

PERMANENT SIGNAL HOLDING TRUNK SD-55870-01

TESTS

NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing permanent signal holding trunk SD-55870-01 by means of outgoing trunk test frame (OGTT) SD-25177-01 in No. 1 crossbar offices.

1.02 The information covered in this section was formerly covered in Section 216-272-501, Issue 4.

1.03 The tests covered are:

A. False Ground on S Lead: This test checks the sleeve of the trunk for false ground.

B. Trunk L Relay Operate Test — S Lead Continuity Test: This test checks:

(1) The ability of the trunk L relay to operate on a line loop of approximately 6500 ohms .

(2) Continuity of the S lead.

(3) The ability of the trunk to connect steady permanent signal tone or announcement and receiver off-hook tone prior to steady permanent signal tone or, in the case of trunks arranged to release hold relays in 1A key equipment, interrupted permanent signal tone (60 ipm) to the ring side of the customer line.

C. Trunk S Relay Flash Test: This test checks the ability of the trunk circuit to transmit switch hook supervision to the switchboard cord circuit.

D. Coin Collect and Return Test (Coin Trunks Only): This test checks the ability of the trunk circuit to pass coin collect and return potential to the customer line under control of the operator.

E. Ringing Test: This test checks the ability of the trunk circuit to pass ringing current to the customer line under control of the operator.

F. Test Jack Continuity Test: This test checks the ability of the trunk circuit to transfer the tip and ring leads from the answering jack to the test jack and also the ability of the trunk to hold the established connection with a test cord in the test jack.

G. Trunk L Relay Release Test — Operator Hold Test: This test checks the ability of the trunk L relay to release on a 15,000-ohm line loop. This test also checks the ability of the trunk DS key to hold the established connection with proper supervision.

H. S1 Lead Continuity Test: This test checks the continuity of the S1 lead.

I. Sleeve Tone: This test checks for the presence of permanent signal tone on the sleeve of the trunk within 90 seconds after the PST key is operated at the LDF or at the MDF.

J. Permanent Signal Holding Trunks Arranged to Release Hold Relays in 1A Key Equipment — Test for Interrupter Ground on Ring Side of Trunk: This test checks that an intermittent shunting ground is applied to the ring side of the trunk at a 60-ipm rate.

1.04 Tests B through I require actions and verifications at the sender monitor position of the switchboard.

1.05 Only those OGTT lamps which verify a circuit function that is being tested are listed in the verification column.

SECTION 216-272-503

1.06 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

All Tests

2.01 Outgoing trunk test frame J28550 (SD-25177-01).

2.02 P3F cord (slate), 4 feet long, equipped with 309 plug and 310 plug (3P12A cord).

Tests A Through I

2.03 P3F cord (red), 4 feet long, equipped with 309 plug and 310 plug (3P12B cord).

Tests B Through J

2.04 Head telephone set.

Test I

2.05 716E receiver attached to W2AB cord, equipped with two 360A tools (2W21A cord); a KS-6278 connecting clip; and a 411 tool.

3. PREPARATION

STEP	ACTION	VERIFICATION
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Tests A Through I

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| 1 | At OGTT —
Restore all keys to normal and operate DISC1 key. | At OGTT —
ON1 lamp extinguished. |
| 2 | Insert plug of head telephone set into A, B jacks. | |
| 3a | If test frame telephone circuit is equipped with 102A, 178A, or 181B induction coil —
Operate A, OPR, COM keys to equal 5500 ohms in non-AMA offices or 4500 ohms in AMA offices. | |
| 4b | If test frame telephone circuit is equipped with 102C, 178C, or 178E induction coil —
Operate A, OPR, COM keys to equal 5000 ohms in non-AMA offices or 4000 ohms in AMA offices. | |
| 5 | Patch T1 jack to T jack of trunk to be tested. | BY1 lamp extinguished.

<i>Note:</i> BY1 lamp lighted indicates busy trunk. |
| 6 | Patch MB jack to T&MB jack of trunk to be tested. | |

4. METHOD

STEP	ACTION	VERIFICATION
A. False Ground on S Lead		
7	At OGTT — Operate TST1, SUB REC, NO SDR1, RSG keys.	At OGTT — SUP1 lamp lighted.
8	Restore RSG, NO SDR1, SUB REC, TST1 keys.	SUP1 lamp extinguished.
9	Operate DISC1 key momentarily.	
10c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	
B. Trunk L Relay Operate Test — S Lead Continuity Test		
7	At OGTT — Operate TST1, MISC TRK, NO SDR1 keys.	At OGTT — SUP1 lamp lighted. If auxiliary permanent signal holding trunk SD-99329-01 is provided — Announcement (approximately 10 seconds duration) heard. Receiver off-hook tone heard for 30 to 60 sec- onds. Permanent signal tone heard. If auxiliary permanent signal holding trunk SD-99329-01 is not provided — Permanent signal tone heard. At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At OGTT — Permanent signal tone removed from trunk. At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	At OGTT — Restore NO SDR1, MISC TRK, TST1 keys.	SUP1 lamp extinguished.
10	Operate DISC1 key momentarily	At switchboard — L lamp extinguished.
11c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	

STEP	ACTION	VERIFICATION
C. Trunk S Relay Flash Test		
7	At OGTT — Operate TST1, MISC TRK, NO SDR1 keys.	At OGTT — SUP1 lamp lighted. At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	At OGTT — Operate and release RFL key several times slowly.	At switchboard — Cord supervisory lamp flashes.
10	Restore NO SDR1, MISC TRK, TST1 keys.	At OGTT — SUP1 lamp extinguished.
11	Operate DISC1 key momentarily.	At switchboard — L lamp extinguished.
12c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	
D. Coin Collect and Return Test (Coin Trunks Only)		
7	At OGTT — Operate TST1, MISC TRK, NO SDR1, RCT keys.	At OGTT — SUP1 lamp lighted. At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	Operate coin collect key momentarily.	At switchboard — CC lamp lighted momentarily.
10	Operate coin return key momentarily.	CR lamp lighted momentarily.
11	At OGTT — Restore RCT, NO SDR1, MISC TRK, TST1 keys.	At OGTT — SUP1 lamp extinguished.
12	Operate DISC1 key momentarily.	At switchboard — L lamp extinguished.

STEP	ACTION	VERIFICATION
13c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	
E. Ringing Test		
7	At OGTT — Operate TST1, MISC TRK, NO SDR1 keys.	At OGTT — SUP1 lamp lighted. At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	Operate ringing key momentarily.	At OGTT — Customer set bell sounded.
10	At OGTT — Restore NO SDR1, MISC TRK, TST1 keys.	At OGTT — SUP1 lamp extinguished.
11	Operate DISC1 key momentarily.	At switchboard — L lamp extinguished.
12c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	
F. Test Jack Continuity Test		
7	At OGTT — Operate TST1, MISC TRK, NO SDR1 keys.	At OGTT — SUP1 lamp lighted. At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	Connect howler cord to TST jack with talk key operated.	At switchboard — L lamp lighted. ANS cord supervisory lamp lighted.
10	Remove cord from ANS jack.	At OGTT — SUP1 lamp lighted.
11	At OGTT — Restore NO SDR1, MISC TRK, TST1 keys.	At switchboard — Howler cord supervisory lamp lighted.

SECTION 216-272-503

STEP	ACTION	VERIFICATION
12	At switchboard — Remove howler cord from TST jack.	At OGTT — SUP1 lamp extinguished.
13	At OGTT — Operate DISC1 key momentarily.	At switchboard — L lamp extinguished.
14c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	
G. Trunk L Relay Release Test — Operator Hold Test		
7	At OGTT — Operate TST1, PERM SIG, NO SDR1 keys.	At switchboard — L lamp flashes (60 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
8	At switchboard — Call answered.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
9	Remove cord from ANS jack.	L lamp lighted. Auxiliary lamp not lighted. Auxiliary alarm silent.
10	Reconnect cord to ANS jack.	L lamp lighted.
11	Operate trunk DS key and remove cord from ANS jack until L lamp flashes.	At OGTT — Permanent signal tone heard on trunk.
12	At OGTT — Operate and hold RFL key for 3 seconds.	At switchboard — L lamp flashes (120 ipm). Auxiliary lamp lighted. Auxiliary alarm sounded.
13	At switchboard — Reconnect cord to ANS jack.	At switchboard — L lamp lighted. Auxiliary lamp extinguished. Auxiliary alarm silent.
14	Restore DS key.	
15	At OGTT — Restore NO SDR1, PERM SIG, TST1 keys.	
16	Operate DISC1 key momentarily.	
17c	If no further tests are to be performed — Remove patching cords from T, T&MB jacks.	

STEP	ACTION	VERIFICATION
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H. S1 Lead Continuity Test

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| 7 | At OGTT —
Operate TST1, PERM SIG, NO SDR1 keys. | At switchboard —
L lamp flashes (60 ipm).
Auxiliary lamp lighted.
Auxiliary alarm sounded. |
| 8 | At switchboard —
Call answered. | At switchboard —
L lamp lighted.
Auxiliary lamp extinguished.
Auxiliary alarm silent. |
| 9 | At OGTT —
Operate NO SDR1 key to DISC1 position
without hesitating in normal position. | At OGTT —
BY1 lamp lighted. |
| 10 | At switchboard —
Remove cord from ANS jack. | At OGTT —
BY1 lamp extinguished. |
| 11 | At OGTT —
Restore PERM SIG, TST1, NO SDR1 keys. | |
| 12 | Operate DISC1 key momentarily. | At switchboard —
L lamp extinguished. |
| 13c | If no further tests are to be performed —
Remove patching cords from T, T&MB jacks. | |

I. Sleeve Tone

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| 7 | At LDF or MDF —
Operate PST key. | |
| 8 | At OGTT —
Operate TST1, PERM SIG, NO SDR1 keys. | At switchboard —
L lamp flashes (60 ipm).
Auxiliary lamp lighted.
Auxiliary alarm sounded. |
| 9 | At switchboard —
Call answered. | At switchboard —
L lamp lighted.
Auxiliary lamp extinguished.
Auxiliary alarm silent. |
| 10 | Remove cord from ANS jack and disregard
trunk signal. | |
| 11 | At OGTT —
Remove patching cord from MB jack and
test tip of plug with test receiver connected
to ground. | At OGTT —
Within 90 seconds —
Permanent signal tone heard on tip of plug. |
| 12 | Reconnect patching cord to MB jack. | |

SECTION 216-272-503

STEP	ACTION	VERIFICATION
13	Restore NO SDR1, PERM SIG, TST1 keys.	
14	Operate DISC1 key momentarily.	At switchboard — L lamp extinguished.
15	Remove patching cords from T, T&MB jacks.	
16	At LDF or MDF — Restore PST key.	
J. Permanent Signal Holding Trunks Arranged to Release Hold Relays in 1A Key Equipment — Test for Interrupter Ground on Ring Side of Trunk		
1	At OGTT — Restore all keys to normal and operate DISC1 key.	At OGTT — ON1 lamp extinguished.
2	Patch T1 jack to T jack of trunk to be tested.	BY1 lamp extinguished.
3	Operate VM TLK, REV, VM1 keys.	SV lamp flashes (60 ipm). Permanent signal tone heard.
4	At switchboard — Call answered.	At OGTT — SV lamp lighted. Permanent signal tone not heard.
5	At switchboard — Disconnect cord from ANS jack.	At OGTT — SV lamp flashes (60 ipm). Permanent signal tone heard.
6	At OGTT — Operate FEMF, G, and 1000 Ω keys.	
7	Restore REV, VM TLK keys.	SV lamp extinguished. Permanent signal tone not heard. Voltmeter needle swings between an upscale reading and zero at a 60-ipm rate.
8	Restore VM1, FEMF, G, 1000 Ω keys.	
9	Operate DISC1 key momentarily.	
10	Remove patching cord from T jack of trunk tested.	