

**STATION RINGER TEST CIRCUITS SD-25861-01, SD-25927-01, AND SD-26109-01
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES**

1. GENERAL

PAGE

1.01 This section describes methods of testing the station ringer test circuits using the trunk test circuit.

equipped with tip party connection verification (option X).

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1.02 This section is reissued for the following reasons:

C. Circuit (Trunk) Busy: This test checks that only a test call can complete to an idle made-busy circuit. It also checks that a service call can complete to an idle circuit.

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(a) To revise Test B and Fig. 1, 3, and 4.

(b) To add Fig. 5 for testing tip party stations without an identifying ground.

D. False-Busy and False-Idle Conditions: This test checks for continuity and crosses on the F, BT, and FT leads.

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(c) To make other minor changes as required. This reissue does not affect the Equipment Test Lists.

E. Automatic Timed Disconnect: This test checks the ability of the trunk to disconnect if the telephone is disconnected from the line while the trunk is in the ringing condition.

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1.03 The tests covered are:

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A. Seizure, Ringing, and Release:

The following features are checked: (1) Seizure and release of station ringer test circuit. (2) Ability of the station ringer test circuit to provide the required ringing codes. (3) Operation with range extension lines.

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1.04 Test D requires making busy all other station ringer test circuits on the same trunk link frame as the station ringer test circuit under test.

1.05 Where the use of a specific station ringer test circuit is required, all other 2-wire station ringer test circuits must be made busy.

B. Multiparty Line Ringer Identification Tests:

This test checks the ability of a station ringer test circuit to provide correct identification signal from offices with or without TOUCH-TONE® feature for the following: (1) station identifying ground not detected, (2) station identifying ground detected, (3) 1000-ohm station identification ground, and (4) 2650- or 3640-ohm station identification ground. This test does not apply to SD-25861-01 or SD-25927-01 if this circuit is not

1.06 **Lettered Steps:** A letter, a, b, c, etc, added to a step number in Part 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, the steps designated by that letter should be omitted.

NOTICE

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

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1.07 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.

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

1.09 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.

1.10 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.

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, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.12 ♦Connections for Fig. 1 through 5 are shown in Section 502-501-101.♦

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, 2.03)	1		1		1
KS-3008 Stopwatch or equivalent	1				1
500-Type Telephone Set (2.04)		1			
Cord (2.05)		3			
Oscillator (2.06)				1	
Cord (2.07)				1	
Cord (2.08)				1	

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

2.03 Trunk test circuit, SD-25918-01.

2.04 500-Type telephone set, or equivalent, equipped with a C4A ringer, or equivalent, with connection arrangement to provide (1) ring party, (2) tip party—1000-ohm ground connection, and (3) tip party—2650- or 3640-ohm ground connection.

2.05 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), two KS-6278 connecting clips or a KS-6278 connecting clip and a 624B (terminal connector) tool, (for connecting 500-type telephone set to HMDF terminal strip terminals).

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 296 (banana-type) plug,

one 360B tool, and one 624B (terminal connector) tool (for making test connections to terminal strips).

KS-6278 connecting clip, and one 419A (test connector) tool or one 624B (terminal connector) tool, as required (for making test connections to terminal strip terminals).

2.08 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one

3. PREPARATION

STEP	ACTION	VERIFICATION
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Tests A, C, E

Note: Refer to 1.04 through 1.12.

- | | | |
|----|---|-------------------------|
| 1 | At MTF—
Restore all keys and switches. | |
| 2 | Momentarily operate RL key. | All lamps extinguished. |
| 3 | Select A_ through C_ digits as required to direct calls to station ringer test circuit. | |
| 4 | Select D_ through G_ digits for originating test line number. | |
| 5 | Select marker. | |
| 6 | Select route advance 0. | |
| 7 | Select MISC class of test. | |
| 8a | If ETS provided—
Operate PCS, PTS keys. | |
| 9 | Operate FS, TS, KRC keys. | |
| 10 | Select class of service and rate treatment as required. | |
| 11 | Select station ringer test circuit (trunk) under test.
(Refer to 1.05.) | |

4. METHOD

STEP	ACTION	VERIFICATION
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A. Seizure, Ringing, and Release

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|----|---|--|
| 12 | Select first available ringing combination as indicated in Table B. | |
| 13 | Operate TLK, TR keys. | |

TABLE B
RINGING COMBINATION AND DETECTION LAMP INDICATIONS WITH RINGING INTERVAL

RINGING COMBI-NATION	RINGING DETECTION LAMP LIGHTED	RINGING INTERVAL IN SECONDS						
		0	1	2	3	4	5	6
1	R-	█	█	█				
	R-			█	█	█		
2	R-	█		█	█			
	R-	█	█	█	█	█	█	█
3	R+	█		█				
	R-					█	█	█
	R-	█	█	█	█			
4	R-	█	█	█	█			
	R-	█	█	█				
	R-	█		█	█			
5	R+	█		█				
	R-	█	█	█	█			
	R-	█	█	█	█	█	█	█
	†							
6	†							
	R+					█	█	█
	R-	█		█				
7	T-	█	█	█	█	█	█	█
	T+					█	█	█
	T-	█		█				
8	R-	█	█	█				
	R+	█		█				
9	T-	█	█	█				
	T+					█	█	█
10*	R-	█	█	█				
11	T-	█	█	█				
12	T-			█	█	█		
	T-	█	█	█	█	█	█	█
	T-	█	█	█	█	█	█	█
13	T+	█		█				
	T-					█	█	█
	T-	█	█	█	█			
14	T+	█		█				
	T-	█	█	█	█			
	T-	█		█	█			
15	T+	█		█				
	T-	█	█	█	█			
	T-	█	█	█	█	█	█	█
	T-	█	█	█	█	█	█	█

*Ringing combination 10 is listed for information purposes only and should not be used for testing the ringing feature.

†No indication.

STEP	ACTION	VERIFICATION
14	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS lamp lighted. If SD-26109-01 equipped for TOUCH-TONE feature is under test— Low tone heard. If SD-26109-01 not equipped for TOUCH-TONE feature is under test— High tone heard. If SD-25927-01 or SD-25861-01 is under test— High tone heard.
15a	If SD-26109-01 equipped for TOUCH-TONE feature is under test— Momentarily restore TLK key.	Low tone silenced. High tone heard. Note: When Step 15a is not performed within 15 seconds, the low tone will be interrupted by one burst of high tone.
16	Momentarily restore TLK key.	
17	Restore TLK key.	Ringing detection lamps light as indicated in Table B. Note: Where coded ringing is used, ringing starts only at the beginning of the ring cycle.
18	Operate TLK key.	Ringing detection lamps extinguished. High tone heard.
19	Restore TLK key.	If SD-26109-01 or SD-25861-01 is under test— AS lamp extinguished in 2 to 3 seconds. If SD-25927-01 is under test— AS lamp extinguished in approximately 0.5 second.
20	Momentarily operate RL key.	All lamps extinguished.
21	Repeat Steps 12 through 20 for each ringing combination provided.	
22	Repeat Steps 12 through 18 for a ringing combination.	
23	Momentarily restore TLK key.	
24	Restore TLK key.	Ringing detection lamps light as indicated in Table B.
25	Operate TLK key.	Ringing detection lamps extinguished. High tone heard.

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STEP	ACTION	VERIFICATION
26	Restore TLK key.	If SD-26109-01 is under test— AS lamp extinguished in 2 to 3 seconds. If SD-25927-01 is under test— AS lamp extinguished.
27	Momentarily operate RL key.	All lamps extinguished.
28b	If circuit under test is arranged for coin return— Operate CN key.	
29b	Repeat Steps 12 through 18 using ringing combination 01.	
30b	Restore TLK key.	CR lamp momentarily lighted. If SD-26109-01 is under test— AS lamp extinguished in 2 or 3 seconds. If SD-25927-01 is under test— AS lamp extinguished in approximately 0.5 second. CND lamp lighted.
31b	Momentarily operate RL key.	All lamps extinguished.
32c	If office is equipped with range extension feature— Operate LOLL key.	
33c	Repeat Steps 13 and 14 using ringing combination 01.	At station ringer test circuit— LOLP relay operated.
34c	At MTF— Restore LOLL key.	
35c	Momentarily operate RL key.	All lamps extinguished.
36	Restore all keys and switches not required in next test.	

B. Multiparty Line Ringer Identification Test

For SD-25861-01, SD-25927-01, and SD-26109-01

Note: Follow local procedures to obtain spare line location arranged for 2-party service and an unassigned telephone number.

- 1 At number group for selected number—
Place tip party cross-connections using selected line location and selected number.

STEP	ACTION	VERIFICATION
2	At HMDF— Arrange connections of 500-type telephone set ringer for 1000-ohm ground tip party connection as shown in Fig. 1. ♦(Refer to 1.12).♦	

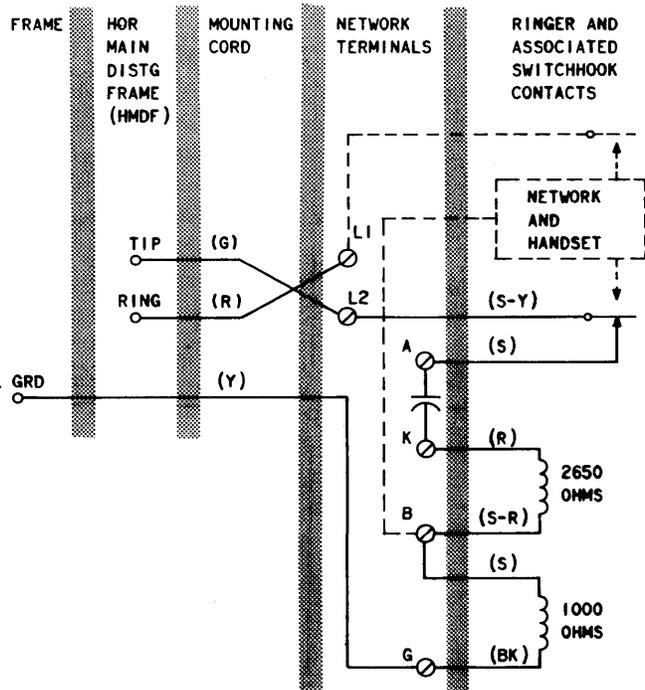


Fig. 1—500-Type Telephone Set Connections for Tip Party 1000-Ohm Ground Identification Service

- Connect telephone set to selected line location by connecting green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.
 - Remove handset from switchhook.
- Note: Proceed to Step 5, Step 8, Step 11, or Step 20 for test of SD-required.**

For SD-25861-01

- Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)
- Disconnect test leads from HMDF.

Dial tone heard.

High tone heard.

High tone silenced.

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STEP	ACTION	VERIFICATION
7	Reverse connection changes made to 500-type telephone set ringer, using Fig. 2 if telephone set is not required for next test.	

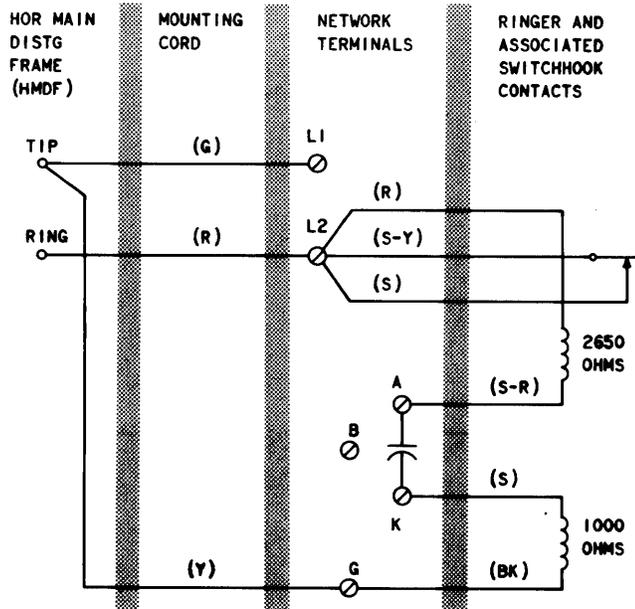


Fig. 2—500-Type Telephone Set For Individual Service

For SD-25927-01

8	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	If tip party connection verification (option X) is not provided— High tone heard. If tip party connection verification (option X) is provided— 120-ipm high tone heard.
9	Disconnect test leads from HMDF.	High tone or 120-ipm high tone silenced.
10	Reverse connection changes made to 500-type telephone set ringer, using Fig. 2 if telephone set is not required for next test. (Refer to 1.12).	

For SD-26109-01—Office not Equipped With TOUCH-TONE Feature

11	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05)	120-ipm high tone heard.
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STEP	ACTION	VERIFICATION
12	Disconnect test leads from HMDF.	120-ipm high tone silenced.
13	At number group for selected number— Place ring party cross-connections, using selected line location and selected number.	
14	At HMDF for 2-party service— Arrange connection of 500-type telephone set ringer for ring party connection as shown in Fig. 3.	

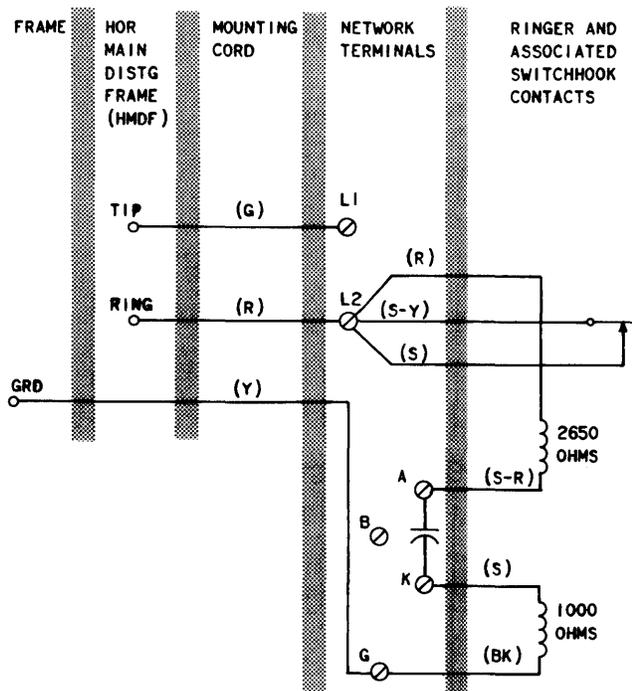


Fig. 3—500-Type Telephone Set Connections For Ring Party Service

15	Connect telephone set to selected line location by connecting green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.	
16	Remove handset from switchhook.	Dial tone heard.
17	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	High tone heard. ♦(Verifies test circuit has cut-through).♦
18	Disconnect test leads from HMDF.	High tone silenced.

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STEP	ACTION	VERIFICATION
19	Return connection changes of 500-type telephone set ringer to original connections, using Fig. 1. ♦(Refer to 1.12).♦	
For SD-26109-01—Office Equipped With TOUCH-TONE Feature		
20	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	Low tone heard. ♦(Verifies test circuit has cut-through and is ready for keyset test). If digits are <i>not</i> keyed within 15 seconds—♦ Low tone interrupted for one burst of high tone.
21	Flash switchhook.	Low tone silenced. 60-ipm high tone heard. ♦(Verifies 1000-ohm ground connection).♦
22	Disconnect test leads from HMDF.	60-ipm high tone silenced.
23	Arrange connections of 500-type telephone set ringer for 2650-ohm ground tip party connection as shown in Fig. 4. ♦(Refer to 1.12).♦	

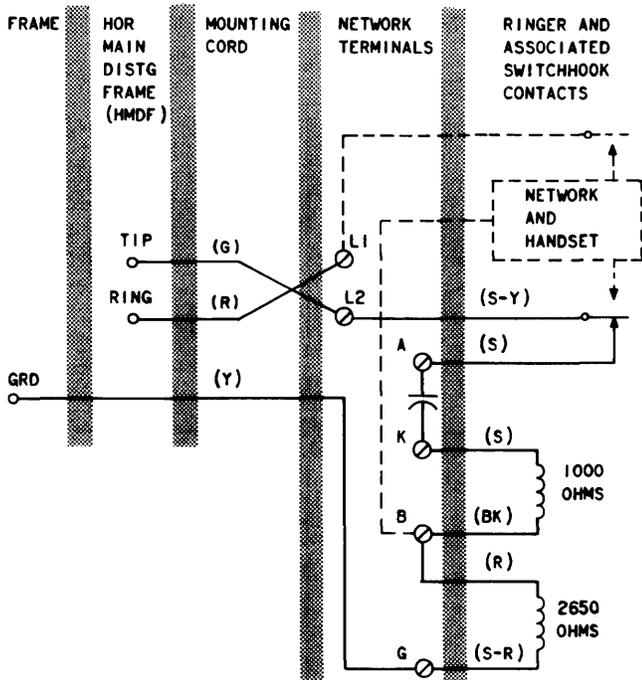


Fig. 4—500-Type Telephone Set Connections For Tip Party 2650-Ohm Ground Identification Service

STEP	ACTION	VERIFICATION
24	Connect telephone set to selected line location by connecting green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.	
25	Remove handset from switchhook.	Dial tone heard.
26	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	Low tone heard. ♦(Verifies cut-through and ready for keyset tests). If digits are <i>not</i> keyed without 15 seconds—♦ Low tone interrupted for one burst of high tone.
27	Flash switchhook.	Low tone silenced. 120-ipm high tone heard. ♦(Verifies 2650-ohm ground connection).♦
28	Disconnect test leads from HMDF.	120-ipm high tone silenced.
29	♦Arrange connection of 500 type telephone set for no identification ground-tip party as shown in Fig. 5. (Refer to 1.12).♦	

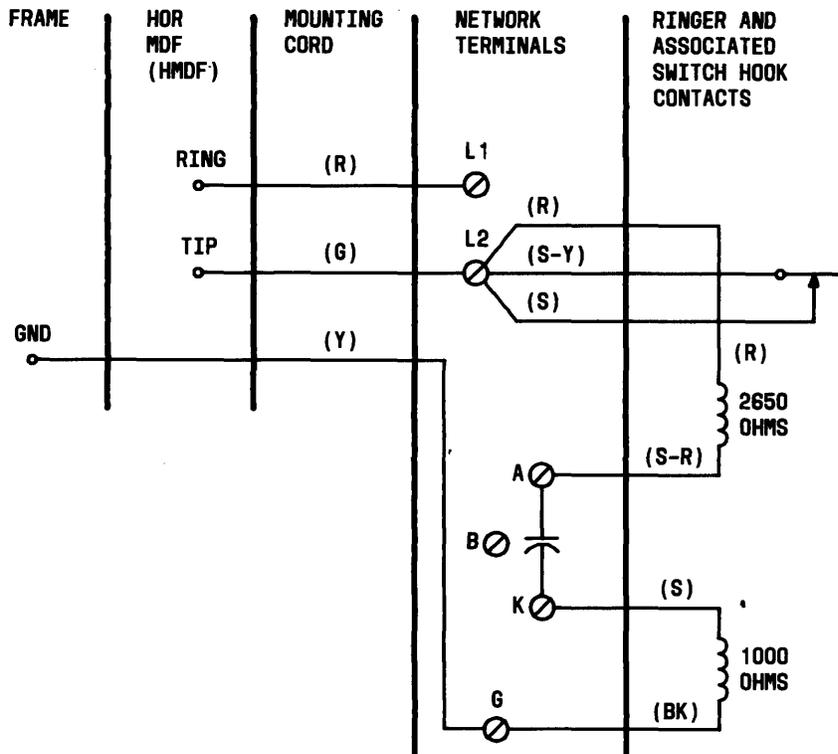


Fig. 5—♦500-Type Telephone Set Connections for Tip Party No Identification Ground.♦

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STEP	ACTION	VERIFICATION
30	Connect telephone set to selected line location by connecting green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.	
31	Remove handset from switchhook.	Dial tone heard.
32	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	Low tone heard. ♦(Verifies cut-through and ready for keyset tests). If digits are <i>not</i> keyed within 15 seconds—♦ Low tone interrupted for one burst of high tone.
33	Flash switchhook.	Low tone silenced. ♦Steady high tone heard. ♦(Verifies no ground connection).♦
34	Flash switchhook.	♦Steady♦ high tone heard.
35	Replace handset.	♦Steady♦ high tone silenced. ♦Regular ringer ringing heard from telephone set.♦
36	Disconnect test leads from HMDF.	Ringer silenced.
37	At number group for selected number— Place ring party cross-connections, using selected line location and selected number.	
38	At HMDF— Arrange connection of 500-type telephone set ringer for ring party service, using Fig. 3.	
39	Connect telephone set to selected line location by connecting green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.	
40	Remove handset from switchhook.	Dial tone heard.
41	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	Low tone heard. ♦(Verifies cut-through and ready for keyset tests). If digits are <i>not</i> keyed within 15 seconds—♦ Low tone interrupted for one burst of high tone.
42	Flash switchhook.	Low tone silenced. High tone heard.
43	Disconnect test leads from HMDF.	High tone silenced.

STEP	ACTION	VERIFICATION
44	◆Connect 500-type set ringer for ring party service as shown in Fig. 3. (Refer to 1.12).◆	
45	Connect telephone set to selected line location by green lead to T of HMDF, red lead to R of HMDF, and yellow lead to ground, using three 893 cords.	
46	Remove handset from switchhook.	Dial tone heard.
47	Dial digits required to reach station ringer test circuit (trunk) under test. (Refer to 1.05.)	Low tone heard. ◆(Verifies cut-through and ready for keyset tests). If digits are <i>not</i> keyed within 15 seconds—◆ Low tone interrupted for one burst of high tone.
48	Flash switchhook.	Low tone silenced. High tone heard.
49	Flash switchhook.	High tone heard.
50	Replace handset.	High tone silenced. ◆Regular ringing heard from 500-type set ringer.◆
51	Disconnect test leads from HMDF.	Ringer silenced.
52	Return connection changes of 500-type telephone set ringer to original connections, using Fig. 2. ◆(Refer to 1.12).◆	

C. Circuit (Trunk) Busy

12	At station ringer test circuit— Set MB switch to MB.	
13	At MTF— Select ringing combination 01.	
14	Operate TLK key.	
15	Momentarily operate ST key.	TB lamp lighted.
16	Momentarily operate RL key.	All lamps extinguished.
17	Operate NTTS, NTFS keys.	
18	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS lamp lighted.

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STEP	ACTION	VERIFICATION
19	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
20	Restore all keys and switches not required in next test.	
21	At station ringer test circuit— Set MB switch to N.	If ETS provided— FT lamp extinguished.

D. False-Busy and False-Idle Conditions

1	At relay rack frame— Connect power to 1A fault locator; set W-T switch to W and HR-LRT switch to LRT.	Whistle heard.
2	Connect WT jack of 1A fault locator to FT lead on terminal strip in accordance with Table C, using W1AK cord.	Whistle not heard.
3	Set MB switch to MB.	
4	Set MB switch to MB on all other circuits (trunks), using same route on same trunk link frame.	Whistle heard.
5	When selected ringer test circuit (trunk) is idle— Momentarily restore MB switch to N.	Whistle silenced while MB switch is restored.
6	Connect HRG (high resistance ground) to F lead on terminal strip in accordance with Table C.	

TABLE C

LEAD FUNCTION TO TERMINAL AND TERMINAL STRIP CONVERSION

LEAD FUNCTION	TERMINAL AND TERMINAL STRIP			
	SD-25861-01	SD-25927-01	SD-26109-01	
			"TOUCH-TONE" EQUIPMENT	
			NOT PROVIDED	PROVIDED
FT	10 (TSA)	10 (TSA)	45 (Unit)	17 (TSB)
BT	11 (TSA)	11 (TSA)	15 (Unit)	36 (TSB)
F	9 (TSA)	9 (TSA)	55 (Unit)	27 (TSB)

STEP	ACTION	VERIFICATION
7	Remove test connection from FT lead on terminal strip and connect to BT lead on terminal strip in accordance with Table C.	Whistle heard.
8	Momentarily restore MB switch to N.	Whistle silenced while MB switch is restored.
9	Remove HRG connection from F lead.	
10	Remove test connection from FT lead and connect to F lead on terminal strip in accordance with Table C.	Whistle heard.
11	Remove test connection from terminal strip.	
12	Remove power from 1A fault locator.	
13	Restore all keys and switches.	

E. Automatic Timed Disconnect for SD-26109-01

12	Select first available ringing combination as indicated in Table B.	
13	Operate TLK key.	
14	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS lamp lighted.
15	Momentarily restore TLK key.	
16	Restore TLK key.	Ringling detection lamp lighted.
17	Momentarily operate RL key.	Ringling detection lamp extinguished. In 3 to 7 minutes— AS lamp extinguished. If ETS provided— FT lamp extinguished.
18	Restore all keys and switches not required in next test.	

