TRUNK LINK AND CONNECTOR CIRCUIT SD-25549-01
NONWIRE-SPRING-RELAY TYPE
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 ▶This section describes methods for verifying certain functions and leads of the trunk link and connector circuit, SD-25549-01. Test of the frame and junctor switch make-busy are described as well as tests of availability of overflow links in offices where permanent signal expanded routing is provided.◀

1.02 The reasons for reissue are listed below. Revision arrows are used to emphasize the more significant changes.

(a) Test F has been added.

(b) Reference is made to 18 discontinued "class of test" lamps on MTF. (See 1.11)

(c) Reference to Electronic Translation System (ETS) is included in Tests A, B and F.

This reissue affects Equipment Test Lists.

1.03 The tests covered are:

1.04 All tests in this section should be made during periods of light traffic.

1.05 Local instructions should be followed with reference to recording any register operations caused by performing the tests.

1.06 In Test A, the TCB (outgoing call) registration will be operated. In Test B, the TCB and DT (dial tone job) registers will operate. In Tests C and D, the DT register will operate.

1.07 Tests for junctor availability and for crosses on junctor sleeves are covered in the section for testing the line link circuits. The line link circuit tests check the operation of the relays and the junctor selecting magnets associated with the junctors in the trunk link circuit. Also, the functions of the trunk connector and the trunk switch level connector relays in the trunk link circuit are tested in the individual sections for testing trunks and originating registers.

1.08 ***Lettered Steps:*** The letters a, b, c, etc, added to a step number in Part 4 of this section, indicate an action which may or may not be required depending on local conditions. The condition under which a lettered step or 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.

1.09 The manner of selecting some circuits and test conditions at the master test frame (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.

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

1.11 ▶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, DT, ORIG, ITDO, ITNP, OGT, INC, OR, SDR, IR, MISC, IAO, MLV, LT, IMS, PIT, TVT, ATNT, and IMT.

1.12 When the office is arranged for ETS, the distributors and scanner 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 for the office arragement.

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

1.13 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 scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, scanning will continue to be repeated on the lamp, 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.◀

2. APPARATUS

2.01 The apparatus required for each test is listed 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
Master Test Frame (2.02)	1	1	1	1	1
322A (make-busy) Plug	1	—	—	—	—
349A (make-busy) Plug	—	—	5	1	—
Tools (2.03)	—	—	—	—	√

√ As required.

2.02 Master test control, SD-25800-01.

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

3. PREPARATION

STEP	ACTION	VERIFICATION
	Note: Refer to 1.04, and 1.09 through 1.13	
	Tests A Through D, F	
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select marker.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Trunk Link Availability and Verification of Trouble Recorder Connector Function (LC_ Leads)	
4	Select originating class of call and translator indication.	
5	Select class of service and rate treatment as required to route call to selected trunk.	
6	Operate FS, TS, REC, STP1 keys.	
7a	▶If ETS provided— Operate PCS, PTS keys.◀	
8	Select route advance 0.	
9	Select junctor sequence 0.	
10	Operate GPA or GPB key as required when selected trunk is in an allotted group.	
11	Select an outgoing trunk having appearance on trunk switch 0.	
12	Select A_ through L_ digits as required for office code of trunk and numerical digits of a terminating test line.	
13	Select channel 0.	
14	Select an originating line location as required. *Note:* Line locations required to reach all 20 verticals of each trunk link switch shall	

STEP	ACTION	VERIFICATION
	be determined from the junctor switch assignments on each trunk link frame.	
15	Select ORIG class of test.	
16	Momentarily operate ST key.	If ETS provided— FT lamp lighted. TSK, DIS1, LK2, MRL lamps lighted. Trouble record taken. LC_ and LK or RK designations perforated corresponding to trunk switch being tested. ***Note:*** RBT1 and BT-OF lamps lighted indicate that the trunk link holding magnets are operated on a service call.
17	Momentarily operate RL key.	All lamps extinguished.
18	Repeat Steps 13 through 17 changing CH_ selection and originating line location until channels 0 through 9 and each vertical of the trunk switch have been tested.	
19	Repeat Steps 10 through 18 to test all trunk switches on each trunk link frame.	
20	Restore all keys and switches not required in next test.	

B. Verification of Trouble Recorder Connector Function (LV_ Leads)

Originating Register

4	Operate FS, TS, REC keys.	
5	Select originating line location.	
6	Select DT class of test.	
7	Select originating register group.	
8	Select originating register.	
9	Momentarily operate ST key.	TC1, DIS1, LK2, MRL lamps lighted. Trouble record taken. LV_ designation perforated corresponding to horizontal level of trunk switch on which seized originating register appears.
10	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
11	Repeat Steps 7 through 10 to test all trunk switches.	
12	Restore all keys and switches not required in next test.	
Trunks		
13	Select originating class of call and translator indication.	
14	Select class of service and rate treatment as required to route call to selected trunk.	
15	Select originating line location.	
16	Operate FS, TS, REC, STP1 keys.	
17a	◗If ETS provided— Operate PCS, PTS keys.◖	
18	Select route advance 0.	
19	Operate GPA or GPB key as required when selected trunk is in an allotted group.	
20	Select an outgoing trunk having its appearance on trunk switch 0.	
21	Select A_ through L_ digits as required for office code of trunk and numerical digits of a terminating test line.	
22	Select ORIG class of test.	
23	Momentarily operate ST key.	◗If ETS provided— FT lamp lighted.◖ DIS1, LK2, MRL lamps lighted. Trouble record taken. LV_ designation perforated corresponding to horizontal level of trunk switch on which seized trunk appears.
24	Momentarily operate RL key.	All lamps extinguished.
25	Repeat Steps 19 through 24, selecting a different trunk until all switches and levels have been checked.	
26	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
C. Junctor Switch Make-Busy Feature		
4	At trunk link frame— Insert make-busy plugs into JS0 through JS4 jacks of frame being tested.	
5	At MTF— Operate FS, TS, STP1 keys.	
6	Select originating line location.	
7	Select DT class of test.	
8	Select originating register group.	
9	Select originating register.	
10	Select junctor sequence 0.	
11	Select channel 0. ***Note:*** When all holding magnets on the associated junctor switches are released, the test can be continued.	
12	Momentarily operate ST key.	TC1, DIS1, MRL lamps lighted. LK2 lamp ***not*** lighted.
13	Momentarily operate RL key.	All lamps extinguished.
14	Repeat Steps 11, 12, 13 until channels 0 through 4 have been tested.	
15	At trunk link frame— Remove make-busy plugs from JS0 through JS4 jacks.	
16	Insert make-busy plugs into JS5 through JS9 jacks of frame being tested.	
17	At MTF— Repeat Steps 11, 12, 13 until channels 5 through 9 have been tested.	
18	At trunk link frame— Remove make-busy plugs from JS5 through JS9 jacks.	
19	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
D. Frame Make-Busy Feature		
	Caution: Make this test as quickly as possible since the trunk link frame is excluded from all dial tone and originating traffic after the frame is made busy.	
4	Select an originating register group.	
5	Select an originating register.	
6	Operate FS, TS keys.	
7	Select DT class of test.	
8	Select an originating line location.	
9	At trunk link frame— Insert make-busy plug into TMB jack of frame under test.	TMB lamp lighted. At MTF— TLMB lamp lighted. TRL, TC1 lamps lighted. Trouble record taken. CK designation ***not*** perforated.
10	Momentarily operate ST key.	
11	Momentarily operate RL key.	All lamps except TLMB extinguished.
12	At trunk link frame— Remove make-busy plug from TMB jack.	TMB lamp extinguished. At MTF— TLMB lamp extinguished.
13	Restore all keys and switches not required in next test.	
E. Marker Preference Chain, Transfer, and Alarm		
TR Key Provided at Trunk Link Connector Frame		
1a	If TR key is operated— Restore TR key.	T and TA (or TR_ if provided) relays released.
2	Momentarily insulate 3T of TR relay.	CH, aisle pilot lamps lighted. Minor alarm sounds. TR relay operated. T and TA (or TR_ if provided) relays operated.
3	Momentarily operate AR key.	CH, aisle pilot lamps extinguished. Minor alarm silenced. TR relay released T and TA (or TR_ if provided) relays released.

STEP	ACTION	VERIFICATION
4	Operate TR key.	T and TA (or TR_ if provided) relays operated.
5	Momentarily insulate 3T of TR relay.	CH, aisle pilot lamps lighted. Minor alarm sounds. TR relay operated. T and TA (or TR_ if provided) relays released.
6	Momentarily operate AR key.	CH, aisle pilot lamps extinguished. Minor alarm silenced. TR relay released. T and TA (or TR_ is provided) relays operated.
7b	If TR key was nonoperated at start of test— Restore TR key.	T and TA (or TR_ if provided) relays released.
MTR Key Provided at Trunk Link Connector Frame		
8c	If TR relay is operated— Momentarily operate MTR key.	CH, aisle pilot lamps lighted. Minor alarm sounds. TR relay released. T and TA (or TR_ if provided) relays released.
9c	Momentarily operate AR key.	CH, aisle pilot lamps extinguished. Minor alarm silenced.
10	Momentarily operate MTR key.	CH, aisle pilot lamps lighted. Minor alarm sounds. TR relay operated. T and TA (or TR_ if provided) relays operated.
11	Momentarily operate AR key.	CH, aisle pilot lamps extinguished. Minor alarm silenced.
12d	If TR relay was nonoperated at start of test— Momentarily operate MTR key.	CH, aisle pilot lamps lighted. Minor alarm sounds. TR relay released. T and TA (or TR_ if provided) relays released.
13	Restore AR key.	CH, aisle pilot lamps extinguished. Minor alarm silenced.

F. ▶Overflow Link Availability

4	Select MISC class of test.	
5	Select originating class of call and LT translator indication.	
6	Select class of service and rate treatment as required for any line except coin or two-party.	

STEP	ACTION	VERIFICATION
7	Select PS auxiliary originating translation indication.	
8	Operate APS/NPS key to APS position.	
9	Select route advance as required.	
10	Operate FS key.	
11a	If ETS provided— Operate PCS, PTS keys.	
12	Operate TLK, NTC keys.	
13	Select ***overflow link,*** as required, associated with overflow trunk circuit under test (refer to 1.09).	
14	Select channel corresponding to trunk link S_ relay number as shown on Table B.	
15	Select junctor sequence 0.	
16	Operate STP1 key.	
17b	If testing ***overflow link*** on left side of trunk link frame trunk switch— Select line location in line link frame 00.	
18c	If testing ***overflow link*** on right side of trunk link frame trunk switch— Select line location in line link frame 01.	
19	Momentarily operate ST key.	LK2, ROH, RA_, MRL lamps lighted. TL-PC_ lamp lighted associated with overflow trunk circuit under test if not already lighted. 120-ipm overflow tone heard. Trouble record taken. PS designation perforated. TB_, TG_ designations ***not*** perforated. FS_, CH_ designations perforated indicating location of ***overflow link*** under test. RK or LK designations perforated indicating ***overflow link*** on right or left side of selected trunk switch. If ETS provided— FT lamp lighted.
20	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
21	Select channel corresponding to another trunk link S_ relay within same overflow trunk circuit as shown on Table B.	
22	Momentarily operate ST key.	LK2, ROH, RA_, MRL lamps lighted. TL-PC_ lamp lighted associated with ***overflow link*** under test. 120-ipm overflow tone heard. Trouble record taken. PS designation perforated. TB_, TG_ designations ***not*** perforated. FS_, CH_ designations perforated indicating location of ***overflow link*** under test. RK or LK designation perforated indicating ***overflow link*** on right or left side of selected trunk switch. If ETS provided— FT lamp lighted.
23	Momentarily operate RL key.	All lamps extinguished.
24	Repeat Steps 13 through 20 as required to test remaining ***overflow links*** on right or left side of selected trunk switch.	
25	Operate APS/NPS key to required position.	
26	Restore all keys and switches not required in next test.◀	

TABLE B

OVERFLOW LINK SELECTION

TLF–OVFL LINK APPEARANCE		TRK LK S–RLY NO.	SELECT CH–	TLF–OVFL LINK APPEARANCE		TRK LK S–RLY NO.	SELECT CH–
T SW	VERT			T SW	VERT		
9	0R	10	0	9	9L	09	9
8	1R	11	1	8	8L	08	8
7	2R	12	2	7	7L	07	7
6	3R	13	3	6	6L	06	6
5	4R	14	4	5	5L	05	5
4	5R	15	5	4	4L	04	4
3	6R	16	6	3	3L	03	3
2	7R	17	7	2	2L	02	2
1	8R	18	8	1	1L	01	1
0	9R	19	9	0	0L	00	0