

FINDER CIRCUITS 100-POINT 4-, 6-, AND 8-WIRE  
SD-65906-01, SD-65953-01, SD-65954-01, SD-65955-01

OPERATION TESTS

STEP-BY-STEP TYPE PBX

1. GENERAL

1.01 This section covers tests for:

(a) Intergroup transfer 100-point, 4-wire trunk finders SD-65953-01 using test set SD-66073-01 (J54701B).

(b) Station dial transfer 100-point, 6-wire trunk finders SD-65906-01 using test line associated with common group and subgroup circuit SD-65871-01 and test set SD-66073-01 (J54701B).

(c) Individual or multicustomer 100-point, 8-wire trunk and position finders, SD-65954-01 using test line associated with call distribution circuit SD-65811-01.

(d) Individual customer 100-point, 8-wire trunk finder SD-65955-01, using test line associated with call distribution circuit SD-65829-01.

1.02 The section is reissued for the following reasons:

(a) To revise the title of the section to include SD-65906-01 trunk finder.

(b) To add Test E.

(c) To revise Table A to include SD-65906-01.

1.03 The tests covered are:

A. *Trunk and Position Finders SD-65954-01:*  
The following features are checked.

(1) Vertical stepping. (2) Rotary hunting.  
(3) Cut-through and continuity.

B. *Trunk Finder SD-65955-01:* The following features are checked. (1) Vertical stepping. (2) Rotary hunting. (3) Cut-through.

C. *Trunk Finder SD-65953-01:* This test simulates the calling line condition on the trunk finder bank terminal test line.

D. *Trunk Finders SD-65906-01 and SD-65953-01 (Start and Chain Circuit):* This test checks the start and chain circuit for proper operation.

E. *Trunk Finder SD-65906-01:* This test simulates the calling line condition on the trunk finder bank terminal test line.

1.04 The TE key is associated with the trunk and position finders only and is used when two call distribution circuits are associated with one test line circuit.

1.05 Operation of the TE key transfers the test line circuit from one call distribution circuit to the other.

1.06 The TE key shall be operated to the proper position before any tests are made.

1.07 In Test A, a test call will not be served until all calls waiting inside the trunk gate have been served. In addition, a vertical or rotary hunting test call will not be served as long as there are calls waiting for connection to the PBX, that is, any calls waiting lamps (CW1 through CW4) lighted.

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↗ **1.08** In Test B, a test call will not be served until all calls waiting inside the trunk gate have been served.

**1.09** The 522A key on the W2AS cord used in Test A is referred to as the RC key.

**1.10 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**

**Tests A and B**

**2.01** Patching cord, P3H cord, 10 feet long, equipped with one 310 plug and one 240A plug (3P2A cord) used to connect finders under test to the test circuit.

**Test A**

**2.02** Testing cord, W2AS cord, 8 feet long, equipped with one 310 plug and one 522A key (2W22A cord) used to recycle trunk and position finders.

→ **Tests C and E**

**2.03** Test set, J54701B (SD-66073-01) used to provide the proper marginal tests.

**2.04** Head telephone set or 1011G handset (dial hand test set) equipped with a 2W39A cord assembly consisting of a W2CL cord, 471A jack, and a 240A plug.

**2.05** Patching cord, P3H cord, 10 feet long, equipped with one 310 plug and one 240A plug (3P2C cord) used to connect finder under test to test set.

**2.06** Two patching cords, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord) used to connect A and C test line jacks to test set.

**2.07** Testing cord, W2M cord, 9 feet long, equipped with one 310 plug and two 59 cord tips (2W12A cord) used to connect battery and ground to test set.

↗ **Test E**

**2.08** Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord) used to connect B test line jacks to test set.

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**3. PREPARATION**

STEP	ACTION	VERIFICATION
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**Tests A and B**

→ 1 At call distribution circuit —  
Connect P3H cord to TST jack.

**Test A**

2 Connect W2AS cord to RC jack.

*Note:* The TST and RC jacks are located on the call distribution circuit and/or finder switch frame.

STEP	ACTION	VERIFICATION
<b>↳ Tests C and E</b>		
3a	If using head telephone set — Connect to TEL jack on test set.	
4b	If using handset — Connect to HS jack on test set.	
5b	Operate key on handset to TALK position.	
6b	Operate TRS/REV key on test set to TRS position.	
7	Connect W2M cord to BAT jack on test set.	
8	Connect No. 59 cord tips of W2M cord as follows: white lead to 48-volt battery, red lead to ground.	
9	Connect P3H cord to LF jack on test set.	
10	Operate 740E key on the test set to vertical position.	
11	Connect A jack of test set to A jack on finder shelf with P3E cord.	
12	Connect C jack of test set to C jack on finder shelf with P3E cord.	
<b>Test E</b>		
<b>↳</b> 13	Connect B jack of test set to B jack on finder shelf with P3E cord.	

**4. METHOD**

STEP	ACTION	VERIFICATION
<b>↳ A. Trunk and Position Finders SD-65954-01</b>		
3	At trunk and position finders — Operate MB keys of trunk and position finders under test.	
4	Connect P3H cord to TST jack of position finder under test.	Trunk and position finders under test step smoothly and stop on test line terminal. At call distribution circuit — CON lamp lights.
<b>↳</b>		

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STEP	ACTION	VERIFICATION
↗ 5	Depress and hold RC key on W2AS cord.	At trunk and position finders — Trunk and position finders under test release. At call distribution circuit — CON lamp extinguished.
6	Release RC key.	Same as Step 4.
7	Operate CG key.	
8	Momentarily depress RC key.	At trunk and position finders — Trunk and position finders under test release, then step smoothly to 10 1/2 vertical step, and release.  <i>Note:</i> Finders will operate and release continuously while CG key is operated.
9	At call distribution circuit — Restore CG key.	Same as Step 4.
10	Operate ET key.  <i>Note:</i> Finders in Step 11 will operate and release continuously while ET key is operated.	
11	Momentarily depress RC key.	At trunk and position finders — Trunk and position finders under test release, then step to test line level, rotary hunt to eleventh rotary step position, and release.
12	At call distribution circuit — Restore ET key.	Same as Step 4.
13	At trunk and position finders — Remove P3H cord from TST jack.	Trunk and position finders under test do not release. At call distribution circuit — CON lamp steadily lighted.
14	Remove P3H cord from TST jack, W2AS cord from RC jack.	At trunk and position finders — Trunk and position finders under test release. At call distribution circuit — CON lamp extinguished.
15	At trunk and position finders — Restore MB key.	
↘ 16a	If no further tests are to be performed — Remove patching cord from test set.	

STEP	ACTION	VERIFICATION
<b>B. Trunk Finder SD-65955-01</b>		
2	At trunk finder — Operate MB key of finder under test.	
3	Connect P3H cord to TST jack of finder under test.	Finder steps smoothly to test line terminal and stops.
4	Momentarily remove P3H cord from finder under test.	Finder releases then steps smoothly to test line terminal and stops.
5	At call distribution circuit — Operate CG key to vertical position.  <i>Note:</i> Finder will operate continuously while CG key is operated.	
6	At trunk finder — Momentarily remove P3H cord from finder under test.	Finder steps smoothly to 10 1/2 vertical step and releases.  <i>Note:</i> Finder will operate continuously while CG key is operated.
7	At call distribution circuit — Restore CG key.	Same as Step 3.
8	At call distribution circuit — Operate ET key.	At trunk finder — Finder steps to test line level, rotary hunts smoothly to eleventh rotary step position, and releases.  <i>Note:</i> Finder will operate continuously while ET key is operated.
9	At call distribution circuit — Restore ET key.	Same as Step 3.
10	Remove P3H cord from finder.	Finder releases.
11	Restore MB key.	
12a	If no further tests are to be performed — Remove P3H cord from TST jack.	
<b>C. Trunk Finder SD-65953-01</b>		
13	At trunk finder — Operate MB key of finder under test.	
14	Connect P3H cord to top four springs of TST jack of finder under test.	

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
15	At test set — Operate LP key.	At trunk finder — Finder steps smoothly to test line level, rotary hunts smoothly to test line terminal, and stops.
16	At test set — Restore LP key.	At trunk finder — Finder releases.
17	At test set — Remove 310 plug from A jack.	
18	Operate LP key.	At trunk finder — Finder steps to test line level, rotary hunts to tenth rotary step position, and releases.
19	At test set — Restore LP key.	
20	At trunk finder — Remove P3H cord from finder.	
21	Restore MB key.	
22c	If other finders are to be tested — Reconnect 310 plug of P3E cord to A jack.	

**D. Trunk Finders SD-65906-01 and SD-65953-01 (Start and Chain Circuit)**

1	At trunk finder — Operate TST key.	Each idle finder in turn steps to test line level, then rotates to tenth step, and releases. Table A indicates order of finder seizure.  <i>Note:</i> The last finder in the chain will operate only on alternate cycles.
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**TABLE A**

**NUMBER OF FINDERS**

	<b>NUMBER OF FINDERS</b>	<b>SEQUENCE OF FINDER SEIZURE FOR SD-65906-01</b>
↗	4	1, 4, 3, 2
	8	1, 8, 7, 6, 5, 4, 3, 2
↘	12	1, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 12
		<b>SEQUENCE OF FINDER SEIZURE FOR SD-65953-01</b>
	12	11, 1, 10, 9, 8, 7, 6, 5, 4, 3, 2, 12
	24	21, 11, 1, 10, 20, 19, 9, 8, 18, 17, 7, 6, 16, 15, 5, 4, 14, 24, 23, 13, 3, 2, 12, 22

STEP	ACTION	VERIFICATION
2	Restore TST key.	Finders stop vertical stepping and rotary hunting.

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**E. Trunk Finder SD-65906-01**

14	At trunk finder — Operate MB key of finder under test.	
15	Connect P3H cord to TST jack of finder under test.	
16	At test set — Operate LP key.	At trunk finder — Finder steps smoothly to test line level, rotary hunts smoothly to test line terminal, and stops.
17	At test set — Restore LP key.	At trunk finder — Finder releases.
18	At test set — Remove 310 plug from A jack on test set only.	
19	Operate LP key.	At trunk finder — Finder steps to test line level, rotary hunts to tenth rotary step position, and releases.
20	At test set — Restore LP key.	
21	At trunk finder — Remove P3H cord.	
22	Restore MB key.	
23c	If other finders are to be tested — Reconnect 310 plug of P3H cord to A jack on test set.	
↙ 24d	If no further tests are to be performed — Remove all cords.	