

**INCOMING TRUNK CIRCUIT SD-97577-01  
FOR DIRECTORY ASSISTANCE TRAFFIC  
TESTS USING PORTABLE TEST SET J94747A  
NO. 1 TRUNK CONCENTRATOR**

**1. GENERAL**

**PAGE**

**1.01** This section describes a method of testing incoming trunk circuit SD-97577-01. This circuit interfaces the outgoing trunks from the remote central office to the vertical selection controls of the trunk concentrator (TC).

central office and reorder tone will be returned to the customer. . . . .

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**1.02** This section is reissued to delete the references concerning ONI trunks and to add references to 23-desk directory assistance traffic. This reissue does not affect Equipment Test List.

**D. Outgoing Trunk Time-Out:**

This test checks that when the outgoing trunk has timed out waiting for an integrity wink signal from the ACD, the outgoing trunk will return a signal to the incoming trunk causing the incoming trunk to release the connection through the concentrator and return reorder tone to the customer. This test can only be performed when the ACD is arranged to return the integrity wink. . . . .

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**1.03** The tests covered are:

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**A. Operational Test:** This test checks that the trunk can be seized forward to the No. 5 crossbar automatic call distributor (ACD) or No. 23-desk and an answer supervision signal is returned from the ACD or No. 23-desk that a talking path is established, and release of the trunk is normal. . . . .

**3**

**B. Trunk Time-Out After Seizure:**

This test checks that when the ten-second timer in the trunk functions before an outgoing trunk has been connected, the incoming trunk will go off-hook to the remote central office and reorder tone will be returned to the customer. . . . .

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**C. Concentrator Time-Out After Seizure:**

This test checks that when the concentrator fails to switch a call within the preset time period, the incoming trunk will go off-hook to the

**E. Outgoing Trunk Time-Out After Wink—ACD On-Hook:**

This test checks that when the outgoing trunk times out following a valid integrity wink signal from the ACD, the outgoing trunk will send a signal to the incoming trunk causing it to release the connection through the concentrator and a permanent signal (PS) lamp will light. This test can only be performed when the ACD is arranged to return the integrity wink. . . . .

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**F. False Ground on ST Lead While Trunk is Idle:**

This test checks that when a false ground is detected on the ST lead, a trouble lamp will light and the trunk will be locked out of service. . . . .

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**1.04** Tests D and E *cannot* be performed on trunks that terminate at No. 23-desk.

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

**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**

**All Tests**

- 2.01** TC portable trunk test set J94747A (SD-97576-01).
- 2.02** Head telephone set, 52M or equivalent.
- 2.03** Patching cords, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord) in

the following quantities. All 2-wire trunk tests require 4 cords except Test A which requires 3 cords. All 4-wire trunk tests require 5 cords except Test A which requires 4 cords.

**3. PREPARATION**

**3.01** Before performing each test, position the TTS switch on the TC test set as follows unless otherwise indicated.

SWITCH POSITION	TYPE OF SIGNALING
AOIL	2-Wire Reverse Battery
OFF	2-Wire E&M
4WT	4-Wire E&M
HLT	2-Wire High-Low

STEP	ACTION	VERIFICATION
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**All Tests**

- 1** At distant office associated with trunk selected to be tested—  
Arrange to have trunk made busy.
- 2** At TC test set—  
Restore all keys to normal.
- 3** At incoming trunk frame—  
Using 3P7A cord, connect the -48V jack to the -48V jack on TC test set.

**Caution:** To avoid possible grounding of battery supply lead, connect cord to test set first and, when disconnecting, remove cord from test set last.

- 4a** If testing 2-wire trunks—  
At the trunk selected in Step 1—  
Using 3P7A cord, connect TST line jack to 2W TST jack on TC test set.
- 5a** Using 3P7A cord, connect TRK jack to TRK jack on TC test set.
- 6b** If testing 4-wire trunks—  
At the trunk selected in Step 1—

STEP	ACTION	VERIFICATION
	Using 3P7A cord, connect TST-R jack to the RCV1 jack on TC test set.	
7b	Using 3P7A cord, connect TST-T jack to TRT2 jack on TC test set.	
8b	Using 3P7A cord, connect TRK jack to TRK jack on TC test set.	
9	At TC test set— Operate -48V key.	-48V lamp lighted.
10	At incoming trunk frame— Operate BCO key.	◆BCO lamp lighted.◆

#### Tests A through D

- 11 At TC test set—  
Plug head telephone set into A-B jacks.

#### 4. METHOD

STEP	ACTION	VERIFICATION
<b>A. Operational Test</b>		
12c	If testing 2-wire trunk with reverse battery signaling— At TC test set— Operate FT key.	FT lamp lighted.
13c	Momentarily operate TSZ key.	At incoming trunk frame— ON, CT lamps lighted. At TC test set— TSZ lamp lighted. If integrity wink is provided by ACD line circuit— WNK/ANS lamp flashes then lighted. If integrity wink is not provided by ACD line circuit— WNK/ANS lamp lighted.
14d	If testing 2-wire or 4-wire trunk with E&M signaling— Momentarily operate TSZ key.	TSZ lamp lighted.
15d	Operate FT key.	At incoming trunk frame— ON, CT lamps lighted. At TC test set— FT lamp lighted. If integrity wink is provided— WNK/ANS lamp flashes then lighted.

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STEP	ACTION	VERIFICATION
		If integrity wink is not provided by ACD line circuit— WNK/ANS lamp lighted.
16	Operate TALK key.	TALK lamp lighted. Operator answers.
17c	If testing 2-wire trunk with reverse battery signaling— Momentarily operate RL key.	TSZ, WNK/ANS lamps extinguished. At incoming trunk frame— ON_ CT_ lamps extinguished.
18d	If testing 2-wire or 4-wire trunk with E&M signaling— Restore FT key.	
19	Restore all keys to normal.	All lamps extinguished.
20e	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
21e	At distant office— Arrange to have trunk restored to service.	

**B. Trunk Time-Out After Seizure**

12	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
13c	If testing 2-wire trunk with reverse battery signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted. Within approximately 10 seconds— TBL lamp lighted. If option X provided— At TC test set— OHI/OP lamp momentarily lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling. At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame—

STEP	ACTION	VERIFICATION
		ON_ lamp lighted. Within approximately 10 seconds— TBL lamp lighted. If option X in trunk is provided— At TC test set— OHI/OP lamp momentarily lighted.
17	Operate TALK key.	TALK lamp lighted. 120 ipm tone heard in receiver.
18	Momentarily operate SIG-B key (to disconnect).	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted. TBL lamp extinguished.
19c	If testing 2-wire trunk with reverse battery signaling— At TC test set— Momentarily operate RL key.	At incoming trunk frame— ON_, CT_ lamps extinguished.
20d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate SIG-B key.	
21d	Restore TT key to normal.	At incoming trunk frame— ON_, CT_ lamps extinguished.
22d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
23d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted— Within approximately 10 seconds— TBL lamp lighted. If option X is provided— At TC test set— OHI/OP lamp lighted.
24d	Operate TALK key.	TALK lamp lighted 120 ipm tone heard in receiver.
25d	Momentarily operate SIG-B key twice.	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted. TBL_ lamp extinguished.
26d	At TC test set— Restore TT key to normal.	At incoming trunk frame— ON_, CT_ lamps extinguished.

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STEP	ACTION	VERIFICATION
27	At TC test set— Restore all keys to normal.	All lamps extinguished.
28e	If no other tests are to be performed on this trunk— Remove all patching cords between test set and incoming trunk frame.	
29e	At distant office— Arrange to have trunk restored to normal.	
<b>C. Concentrator Time-Out After Seizure</b>		
12	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
13c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
17	At TC test set— Within 10 seconds after performing previous step— Operate TO key.	TO lamp lighted. If Option X in the trunk is provided— OHI/OP lamp lighted.
18	Operate TONE key for high-low trunk or TALK key for all other trunks.	MFT or TALK lamp lighted. 120 ipm tone heard in receiver.
19c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Momentarily operate RL key (to disconnect).	TSZ lamp extinguished. At incoming trunk frame— ON_ lamp extinguished.
20d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate SIG-B key twice.	SIG lamp momentarily lighted twice.

STEP	ACTION	VERIFICATION
21	Restore TT key and then all other keys to normal.	At incoming trunk frame— ON_ CT_ lamps extinguished. At TC test set— All lamps extinguished.
22e	If no other tests are to be performed on this trunk— ◆ Remove all patching cords between test set and incoming trunk frame.	
23e	At distant office— Arrange to have trunk restored to service.◆	
<b>D. Outgoing Trunk Time-Out</b>		
12	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on TC test set.	
13c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Operate TT key.	TT lamp lighted.
14c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
15d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
16d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
17	At TC test set— Within 10 seconds after performing previous step— Momentarily operate SIG-B key.	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted.
18	At TC test set— Momentarily operate SIG-B key.	SIG lamp momentarily lighted. If V option is provided in the trunk— OHL/OP lamp momentarily lighted.
19	Operate TONE key for high-low trunk or TALK key for all other trunks.	MFT or TALK lamp lighted. 120 ipm tone heard in receiver.
20c	If testing 2-wire trunk with high-low or reverse battery signaling— Operate RL key.	TSZ lamp extinguished. At incoming trunk frame— ON_ CT_ lamps extinguished.

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
21d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Restore TT key.	TSZ lamp extinguished. At incoming trunk frame— ON_ CT_ lamps extinguished.
22	At TC test set— Restore all keys to normal.	All lamps extinguished.
23e	If no other tests are to be performed on this trunk— ◆At test set— Remove all patching cords between test set and incoming trunk frame.◆	
24e	◆At distant office— Arrange to have trunk restored to service.◆	
<b>E. Outgoing Trunk Time-Out After Wink—ACD On-Hook</b>		
11	At incoming trunk frame— Using 3P7A cord, connect TT jack to TT jack on the TC test set.	
12c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Operate TT key.	TT lamp lighted.
13c	Momentarily operate TSZ key.	TSZ lamp lighted. At incoming trunk frame— ON_ lamp lighted.
14d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Momentarily operate TSZ key.	TSZ lamp lighted.
15d	Operate TT key.	TT lamp lighted. At incoming trunk frame— ON_ lamp lighted.
16	At TC test set— Within 10 seconds after performing previous step— Momentarily operate SIG-B key.	SIG lamp momentarily lighted. At incoming trunk frame— CT_ lamp lighted.
17	At TC test set— Momentarily operate SIG-G key.	SIG, WNK/ANS, and OHI/OP lamps momentarily lighted.

STEP	ACTION	VERIFICATION
18	Momentarily operate SIG-B key again.	SIG, OHI/OP lamps momentarily lighted. At incoming trunk frame— PS_ lamp lighted.
19c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Momentarily operate RL key (to disconnect).	TSZ lamp extinguished.
20c	Restore all keys to normal.	All lamps extinguished.
21d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Restore TT key and then all other keys to normal.	All lamps extinguished.
22e	If no other tests are to be performed on this trunk— ♦At TC test set— Remove all patching cords between test set and incoming trunk frame.♦	
23e	♦At distant office— Arrange to have trunk restored to service.♦	
<b>F. False Ground on ST Lead While Trunk is Idle</b>		
<i>Note:</i> When performing this test, operate the TTS switch to the OFF position for E&M trunks and to other position according to trunk type for all other trunks.		
11	At incoming trunk frame— Using 3P7A cord connect TT jack to TT jack on TC test set.	
12c	If testing 2-wire trunk with high-low or reverse battery signaling— At TC test set— Operate TT key.	TT lamp lighted.
13c	Operate XST key.	At incoming trunk frame— TBL_ lamp lighted. At TC test set— XST lamp lighted. If incoming trunk requires off-hook signal before cut through (option X)— OHI/OP lamp lighted.
14c	At TC test set— Restore XST key.	XST lamp extinguished.

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STEP	ACTION	VERIFICATION
15c	At incoming trunk frame— Manually release XST relay in trunk.	If incoming trunk requires off-hook signal before cut through (option X)— At TC test set— OHI/OP lamp extinguished.
16c	At TC test set— Restore TT key and then all other keys to normal.	All lamps extinguished.
17d	If testing 2-wire or 4-wire trunk with E&M signaling— At TC test set— Operate XST key.	XST lamp lighted.
18d	Operate TT key.	At incoming trunk frame— TBL_ lamp lighted. At TC test set— TT lamp lighted. If incoming trunk requires off-hook signal before cut through (option X)— OHI/OP lamp lighted.
19d	At incoming trunk frame— Manually release XST relay in trunk.	At incoming trunk frame— TBL_ lamp extinguished. At TC test set— XST lamp extinguished.
20d	Momentarily operate SIG-B key twice.	SIG lamp momentarily lighted twice. At incoming trunk frame— CT_ lamp lighted.
21d	Restore TT key and then all other keys to normal.	All lamps extinguished.
22e	If no other tests are to be performed on this trunk— ◆At TC test set— Remove all patching cords between test set and incoming trunk frame.◆	
23e	◆At distant office— Arrange to have trunk restored to service.◆	