. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished. *Linkage released—circuit normal.*

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STEP	ACTION	VERIFICATION
23	Momentarily operate RL key.	All lamps extinguished.
24	Restore all keys and switches not required in next test.	
C. Destination Recall		
11	Momentarily operate ST key. *Line circuit seizure.*	If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
12	Operate ANS key. *Attendant answer.*	LLS lamp lighted. High tone heard.
13	Momentarily operate CDL key. *Timing test wink.*	LLS lamp remains lighted. RLB lamp not lighted. If reverse battery supervision— AA lamp momentarily extinguished.
14	Momentarily operate CDL key. *Release destination wink.*	RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
15	Operate LLR key.	
16	Momentarily operate CDL key. *Start-in wink.*	LLS lamp momentarily extinguished. If reverse battery supervision— AA lamp momentarily extinguished.
17	Restore LLR key.	
18	Operate 30FL key. *Attendant has keyed digits and awaiting destination answer.*	LLS lamp flashes at 30 ipm. High tone interrupted at 30 ipm.
19	Restore 30FL key. *Destination answer.*	Within 2 seconds— If reverse battery supervision— AA lamp momentarily extinguished. If E-M lead supervision— E lamp momentarily extinguished. *Destination answer wink.*
20	Momentarily operate RR key. *Destination flashes switch-hook to recall attendant.*	LLS lamp momentarily extinguished. If reverse battery supervision— AA lamp momentarily extinguished. If E-M lead supervision— E lamp momentarily extinguished. *Destination recall wink to attendant.*
21	Repeat Steps 14 through 19 to verify retransfer ability.	

STEP	ACTION	VERIFICATION
22	Momentarily operate CDH key. *Timing test wink.*	LLS lamp momentarily extinguished. RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
23	Momentarily operate CDH key. *On-hook wink from attendant trunk-position release.*	LLS lamp extinguished. High tone momentarily silenced. If reverse battery supervision— AA lamp momentarily extinguished.
24	Restore TLK key. *Destination goes on-hook.*	High tone silenced. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished. *Linkage released—circuit normal.*
25	Momentarily operate RL key.	All lamps extinguished.
26	Restore all keys and switches not required in next test.	

D. Abandoned Calls

11	Momentarily operate ST key. *Circuit seizure.*	If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
12	Restore TLK key. *Destination abandons call.*	If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished. *Linkage released—circuit normal.*
13	Momentarily operate RL key.	All lamps extinguished.
14	Operate TLK key.	
15	Momentarily operate ST key. *Circuit seizure.*	If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
16	Operate ANS key. *Attendant answers.*	LLS lamp lighted. High tone heard.
17	Restore TLK key. *Destination abandons call.*	LLS lamp extinguished. High tone silenced. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision—

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STEP	ACTION	VERIFICATION
		E lamp extinguished. *Linkage released—circuit normal.*
18	Momentarily operate RL key.	All lamps extinguished.
19	Restore all keys and switches not required in next test.	
E. Remote Make-Busy		
11	Momentarily operate ST key. *Line circuit seizure.*	MTT lamp lighted. If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
12	Operate ANS key. *Attendant answer.*	LLS lamp lighted. High tone heard.
13	Operate MTTA key.	
14	Restore TLK key.	LLS lamp extinguished. High tone silenced. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished. At jack, lamp, and key circuit— CAL MB lamp associated with trunk under test lighted.
15	At MTF— Restore ANS key for more than 2 seconds.	At jack, lamp, and key circuit— CAL MB lamp extinguished while ANS key restored.
16	At MTF— Restore ANS key.	At jack, lamp, and key circuit— CAL MB lamp extinguished.
17	At MTF— Restore MTTA key.	MTT lamp extinguished.
18	Momentarily operate RL key.	All lamps extinguished.
19	Restore all keys and switches not required in next test.	
F. Make-Busy Test		
11	At jack, lamp, and key circuit— Insert make busy plug into MB_jack associated with line circuit under test.	

STEP	ACTION	VERIFICATION
12b	◆If NTLS key is operated— Restore NTLS key.◆	
13	At MTF— Momentarily operate ST key.	◆ ETS Not Provided ◆ If reverse battery supervision— AA lamp does not light. If E-M lead supervision— E lamp not lighted. ◆ ETS Provided ◆ If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.◆
14	Momentarily operate RL key.	All lamps extinguished.
15c	◆If ETS not provided—◆ Operate NTLS key.	
16c	Momentarily operate ST key.	If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
17c	Operate ANS key.	LLS lamp lighted. High tone heard.
18c	Restore TLK, ANS keys.	LLS lamp extinguished. High tone not heard. If reverse battery supervision— AA lamp extinguished. If E-M lead supervision— E lamp extinguished.
19c	Momentarily operate RL key.	All lamps extinguished.
20	Restore all keys and switches not required for next test.	
21	At jack, lamp, and key circuit— Remove make-busy plug placed in step 11.	

G. Reorder

11	Operate ROT key.	
12	Momentarily operate ST key.	Overflow tone heard.
13	Momentarily operate RL key.	Overflow tone silenced. All lamps extinguished.

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STEP	ACTION	VERIFICATION
14	Restore all keys and switches not required in next test.	
H. Call Through Test		
12	Operate DL3 key.	
13	Select A through H digits as follows: A0 B, C, and D—main office code E, F, G, and H—directory number assigned to 1000 Hz test line in main office.	
14	Momentarily operate ST key.	LLS lamp lighted. 1000-Hz tone heard from main office.
15	Restore TLK key.	LLS lamp extinguished. 1000-Hz tone silenced.
16	Momentarily operate RL key.	All lamps extinguished.
17	Restore all keys and switches not required in next test.	
I. RT Diode Check		
11	Operate RTK, LLR keys.	
12	Momentarily operate ST key. *RT diode forward bias.*	CDN lamp lighted. LLS lamp <i>not</i> lighted.
13	Restore LLR key. *Diode back-biased.*	LLS lamp lighted.
14	Momentarily operate RL key.	All lamps extinguished.
15	Restore all keys and switches not required in next test.	
J. S1 Lead Check		
1	At MTF— Insert make-busy plug into MB_jack associated with line circuit under test.	
2	At relay rack frame— When line circuit is idle— Connect test set between ground and terminal 37 on terminal strip A.	Battery not present.
3	Momentarily release D relay.	Battery present while D relay is released.

STEP	ACTION	VERIFICATION
4	Block operated SL relay.	
5	Momentarily release D relay.	Battery not present while D relay is released.
6	Remove blocking tool from SL relay.	
7	Block operated JAM relay.	
8	Momentarily release D relay.	Battery not present while D relay is released.
9	Remove blocking tool from JAM relay.	
10	Block operated F relay.	
11	Momentarily release D relay.	Battery not present while D relay is released.
12	Remove blocking tool from F relay.	
13	Block operated CSA relay.	
14	Momentarily release D relay.	Battery not present while D relay is released.
15	Remove blocking tool from CSA relay.	
16	Remove connections placed in Step 2.	
17	Remove make-busy plug.	

K. Subgroup Busy Indication Tests

1	At MTF— Insert make-busy plugs into MB_jacks associated with all line circuits in the same tens block including line circuit under test.	At number group (NG) circuit— TBT_ relay associated with tens block made busy operated.
2	Block operated TBT_ relay that was operated in Step 1.	
3	At relay rack frame— Block nonoperated D relay on line circuit under test.	At NG circuit— TBT_ relay deenergized.
4	At relay rack frame— Operate CSA relay.	At NG circuit— TBT_ relay energized.
5	At relay rack frame— Release CSA relay.	At NG circuit— TBT_ relay deenergized.
6	At relay rack frame— Operate F relay.	At NG circuit— TBT_ relay energized.

STEP	ACTION	VERIFICATION
7	At relay rack frame— Release F relay.	At NG circuit— TBT_ relay deenergized.
8	At relay rack frame— Operate SL relay.	At NG circuit— TBT_ relay energized.
9	At relay rack frame— Release SL relay.	At NG circuit— TBT_ relay deenergized.
10	At relay rack frame— Operate JAM relay.	At NG circuit— TBT_ relay energized.
11	At relay rack frame— Release JAM relay.	At NG circuit— TBT_ relay deenergized.
12	At relay rack frame— Remove blocking tool from D relay.	At NG circuit— TBT_ relay energized.
13	Remove blocking tool from TBT_ relay.	
14	At MTF— Remove all make-busy plugs from MB_ jacks.	At NG circuit— TBT_ relay released.

L. TM3 Timing Test

11	Turn on and calibrate for half scale calibration, the timing test set as covered in Section "TEST SET FOR TIMING TESTS, J24753A".	
12	At timing test set— Set REC switch to GRD start, 48V or OC stop position.	
13	Set MIL SEC switch to 0-500 position.	
14	Operate SEND key to MK position.	
15	Set MCF key to NORM position.	
16	At MTF— Connect one P3K cord from TST1 jack on timing test set to TIMT jack at MTF.	
17	Momentarily operate ST key.	If reverse battery supervision— AA lamp lighted. If E-M lead supervision— E lamp lighted.
18	Operate ANS key.	LLS lamp lighted. High tone heard.

STEP	ACTION	VERIFICATION
19	Momentarily operate CDL key.	LLS lamp remains lighted. RLB lamp not lighted. If reverse battery supervision— AA lamp momentarily extinguished.
20	Momentarily operate CDL key.	RLB lamp momentarily lighted. If reverse battery supervision— AA lamp momentarily extinguished.
21	Operate LLR key.	
22	Momentarily operate CDL key. *Start-in wink.*	LLS lamp momentarily extinguished. If reverse battery supervision— AA lamp momentarily extinguished.
23	Restore LLR key.	
24	Operate 30FL key.	LLS lamp flashes at 30 ipm. High tone interrupted at 30 ipm.
25b	If line circuit is arranged for reverse battery supervision— Operate TIMT1 key.	AA lamp extinguished.
26a	If line circuit is arranged for E-M lead supervision— Operate TIMT2 key.	E lamp extinguished.
27	At timing test set— Hold TST key to OPR position.	
28	At MTF— Restore 30FL key. *Destination answer.*	At timing test set— Meter reading should be between 460 and 580 milliseconds.
29	Release TST key.	Meter should read 0.
30	Hold TST key to OPR position.	
31	At MTF— Momentarily operate RR key. *Destination recall.*	At timing test set— Meter reading should be between 460 and 580 milliseconds.
32	Release TST key.	Meter should read 0.
33	At MTF— Restore TLK, ANS keys.	LLS lamp extinguished.
34	Momentarily operate RL key.	All lamps extinguished.
35	Remove cords from timing test set and MTF.	

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STEP	ACTION	VERIFICATION
36	At timing test set— Restore BAT key.	
37	At MTF— Restore all keys and switches not required in next test.	