

**TRUNK FINDERS FOR CONCENTRATING INTERCEPTING
AND VERIFICATION REQUEST TRUNKS
OPERATION TESTS USING TRUNK TEST SET SD-90469-01 (J94710A)
OR SD-90469-02 (J94710A)
STEP-BY-STEP SYSTEMS**

1. GENERAL

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1.01 This section describes methods of testing the trunk finders employed for concentrating, intercepting, and verification request trunks using trunk test set SD-90469-01 or SD-90469-02 in step-by-step offices. It also covers trunk finder tests in those offices in which the trunk finders are of the newer type, with the test jack located on the switch.

of trunk finders and the signaling, supervision, and continuity of trunks where the trouble intercepting feature is provided.

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1.02 This section is reissued to include the testing of trunk finders SD-35045-01. These trunk finders are used on automatic intercept service trunks in step-by-step offices with ANI-C, or ANI-D.

C. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers—Trouble Intercepting Feature Not Provided: This test checks the operating features of trunk finders and the continuity and polarity of trunks to selectors or trunk circuits beyond where no trouble intercepting feature is provided.

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This reissue does not affect the Equipment Test List.

1.03 The tests covered are:

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A. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve Before Operator Answers or Announcement Heard: This test checks the operating features of trunk finders and the signaling, supervision, and continuity of trunks to an operator.

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D. Rapid Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers: This test checks the ability of trunk finders to find the test line under normal operating conditions.

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B. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers in All Cases Except Trouble- Intercepted Calls—Trouble Intercepting Feature Provided: This test checks the operating features

E. Trunk Finder B, C, and F Relay Test: This test checks the trunk finders B and F relays nonoperate requirements and C relay hold and release requirements. The operating features are tested in Tests A, B, or C. No provision is made in this test to hold the trunk finder when the test terminal is reached, and ground is not returned before the operator answers. . . .

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F. Normal Post Spring Operation Test: This test checks that the

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normal post springs are operating satisfactorily on specified levels and are not operating on the level above or below each specified level.	15	to provide a ground, as soon as the trunk is seized, to hold the trunk finder. They are also arranged to signal the operator after a short interval if they fail to do so during the ringing interval of the ringing cycle. This test simulates a trouble-intercepted call.
G. Make Busy From Circuit Beyond: This test checks the sleeve circuit through the trunk finders in normal position, to the trunk finder D relay.	16	1.07 Test C is used where the outgoing trunk from the trunk finder is arranged as in 1.06, except that the trouble-intercepting feature is not provided. This test requires the use of a spare or idle connector intercepting trunk located on the trunk finder frame to which the test set is connected. The test set is arranged to send a ground forward on the sleeve to hold the trunk finder. In order to test all finders in a group, it is necessary to make each finder busy as it is tested, until the last finder in the group is being tested and has reached the test terminals. Test C does not provide a marginal test of the E relay. If it is desired to perform a marginal test of the E relays of trunk finders other than those in position 2, 12, or 22, Test D may be used to supplement Test C. In performing this test, service may be adversely affected by dial tone delays and possible denial of service to subscribers.
H. Test of E Relay of Trunk Finders in Position 2, 12, or 22: This test checks the operation of the E relay of trunk finders on a marginal basis, and is intended to supplement Test A, B, or D. This test is necessary due to the test line appearing on the tenth level of these line finders and this level being permanently connected to solid ground. Therefore, some level other than the tenth level is used for applying the resistance ground to the commutator segment for marginally checking the E relay on these finders.	17	1.08 Test D is used, where desired, to test the fundamental operating features of the trunk finder at frequent intervals to supplement the complete operation test covered by Test B or C. Test D cannot be used to supplement Test A.
1.04 Tests A, B, D, and E are made from the test line jacks provided for each trunk finder group. In the case of 50- and 100-point trunk finders, the T, R, and S leads of bank terminals 19 or 10 are permanently wired to jack A on the trunk finder frame. In the case of 200-point trunk finders, the bank terminals 10 and 110 are permanently wired to jacks B and A, respectively, on the trunk finder frame.		1.09 Test E is based upon the use of test set SD-90469-02 equipped with "J" wiring and apparatus, and a BF NO key. This test requires a test cord equipped with a 620A tool, the use of the C jack of the test set, and a nonbusy trunk circuit on the same level as the test line terminals. In the case of 200-point trunk finders, the mate trunk circuit of the nonbusy trunk circuit is also required, the mate trunk circuit being 115 if 15 is used or vice versa. Test set SD-90469-01 is not arranged to perform Test E.
1.05 Test A is used where outgoing trunk from the trunk finder is arranged to signal the operator when battery or ringing current is connected to the tip or ring of the trunk. This trunk circuit then returns a ground on the sleeve to hold the trunk finder before the operator answers.		1.10 Test H is intended to supplement Test A, B, or D and provides a means of testing the E relay or trunk finders in position 2, 12, or 22 on a marginal basis.
1.06 Test B is used where the outgoing trunk from the trunk finder is arranged to signal the operator during the ringing interval of the ringing cycle and is not arranged to return a ground on the sleeve to hold the trunk finder until after the operator answers, in all cases except trouble-intercepted calls. In the case of trouble-intercepted calls, the trunks are arranged		1.11 If the newer type line finders with the test jack located on the switch are added to an existing shelf containing older line finders, where the test jacks are mounted in a jack panel, it is

assumed that both old and new line finders will be tested from the jack panel.

1.12 All other trunk finder features, such as the group and chain circuits, traffic registers, and alarms, are tested in the same manner as outlined in the sections covering line finders.

1.13 In the tests, reference to "older" trunk finders means finders having the test jacks located in a jack panel. "Newer" trunk finders are those having the test jack located on the finder itself.

1.14 Test set SD-90469-01 will not provide a ground on commutator bank level 1 when the test jack is located on the finder instead of on a jack panel. Test set SD-90469-02 will be required for these finders.

1.15 Tests A, B, and C require actions and verifications with the operator.

1.16 *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 not be required, depending upon 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.

1.17 The test equipment specified in this section is designed to apply proper marginal tests (simulated critical circuit conditions) when the circuit under test and the test equipment have an applied voltage of 48.5 to 50. In those offices where power plants are normally operated at more than 50 volts, the battery voltage should be reduced and maintained within the required limits while the tests are being made.

2. APPARATUS

2.01 The apparatus required for each test is shown in Table A. The details of each item are covered in the indicated paragraphs.

2.02 Trunk test set J9410A (SD-90469-01 or SD-90469-02). ♦(See 1.14.)♦

2.03 P3K cord, 12 feet long, equipped with two 310 plugs (3P15B cord). For connecting battery to the test set.

2.04 P3E cord, 10 feet long, equipped with two 310 plugs (3P6F cord). Only two required when testing 50- or 100-point trunk finders. For connecting the test set to the test line and for other uses. ♦If testing trunk finders SD-35045-01, see 2.16.♦

2.05 P3AA cord, 10 feet long, equipped with a 310 plug on one end and a 240A plug on the other end (3P30A cord). The 240A plug is modified by removing the red lead from terminal 3 and transferring the black lead from terminal 1 to terminal 3. For connecting the test set to trunk finders with the test jack located on the trunk finder.

2.06 52S (replaces 52A) head telephone set.

2.07 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord). Equip with two KS-6278 connecting clips insulated with 108 cord tips when connecting to soldered terminals, or equip with two 624B tools when connecting to wire-wrapped terminals. For strapping terminals together at a terminal strip.

2.08 375A plug. For use where outgoing trunks are equipped with a T1 jack.

2.09 W3M cord, 15 feet long, equipped with a 310 plug and three 360 tools (3W4B cord). Equip with three KS-6278 connecting clips insulated with 108 cord tips when connecting to soldered terminals, or equip with three 624B tools when connecting to wire-wrapped terminals. For connecting the test set to a terminal strip.

2.10 Test cord, W3AJ cord, 12 feet long, equipped with a 310 red-shell plug and a 620A tool (3W13A cord). A modified Frankel clip attached to the cord is provided to clip on bank rod when the 620A tool is inserted into the bank.

2.11 Special test cord, assembled locally as in Fig. 1, consisting of one 92A key, one 1W13B cord with one 360A tool removed and a 411A tool attached to the remaining 360A tool, one 1W7A cord with the 59 cord tip removed, one 1W5B cord with the KS-6780 connecting clip removed, and one 893 cord, 6 feet long, with a 240A plug connected

TABLE A

APPARATUS	TESTS							
	A	B	C	D	E	F	G	H
Trunk test set (2.02)	1	1	1	1	1			1
Patching cord (2.03)	1	1	1	1	1			1
Patching cord (2.04)	3	3	1	3	3			
Patching cord (2.05)	1	1		1	1			
Head telephone set (2.06)	1	1	1					
Testing cord (2.07)		1						
Test plug (2.08)		1						
258-Type insulated plug			√					
Testing cord (2.09)			1					
Testing cord (2.10)					1			
477A (or 375A) (make-busy) tool				1				
Special test cord (2.11)						1		
Test receive (2.12)							1	
Testing cord (2.13)								1
Testing cord (2.14)								1
38B lamp socket equipped with a 2Y lamp						1		
Testing cord (2.15)							1	
Patching cord (2.16)	1	1		1	1			
Blocking tools (2.17)							√	

√ As required

to one end. For testing normal post spring operation of trunk finders.

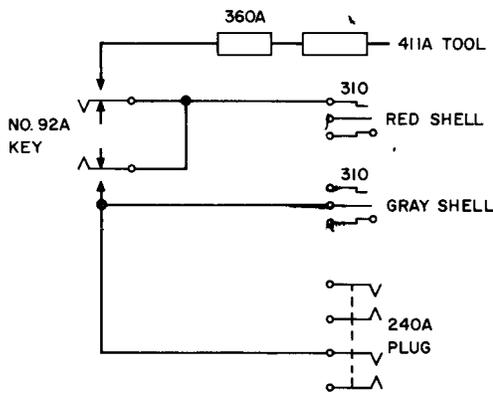


Fig. 1—

and two 419A tools. Connect one 419A tool to the 360A (red) sleeve tool and the other 419A tool to the 360B (black) ring tool. For connecting test set to newer trunk finders having the test jack on the finder itself.

2.15 W1W cord, 10 feet long, equipped with a 310 plug on one end and a 59 alligator clip on the other (1W7A cord).

2.16 P3H cord, 10 feet long, equipped with one 310 plug, and one 240A plug (3P2A cord). For connecting test set SD-90469-02 to the test line A jack associated with trunk finders SD-35045-01.

2.12 716C receiver, attached to a W2AB cord equipped with two 360A tools (2W21A cord), a 411A tool, and a KS-6278 connecting clip.

2.13 Test cord assembled locally shown as in Fig. 2, consisting of the following: One W3M cord, 6 feet long, equipped with a 310 plug and one each 360A, 360B, and 360C tools (3W4A cord); a W2W cord, 6 feet long, equipped with a 310 plug and 360B and 360C tools (2W17A cord); 893 cord, 6 feet long, with 360 tools at each end (1W13B cord); a 419A tool and three 141 cord tips. For connecting test set to older trunk finders whose test jack is located in a jack panel.

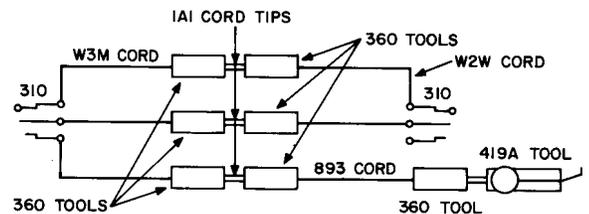


Fig. 2—

2.14 W3W cord, 15 feet long, equipped with a 310 plug and three 360 tools (3W4B cord),

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

3. PREPARATION

STEP	ACTION	VERIFICATION
Tests A, B, C, D, E, and H		
1	Connect one plug of P3K cord to BAT G jack of test set.	
Tests A, B, C, and E		
2	Insert plug of head telephone set into TEL jacks.	

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STEP	ACTION	VERIFICATION
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3	Operate TRS key.	
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Tests A, B, D, and E

4a	If testing 50- or 100-point trunk finders— Using P3E cord, connect T jack to test line A jack.	
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◆**Note:** When testing trunk finders SD-35045-01, using a P3H cord, connect the T jack to the test line A jack.◆

5b	If testing 200-point trunk finder— Using P3E cords, connect T and TL jacks to test line A and B jacks respectively.	
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Note: Connections to the test line A and B jacks should be reversed on each alternate testing cycle unless otherwise specified in order to make a complete test of the trunk finder B and F relays.

6	Operate TP or TP BT key.	
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7c	If testing trunk finders with the test jack located in a jack panel— Insert 310 plug of P3E cord into LF jack.	
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8d	If testing trunk finders with the test jack located on the finder— Insert 310 plug of P3AA cord into LF jack.	
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Test C

9	Using a P3E cord, connect together the C and TL jacks.	
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10	Insert 310 plug of W3W cord into T jack and connect the KS-6278 clips or 624B tools of white (tip), black (ring), and red (sleeve) conductors to tip, ring, and sleeve terminals of an intercepting trunk from connector multiple.	
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BSY lamp not lighted.

Note: If BSY lamp is lighted, select another trunk.

Test E

11	Insert 310 plug of W3AJ cord into C jack of test set.	
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12	Operate the J-NO J-O H-O (552E) key to the J-O (normal) position.	
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STEP	ACTION	VERIFICATION
Test F		
13	Insert 310 red-shelled plug of special test cord (Fig. 1) into battery supply jack located on trunk finder frame.	
Test G		
14e	If outgoing intercept trunk is not equipped with MB jack— Connect 59 alligator clip of 1W7A cord to ground.	
4. METHOD		
A. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve Before Operator Answers or Announcement Heard		
9	Connect free plug of P3K cord to 48-volt frame battery supply jack.	
	Note: When testing the newer type of trunk finders having the test jack located on the switch, the plug should be disconnected from the battery supply jack as soon as the testing routine permits, to remove ground from the commutator.	
10	Operate CT key.	
11c	If testing trunk finders with the test jack located in a jack panel— With trunk finder under test normal— Insert the free plug of P3E cord connected to LF jack into trunk finder test jack.	Trunk finder operates smoothly and stops on test line terminals. Operator answers or announcement heard. C lamp may light, but disregard.
12c	Disconnect P3E cord from trunk finder test jack (to remove ground from commutator level 1).	
13e	If testing trunk finders for automatic intercept service and test line level is CL2— Operate REV key.	
14d	If testing trunk finders with the test jack located on the finder— With trunk finder under test normal— Insert the free plug of P3AA cord connected to LF jack into trunk finder test jack.	Trunk finder operates smoothly and stops on test line terminals. Operator answers or announcement heard. C lamp may light, but disregard.

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STEP	ACTION	VERIFICATION
15e	If testing trunk finders for automatic intercept service and test line level is CL2— Restore REV key.	
16e	Disconnect P3AA cord from trunk finder test jack.	
17f	If operator is reached— Advise operator that test is being made. <i>Note:</i> If toll identification tone is provided in outgoing trunk or operator cord circuit, verify with operator that “high” tone was heard before the tone removal or flashing key was operated.	C lamp may light when tone removal or flashing key is operated, but disregard.
18f	Request operator to disconnect cord from trunk jack.	Trunk finder releases.
19f	Restore CT key.	
20g	If announcement heard— Restore CT key.	Trunk finder releases.
21h	If no further tests are to be made— Disconnect plug from 48-volt jack. Restore all keys and remove remaining cords.	
B. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers in All Cases Except Trouble Intercepted Calls—Trouble Intercepting Feature Provided		
9	With trunk finder under test normal— Using the 893 cord, connect together S and A terminals at the trunk finder terminal strip. <i>Note:</i> When testing trunk finders associated with outgoing trunks that are located near the trunk finders, and the trunk circuits are equipped with a T1 jack, the S and A terminals may be connected together by inserting the 375A plug, with tip and ring elements short-circuited, into T1 jack.	
10	Connect free plug of P3K cord to 48-volt frame battery supply jack. <i>Note:</i> When testing the newer type of trunk finders having the test jack located on the switch, the plug should be disconnected from the 48-volt battery supply jack as soon as	

STEP	ACTION	VERIFICATION
	the testing routine permits, to remove ground from the commutator.	
11	Operate CT key.	
12c	If testing trunk finders with the test jack located in a jack panel— Insert free plug of P3E cord connected to LF jack into test jack of trunk finder.	Trunk finder operates smoothly and stops on test line terminals.
13c	Disconnect P3E cord from trunk finder test jack (to remove ground from commutator level 1).	
14d	If testing trunk finders with test jack located on the finder— With trunk finder normal, insert free plug of P3AA cord into trunk finder test jack.	Trunk finder operates smoothly and stops on test line terminals.
15d	Disconnect P3AA cord from trunk finder test jack.	
16	Operate and restore REV key once or twice. Note: Audible ringing may be heard before operating the REV key if this is delayed for more than approximately 5 seconds after the trunk finder reaches test line. Do not operate REV key in this case.	Audible ringing heard in receiver unless operator answers in less than 4 seconds. Operator answers or announcement reached. C lamp may light, but disregard.
17e	If operator is reached— Advise operator that test is being made. Note: If toll identification tone is provided in the outgoing trunk or operator cord circuit, verify with operator that "high" tone was heard before the tone removal or flashing key was operated.	C lamp may light when tone removal or flashing key is operated, but disregard.
18e	Request operator to disconnect from trunk jack.	Trunk finder releases.
19e	Restore CT key.	
20f	If announcement reached— Restore CT key.	Trunk finder released.
21	Remove cord from S and A terminals at trunk finder terminal strip or remove 375A plug from T1 jack of outgoing trunk circuit.	

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STEP	ACTION	VERIFICATION
22g	If no further tests are to be made— Disconnect plug from 48-volt jack. Restore all keys and disconnect remaining cords.	
C. Trunk Finder Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers—Trouble Intercepting Feature Not Provided		
11	Connect free plug of P3K cord to 48-volt frame battery supply jack.	
	Note: When testing the newer type of trunk finders having the test jack located on the switch, the plug should be disconnected from the battery supply jack as soon as the testing routine permits, to remove ground from commutator.	
12	With BSY lamp not lighted— Operate DL ST key.	
13	Operate CT key.	
14	Operate T key.	SL lamp lighted. Trunk finder operates smoothly and stops on terminals used for test.
15	Rapidly operate and restore REV key several times.	Audible ringing heard, unless operator answers in less than 4 seconds. Operator answers. C lamp may light, but disregard.
16	Advise operator that test is being made. Note: If toll identification tone is provided in the outgoing trunk or operator cord circuit, verify with operator that “high” tone was heard before the tone removal or flashing key was operated.	C lamp may light when tone removal or flashing key is operated, but disregard.
17	Restore T key.	Trunk finder remains operated. SL lamp remains lighted.
18	Request operator to disconnect cord from trunk jack.	Trunk finder releases. SL lamp extinguished.
19	Restore CT key.	

STEP	ACTION	VERIFICATION
20	Make trunk finder busy by inserting 258-type plug into test jack (older finders) or by operating MB key (newer finders) of trunk finder just tested.	
21	Repeat Steps 13 through 20 on the remaining trunk finders in the group until the last trunk finder is reached.	
22	When testing last trunk finder— Operate CT key.	
23	Operate T key.	SL lamp lighted. Trunk finder operates smoothly and stops on terminals used for test.
24	When the last trunk finder stops on test line— Immediately remove the 258-type plugs from test jacks or restore all MB keys of all trunk finders used in test.	
25	Repeat Steps 15 through 19 on last trunk finder.	
26e	If no further tests are to be made— Disconnect plug from 48-volt jack. Restore all keys and disconnect all remaining cords.	
D. Rapid Operation Test—Outgoing Trunk Returns Ground on Sleeve After Operator Answers		
Test Jack Not Located on Trunk Finder		
9	Connect free plug of P3K cord to 48-volt frame battery supply jack.	
10	With trunk finder under test normal— Insert 477A tool into monitor jack of trunk finder. Caution: Do not insert tool into monitor jack of any trunk finder that is off-normal. If switch starts to operate when tool is inserted, immediately remove the tool.	
11	Operate CT key.	
12	Insert free plug of P3E cord connected to LF jack into trunk finder test jack.	Trunk finder operates smoothly, stops on test line terminals for a short interval, then releases.

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STEP	ACTION	VERIFICATION
		C lamp lighted for a short interval, then extinguished.
13	Disconnect immediately from trunk finder test jack to remove ground from commutator.	
14	Remove 477A tool from monitor jack.	
Test Jack Located on Trunk Finder		
15	Connect free plug of P3K cord to 48-volt frame battery supply jack. <i>Note:</i> This plug should be disconnected from the 48-volt jack as soon as possible after the tests are completed, to remove ground from commutator.	
16	With trunk finder under test normal— Short springs 1 and 2 of trunk finder test jack using a KS-6278 (or similar type) connecting clip. <i>Caution: Do not short the springs of any switch that is off-normal. If switch starts to operate while shorting the jack springs, immediately remove the shorting tool.</i>	
17	Operate CT key.	
18	Insert free plug of P3AA cord into trunk finder test jack.	Trunk finder operates smoothly and stops on test line terminals for a short interval, then releases. C lamp lighted for a short interval, then extinguished.
19	Disconnect from trunk finder test jack.	
20	Disconnect plug from 48-volt jack.	
21	Remove shorting tool from trunk finder test jack.	
22	Remove all keys and remove remaining cords.	
E. Trunk Finder B, C, and F Relay Test		
13	Select an idle trunk finder other than one under test and make busy; or select bank with cleaned terminals, not equipped with a trunk finder.	

STEP	ACTION	VERIFICATION
14	Insert 620A tool into sleeve bank on same level in which test line appears, as follows.	
For 50-Point and 100-Point 3-Wire Trunk Finders and 200-Point 3-Wire Trunk Finders (B Relay)		
15	Insert 620A tool from left side of sleeve bank. (Select bank where test line is in some level between 4 and 9 inclusive to avoid interference between tool and commutator or designation card.)	
For 50-Point and 100-Point 4-Wire Trunk Finders and 200-Point 3-Wire Trunk Finders (F Relay)		
16	Insert 620A tool from right side of sleeve bank.	
For All Trunk Finders		
17	Connect free plug of P3K cord to 48-volt frame battery supply jack.	
	Note: When testing the newer type of trunk finders having the test jack located on the switch, the plug should be disconnected from the battery supply jack as soon as the testing routine permits, to remove ground from the commutator.	
18	Select an idle line near middle of bank by moving tool until an idle line is found. This becomes the marked line (see 1.09).	BSY lamp not lighted.
		Note: With 200-point trunk finders, note that the C lamp is not lighted. If C lamp lights, it indicates that mate line is busy and another pair of lines must be selected.
19	Operate BF NO and LP keys.	
20	Operate DL ST, T, REV, and ID keys.	
21	With trunk finder under test normal— Insert free plug of P3E or P3AA cord into trunk finder test jack.	Trunk finder operates smoothly and stops on terminal to which 620A tool is connected.
		Note 1: Dirty bank terminals or improperly adjusted wipers may cause C relay to fail its hold test.
		Note 2: Failure of trunk finders to stop indicates C relay failed to meet hold requirements or that marked or mate line became busy before being seized by line finder under test.

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STEP	ACTION	VERIFICATION
		In this event, disconnect cord from LF jack and restore all keys to normal. The BSY lamp will light if marked line is busy. With 200-point finders, if the C lamp lights, it indicates the mate line is busy. If either line is busy, it will be necessary to select another pair of lines repeating Steps 18 through 21.
22e	If testing trunk finders associated with trunks that return ground on the sleeve before the operator answers— Operate C key momentarily.	Trunk finder resumes rotary stepping and stops on test line terminals. REV lamp lighted.
23e	Disconnect immediately from trunk finder test jack.	
24e	Restore BF NO key.	
	<i>Note:</i> If trunk finder releases after Step 24e, Steps 25f through 29 will not be necessary.	
25f	If testing trunk finders associated with trunks not requiring ringing to signal operator— Operate CT key.	Operator answers.
26g	If testing trunk finders associated with trunks that require ringing current to signal operator— Operate CT key.	
27g	Operate and restore REV key rapidly several times.	◆Operator answers.◆
28	Advise operator that a test is being made and request that operator disconnect.	
29	Restore CT key.	Trunk finder releases.
30h	If testing trunk finders associated with trunks that do not return ground on the sleeve before the operator answers— Operate C key momentarily.	Line finder resumes rotary stepping, stops momentarily on test line terminals and releases. REV lamp may flash, but disregard.
31h	Disconnect immediately from trunk finder test jack.	
32h	Restore BF NO key.	
33i	If no further tests are to be made— Disconnect plug from 48-volt jack. Restore all keys and disconnect remaining cords.	

STEP	ACTION	VERIFICATION
F. Normal Post Spring Operation Test		
14e	If test jack is not located on trunk finder— Insert gray-shelled 310 plug of special test cord (Fig. 1) into trunk finder test jack.	
15d	If test jack is located on trunk finder— Insert 240A plug of special test cord (Fig. 1) into trunk finder test jack.	
16	With trunk finder normal— Connect 48-volt battery through 2Y test lamp to the A terminal at the trunk finder terminal strip.	
17	Touch 411A tool of the special test cord to commutator segment corresponding to level on which normal post springs are adjusted to operate.	
18	Depress and hold 92A key.	Trunk finder steps to proper level— Rotates to eleventh rotary step (tenth rotary step on 100-point finders), then releases. Test lamp lighted during rotary action of switch.
Note: With testing 100-point trunk finders associated with trunks that return ground on the sleeve before operator answers, it will be necessary to release the trunk finder by removing the switch cover and operating the release armature manually.		
19	Release 92A key and remove 411A tool from commutator segment.	
20	Repeat Steps 17 through 19 for each level on which normal post springs are adjusted to operate.	Test lamp lighted during rotary action of switch.
21	Repeat Steps 17 through 19 for each level above and below the operating levels.	Test lamp does not light.
22	Remove gray-shelled plug or 240A plug from trunk finder test jack.	
23f	If no further tests are to be made— Remove all remaining test cords.	

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STEP	ACTION	VERIFICATION
G. Make-Busy From Circuit Beyond		
15c	If trunk finder has test jack located in jack panel— Insert 258-type make-busy plug in test jack.	
16d	If trunk finder has test jack on the trunk finder— Operate MB switch.	
	Note: When two trunk finders are associated with the same outgoing intercept trunk, both trunk finders must be made busy.	
17f	If outgoing intercept trunk is equipped with MB jack— Insert 258-type make-busy plug in MB jack of trunk associated with trunk finder(s) busied in Step 15c or 16d.	D relay in trunk finder(s) operated. Note: When two trunk finders are associated with the same outgoing intercept trunk, both D relays should be operated.
18f	Remove 258-type make-busy plug from outgoing intercept trunk MB jack.	D relay in trunk finder(s) released.
19e	If outgoing intercept trunk is not equipped with MB jack— Insert 310 plug of 1W7A cord into T jack of trunk associated with trunk finder busied in Step 15c or 16d.	D relay in trunk finder operated.
20e	Remove 310 plug of 1W7A cord from T jack of outgoing intercept trunk.	D relay in trunk finder released.
21g	If outgoing intercept trunk is equipped with T1 jack (trouble intercept) but not with T jack— Insert 375A plug into T1 jack of trunk associated with trunk finder busied in Step 15c or 16d.	
22g	Using test receiver with KS-6278 connecting clip connected to ground, touch 411A tool to A lead (terminal 3 of switch jack) two or three times in slow succession.	Note by sound that D relay operates and releases with each application and removal of ground.
23g	Remove 375A plug from T1 jack of outgoing intercept trunk.	
24h	If outgoing intercept trunk is not equipped with either T, T1, or MB jack— At outgoing intercept trunk associated with trunk finder made busy in Step 15c or 16d— Block H relay operated.	D relay in trunk finder operated.

STEP	ACTION	VERIFICATION
25h	Remove blocking tool from H relay of outgoing intercept trunk.	D relay in trunk finder released.
26i	If no further tests are to be made— At trunk finder— Remove 258-type plug from test jack on test panel or restore MB key on trunk finder.	
27i	Disconnect all test cords.	

H. Test of E Relay of Trunk Finders in Position 2, 12, or 22

- 2a If test jack is not located on trunk finder—
Insert 310 plug of W2W cord (Fig. 2) into test jack of trunk finder to be tested.
- 3a Connect 419A tool to commutator segment on some level other than the tenth level.
- 4b If test jack is located on trunk finder—
Connect 419A tool connected to black (ring) conductor of 15-foot W3W cord (2.14) to contact spring 3 of test jack of trunk finder under test.
- 5b Connect 419A tool connected to red (sleeve) conductor of cord to commutator segment on some level other than tenth level.
- 6 Connect free plug of P3K cord to 48-volt frame battery supply jack.

Note: When testing the newer type trunk finders having the test jack located on the switch, the plug should be disconnected from the battery supply jack as soon as the testing routine permits, to remove ground from the commutator level 1.

- 7 With trunk finder normal—
Insert 310 plug of W3M special test cord (Fig. 2) into test set LF jack.

Note: When testing 100-point trunk finder associated with trunks that return ground on the sleeve before operator answers, it will be necessary to release the trunk finder by removing the switch cover and releasing the release armature manually.

Trunk finder steps vertically to level on which 419A tool is connected, cuts in and rotates to the eleventh rotary step (tenth rotary step in the case of 100-point finders), then releases.

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STEP	ACTION	VERIFICATION
8	With trunk finder normal— Insert 310 plug of 15-foot W3M cord, (2.14) into test set LF jack. <i>Note:</i> When testing 100-point trunk finders associated with trunks that return ground on the sleeve before operator answers, it will be necessary to release the trunk finder by removing the switch cover and releasing the release armature manually.	Trunk finder steps vertically to level on which 419A is connected, cuts in and rotates to the eleventh rotary step (tenth rotary step in the case of 100-point finders), then releases.
9	Remove cord from test jack of trunk finder.	
10c	If no further tests are to be made— Disconnect 419A tool from the commutator segment.	
11c	Disconnect plug from 48-volt jack.	