TRUNK FINDERS FOR CONCENTRATING INTERCEPTING AND VERIFICATION REQUEST TRUNKS OPERATION TESTS USING TEST SET SD-31456-01 (J34715A) OR SD-31524-01 (J34718A) STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes methods of testing the trunk finders employed for concentrating intercepting and verification request trunks using line finder and trunk finder test set SD-31456-01 or SD-31524-01 in step-by-step offices. It also covers trunk finder tests in those community dial offices where the finders are of the newer type, with the test jack located on the switch.

1.02 This section is reissued to incorporate material from the addendum in its proper location. In this process marginal arrows have been omitted.

1.03 The tests covered are:

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

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

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.

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.

E. Trunk Finder B, C, and F Relay Test: This test checks operating features of trunk finders and checks the B and F relays for nonoperate requirements and C relays for hold and release requirements.

F. Normal Post Spring Operation Test: This test checks that the normal post springs are operating satisfactorily on specified levels and not operating on the level above or below these levels.

G. Make Busy From Circuit Beyond: This test checks the sleeve circuit through the trunk finder, in normal position, to the trunk finder D relay.

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 Tests A, B, or D.

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 110 and 10 are permanently wired to jacks A and B, respectively, on the trunk finder frame.

1.05 Test A is used where the outgoing trunk from the trunk finder is arranged to signal the operator when battery or ringing current is connected to the tip and ring of the trunk. This trunk circuit then returns a ground on the sleeve to hold the trunk finder before the operator answers.

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 to provide a ground, as soon as the trunk is seized, to hold the trunk finder and are also arranged to signal the operator after a short interval if it fails to do so during the ringing interval of the ringing cycle. This test simulates a trouble-intercepted call.

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 vacant intercepted connector terminal and dialing of this terminal from an office telephone, or by means of a dial hand test set. In order to test all trunk finders in a group, it is necessary to busy out each finder 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. This test should preferably be made during periods of light traffic.

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.

1.09 Test E assumes that test set SD-31456-01 is equipped with "A" wiring and apparatus and that test set SD-31524-01 is equipped with "ZB" wiring. It also assumes that both test sets are equipped with a BF NO key. This test requires the use of the PL 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.

1.10 Test H is intended to supplement Test A, B, or D for trunk finders in position 2, 12, or 22 and provides a means of testing the operation of the E relay of these trunk finders on a marginal basis.

1.11 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.

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

1.13 In performing these tests, service may be adversely affected by possible dial tone delays or denial of service, as in Test C.

1.14 Lettered Steps: A letter a, b, c, etc, added to a step number in Parts 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 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.

1.15 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 the following list. The details for each item are covered in the indicated paragraphs.

Apparatus	No. Required for Test A	B	C	D	E	F	G	H
Test set (2.02)	1	1		1	1			1
Patching cord (2.03)	3	3		3	3			
Patching cord (2.04)	1	1		1	1			1
Patching Cord (2.05)	1	1		1	1			1
Test set (2.06)	1	1		1	1			1
Head telephone set (2.07)	1	1						
W1U cord		1						
Test plug (2.08)		1						
No. 258C (dummy) plug			*					
Hand test set (2.09)			1					
No. 477A (or 375A) make-busy tool				1				
Testing cord (2.10)					1			
Special test cord (2.11)						1		
No. 38B lamp socket equipped with a 2Y lamp						1		
Test receiver (2.12)							1	
Patching cord (2.13)								1
Patching cord (2.14)								1

*As required

2.02 Trunk finder test set J34715A (SD-31456-01) or J34718A (SD-31524-01).

2.03 P3E cord, 10 feet long, equipped with No. 310 plugs (3P6F cord) for connecting the test set to the test jack, when the test jack is not located on the trunk finder. Also used for connecting the test set to the test line jacks.

Note: Only two required when testing 50- or 100-point trunk finders.

2.04 P3AA cord, 10 feet long, equipped with one No. 310 plug and a No. 240A plug (3P30A cord). The No. 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 the test jack when the test jack is located on the trunk finder).

2.05 P3K cord, 12 feet long, equipped with No. 310 plugs (3P15B cord) (for use in connecting battery supply to test set).

2.06 No. 40B (or 40A) test set (remote control) (for use with test set SD-31456-01 only).

2.07 52A head telephone set (associated with test set).

2.08 No. 310 plug with tip and ring elements short-circuited (for use where outgoing trunks are equipped with a T1 jack).

2.09 No. 1011G dial hand test set (or equivalent), equipped with a No. 2W39A cord assembly.

2.10 W3AJ cord, 12 feet long, equipped with a No. 310 black shell plug and a No. 620A tool. The red (sleeve) conductor is connected to the terminal of the No. 620A tool located on the same side as the code marking on the tool. The white (tip) conductor is connected to the other terminal and the blue (ring) conductor is cut off at the body of the cord. The modified Frankel clip on the cord is provided to clip on the bank rod to take the weight off the No. 620A tool when inserted in the bank.

2.11 Test cord, shown in Fig. 1, to be made up locally consisting of one No. 92A key, one No. 893 cord (1W13B cord) with one No. 360 tool removed, one W1W cord (1W7A cord) with the No. 59 cord tip removed, one W1B cord (1W5B cord) with the KS-6780 clip removed and one No. 411A tool (for connecting ground to A relay, and to the commutator segment of the trunk finder).

2.12 No. 716E receiver attached to a W2AB cord, 6 feet long, equipped with two No. 360A tools (2W21A cord), a No. 411A tool and a KS-6278 (connecting clip) tool.

2.13 W3M cord, equipped with a No. 310 plug and three No. 360 tools (3W4B cord). A W2W cord, 6 feet long, equipped with a No. 310 plug and two No. 360 tools (2W17A cord). A No. 893 cord, 6 feet long, with a No. 360 tool at each end (1W13B cord). One No. 419A tool and three No. 141 cord tips. Connect as shown in Fig. 2 (for connecting test set to A relay and commutator segment of trunk finder, when the test jack is not located on trunk finder).

2.14 W3M cord, 15 feet long, equipped with a No. 310 plug and three No. 360 tools (3W4B cord) and two No. 419A tools. Connect a No. 419A tool to the No. 360A (sleeve) tool and the other No. 419A tool to the No. 360B (ring) tool (for connecting the test set to the A relay and commutator segment of the trunk finder, where the test jack is located on the trunk finder).

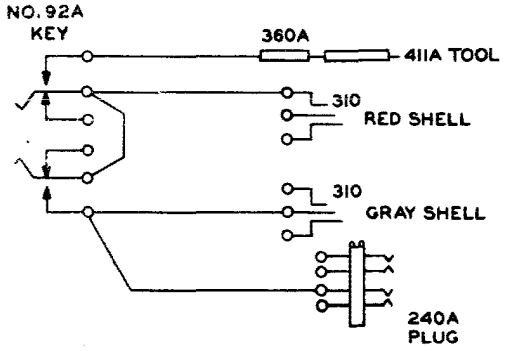

Fig. 1

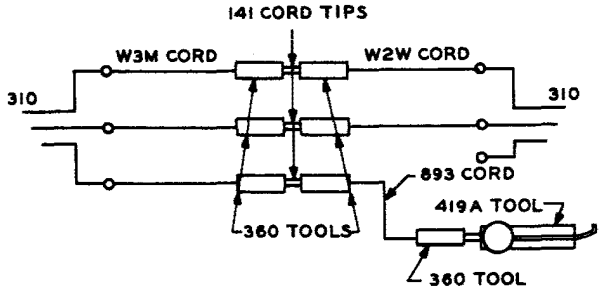

Fig. 2

3. PREPARATION

STEP	ACTION	VERIFICATION
	Tests A, B, D, E, and H	
1	Connect BAT G jack to 48-volt battery supply jack using P3K cord Note: To avoid possible grounding of battery supply lead, connect cord to test set first and, when disconnecting, remove from test set last.	
2	Operate TRS and INT TF keys	
3a	If using remote control feature of test set SD-31456-01 - Insert remote control red, gray, and black plugs into jacks R, G, and BL, respectively Operate RC and RP keys	
4b	If remote control feature is not used - Leave RC and RP keys in normal position	
	Tests A, B, D, and E	
	For 50- or 100-point Trunk Finders	
5	Connect test set jack A to test line jack A using P3E cord	
	For 200-point Trunk Finders	
6	Connect test set jacks A and B to test line jacks A and B, respectively, using P3E cords Note: Connections to the A and B test line jacks shall 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.	
	Tests A and B	
7	Connect head telephone set to TEL jacks	
	Test E	
8	Insert plug of W3AJ cord (equipped with No. 620A tool) into PL jack	
	Test F	
9	Insert red shelled plug of special test cord shown in Fig. 1 into 48-volt battery supply jack	
	Test H	
10c	If test jack is not located on trunk finder - Insert No. 310 plug of W3M cord, Fig. 2, into LF jack	
11d	If test jack is located on trunk finder - Insert plug of 15 foot W3M cord into LF jack	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Trunk Finder Operation Test - Outgoing Trunk Returns Ground on Sleeve Before Operator Answers	
8c	If test jack is not located on trunk finder - Connect LF jack to trunk finder test jack using P3E cord	
9d	If test jack is located on trunk finder - Connect LF jack to trunk finder test jack using P3AA cord	
	Test Set SD-31456-01 With Remote Control	
10	With trunk finder normal - Momentarily depress ST (No. 1) key	ST lamp lighted Trunk finder operates smoothly and stops on test line terminal Operator answers REV lamp may light, but disregard
11	Advise operator of test Note: If toll identification tone is provided in the outgoing trunk or operators cord circuit, verify with the operator that "high" tone was heard before she operated the tone removal or flashing key. The REV lamp may light at this time, but disregard it.	
12	Request operator to disconnect from trunk jack	
13	Depress RLS (No. 3) key momentarily	ST lamp extinguished Trunk finder releases
	Test Set SD-31456-01 With Test Set Control	
14	With trunk finder normal - Operate RP key	ST lamp lighted Trunk finder operates smoothly and stops on test line terminals Operator answers REV lamp may light, but disregard
15	Advise operator of test (see note, Step 11)	
16	Request operator to disconnect from trunk jack	
17	Restore RP key	ST lamp extinguished Trunk finder releases
	Test Set SD-31524-01	
18	With trunk finder normal - Operate LP key	Trunk finder operates smoothly and stops on test line terminals Operator answers R lamp may light, but disregard
19	Advise operator of test (see note, Step 11)	
20	Request operator to disconnect from trunk jack	
21	Restore LP key	Trunk finder releases

STEP	ACTION	VERIFICATION
All Test Sets		
22	Remove plug from trunk finder test jack	
23	Repeat Steps 8c through 22 on remaining switches	
24	Remove all remaining cords unless other tests are to be made	
	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	
8c	If test jack is not located on trunk finder - Connect LF jack to trunk finder test jack using P3E cord	
9d	If test jack is located on trunk finder - Connect LF jack to trunk finder test jack using P3AA cord	
10	With trunk finder normal - Connect together the S and A terminals at the trunk finder terminal strip, using a W1U cord	
	Note: If outgoing trunks are located near trunk finders and are equipped with a T1 jack, the S and A terminals may be connected together by inserting the No. 310 plug, with tip and ring elements short circuited, into T1 jack.	
	Note: In Steps 11, 15, and 19, ringing induction may not be heard if operator answers in less than 4 seconds.	
Test Set SD-31456-01 With Remote Control		
11	With trunk finder normal - Depress ST (No. 1) key momentarily	ST lamp lighted Trunk finder operates smoothly and stops on test line terminals After 5 to 10 seconds, ringing induction heard Operator answers REV lamp may light, but disregard
12	Advise operator of test	
	Note: If toll identification tone is provided in the outgoing trunk or operators cord circuit, verify with operator that "high" tone was heard before she operated the tone removal or flashing key. REV lamp may light at this time, but disregard.	
13	Request operator to disconnect cord from trunk jack	
14	Depress RLS (No. 3) key momentarily	ST lamp extinguished Trunk finder releases

STEP	ACTION	VERIFICATION
	Test Set SD-31456-01 With Test Set Control	
15	With trunk finder normal - Operate RP key	ST lamp lighted Trunk finder operates smoothly and stops on test line terminals After 5 to 10 seconds, ringing induction heard Operator answers REV lamp may light, but disregard
16	Advise operator of test (see note, Step 12)	
17	Request operator to disconnect cord from trunk jack	
18	Restore RP key	ST lamp extinguished Trunk finder releases
	Test Set SD-31524-01	
19	With trunk finder normal - Operate LP key	Trunk finder operates smoothly and stops on test line terminals After 5 to 10 seconds, ringing induction heard Operator answers R lamp may light, but disregard
20	Advise operator of test (see note, Step 12)	
21	Request operator to disconnect cord from trunk jack	
22	Restore LP key	Trunk finder releases
	All Test Sets	
23	Remove plug from trunk finder test jack	
24	Repeat Steps 8c through 23 on all remaining switches	
25	Remove all remaining cords unless other tests are to be made	

C. Trunk Finder Operation Test - Outgoing Trunk Returns Ground on Sleeve After Operator Answers - Trouble-intercepting Feature Not Provided

1a	If dial handset is available - Insert No. 240A plug of handset into test jack of an idle local connector or local test jack of an idle combination connector Operate switch of handset to TALK position	
2a	Dial a vacant intercepted connector terminal connected to a trunk in trunk finder group under test	Ringing induction heard in most cases Operator answers
3b	If dial handset is not available, an office telephone may be used - Dial a vacant intercepted connector terminal connected to a trunk in trunk finder group under test	Audible ringing heard in most cases Operator answers
4	Advise operator that test is being made	
5	Verify with operator that call was received on the regular intercepting answering jack and that no tone (toll identification) was heard when she answered	

STEP	ACTION	VERIFICATION
6	Request operator to disconnect from trunk jack	
7c	If test jack is not located on trunk finder - Insert a No. 258C plug into test jack of trunk finder under test to make it busy and to permit directing the next call to next idle trunk finder	
8d	If test jack is located on trunk finder - Operate MB key of trunk finder under test	
9	Replace receiver on switchhook of office telephone or operate switch of hand test set to MON position	
10	Repeat Steps 1a through 9, inclusive, on all trunk finders to be tested	
11	When last trunk finder has been tested - Replace receiver on switchhook of office telephone immediately or operate key of hand test set to MON position	
12	Immediately remove No. 258C plugs from test jacks or restore MB keys of all finders used in test	

D. Rapid Operation Test - Outgoing Trunk Returns Ground on Sleeve After Operator Answers

7c	If test jack is not located on finder - Connect LF jack to trunk finder test jack using P3E cord	
8c	With the trunk finder normal - Insert No. 477A (or No. 375A) make-busy tool into the monitor jack of trunk finder Caution: Do not insert the make-busy tool into the monitor jack of any trunk finder that is off-normal.	
9d	If test jack is located on trunk finder - With trunk finder normal - Connect LF jack to trunk finder test jack using P3AA cord	
10d	Short springs 1 and 2 of trunk finder test jack (or springs 1 and 2 of No. 240A plug) using a KS-6278 (or similar type) connecting clip Caution: Do not short the springs of any trunk finder that is off-normal.	

Test Set SD-31456-01 With Remote Control

11	Momentarily depress ST (No. 1) key	ST lamp lighted Trunk finder operates smoothly and stops on test line terminals REV lamp lighted for a short interval Trunk finder releases
12	Remove tool from monitor jack or connecting clip from test jack	
13	Remove plug from trunk finder test jack	
14	Depress RLS (No. 3) key momentarily	ST lamp extinguished
15	Remove all remaining cords	

STEP	ACTION	VERIFICATION
	Test Set SD-31456-01 With Test Set Control	
16	Operate RP key	ST lamp lighted Trunk finder operates smoothly and stops on test line terminals REV lamp lighted for short interval Trunk finder releases
17	Remove tool from monitor jack or connecting clip from test jack	
18	Remove plug from trunk finder test jack	
19	Restore RP key	ST lamp extinguished
20	Repeat Steps 7c through 19 on remaining switches to be tested	
21	Remove all remaining cords unless other tests are to be made	
	Test Set SD-31524-01	
22	Operate LP key	Trunk finder operates smoothly and stops on test line terminals R lamp lighted for short interval Trunk finder releases
23	Remove tool from monitor jack or connecting clip from test jack	
24	Remove plug from trunk finder test jack	
25	Restore LP key	
26	Repeat Steps 7c through 10d and Steps 22 through 25 on remaining switches	
27	Remove all remaining cords unless other tests are to be made	
	E. Trunk Finder B, C, and F Relay Test	
9c	If test jack is not located on trunk finder - Connect LF jack to trunk finder jack using P3E cord	
10d	If test jack is located on trunk finder - Connect LF jack to trunk finder jack using P3AA cord	
11	Select idle trunk finder other than one under test and make busy or select bank with cleaned terminals, not equipped with trunk finder	
12	Insert No. 620A tool from left side of bank, in same level as test line Select bank where test trunk is in some level between 4 and 9, inclusive, to avoid interference between tool and commutator or designation card	
	Test Set SD-31456-01 With Remote Control	
13	Operate BF NO key and then B key	
14	Move No. 620A tool to select an idle trunk (or pair of trunks for 200-point trunk finders) near middle of bank (see 1.09)	

STEP	ACTION	VERIFICATION
15	Operate and hold RLS (No. 3) key	50- and 100-point Finders TMR lamp not lighted Note: If TMR lamp lights, trunk is busy. Move No. 620A tool until idle trunk is found. 200-point Finders TMR and RMR lamps not lighted Note: If TMR lamp lights, marked trunk is busy. If RMR lamp lights, mate trunk is busy. In either case, move the No. 620A tool until idle pair of trunks is found.
16	Release RLS (No. 3) key	
17	Depress ST (No. 1) key momentarily	ST lamp lighted Trunk finder operates smoothly and stops on terminals to which No. 620A tool is connected Note: Failure of trunk finder to stop indicates that C relay failed to meet hold requirements, or that marked or mate trunk became busy before being seized by trunk finder. To test that marked or mate trunks have not become busy, perform Step 18.
18	Perform this step only when testing whether marked or mate trunk is busy Depress RLS (No. 3) key momentarily	Trunk finder releases TMR and RMR lamps not lighted while RLS key is depressed If either lamp lights - Repeat Steps 14 to 17
19	Depress GRD (No. 2) key momentarily	Trunk finder resumes rotary stepping and stops on test line terminals
20	Depress RLS (No. 3) key momentarily	ST lamp extinguished Trunk finder releases
	Test Set SD-31456-01 With Test Set Control and Test Set SD-31524-01	
21	Move No. 620A tool to select an idle line near middle of bank (see 1.09)	BY or B lamp not lighted
22	With 200-point trunk finders - Remove plug from PL jack and touch tip of plug to sleeve of jack	BY or B lamp not lighted Note: If BY or B lamp lights, mate line is busy, and another pair of lines must be selected.
23	Reinsert plug into PL jack	
24	With trunk finder normal - Operate keys on test set used as follows - SD-31456-01 - BF NO, B, RP SD-31524-01 - BF NO, LK	ST lamp lighted Trunk finder operates smoothly and stops on terminal to which 620A tool is connected. Note: Failure of trunk finder to stop indicates that C relay failed to meet hold requirements or that marked or mate line became busy before being seized by trunk finder. To test that trunks have not become busy, perform Step 25e.

STEP	ACTION	VERIFICATION
25e	Perform this step only when testing whether marked or mate line is busy. Restore keys on test set used as follows - SD-31456-01 - BF NO, B, RP SD-31524-01 - BF NO, LK	Trunk finder releases. Note: If BY or B lamp lights, the marked trunk is busy. If it does not light, and 200 point finders are being tested, remove plug from PL jack and touch tip of plug to sleeve of jack. If BY or B lamp lights, the mate trunk is busy. In either case, select another pair of trunks and repeat Steps 21 through 24.
26f	If testing trunk finders associated with outgoing trunks which return ground on sleeve before operator answers - Operate C key momentarily.	Trunk finder resumes rotary stepping and stops on test line terminals
27f	Restore test set keys as follows - SD-31456-01 - RP SD-31524-01 - LK	ST lamp extinguished Trunk finder releases
28g	If testing trunk finders associated with outgoing trunks which return ground on sleeve after operator answers - Operate C key momentarily.	Trunk finder resumes rotary stepping, stops on test line terminals, and releases.
29g	Restore test set keys as follows - SD-31456-01 - RP SD-31524-01 - LK	ST lamp extinguished
30	Repeat Steps 9c through 29g on remaining trunk finders	
All Test Sets		
31	Unless other tests are to be made - Remove all cords and restore all keys	

F. Normal Post Spring Operation Test

10c	If test jack is not located on trunk finder - Insert gray shelled No. 310 plug of special test cord, Fig. 1, into trunk finder test jack	
11d	If test jack is located on trunk finder - Insert No. 240A plug of special test cord, Fig. 1, into trunk finder test jack	
12	With trunk finder normal - Connect 48-volt battery through the 2Y test lamp to the A terminal at trunk finder terminal strip	
13	Touch No. 411A tool of the special test cord to commutator segment corresponding to level on which normal post springs are adjusted to operate	
14	Depress and hold No. 92A key Note: When testing 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 to proper level, rotates to eleventh rotary step (tenth step on 100-point finders), then releases Test lamp lighted during rotary action of switch
15	Release the 92A key and remove the No. 411A tool from commutator segment	
16	Repeat Steps 13 through 15 for each level on which normal post springs are adjusted to operate	

STEP	ACTION	VERIFICATION
17	Repeat Steps 13 through 15 for each level above and below the operating levels	Test lamp does not light
18	Remove plug from trunk finder test jack	
19	Remove all remaining test cords unless other tests are to be made	

G. Make Busy From Circuit Beyond

Caution: In Steps 1a and 2b, do not apply battery to the jack springs of any trunk finder that is off-normal. If the trunk finder starts to operate at the instant battery is applied, immediately remove the No. 411A tool.

Outgoing Trunk Returns Ground on Sleeve Before Operator Answers

1a	If test jack is not located on trunk finder - Touch 48-volt battery through test receiver to ring spring of trunk finder monitor jack three or four times slowly	Note by sound that D relay operates and releases each time
2b	If test jack is located on trunk finder - Touch 48-volt battery through test receiver to spring No. 1 of trunk finder test jack three or four times slowly	Note by sound that D relay operates and releases each time

Outgoing Trunk Returns Ground on Sleeve After Operator Answers Except on Trouble-intercepted Calls

3	With trunk finder to be tested normal - At trunk finder terminal strip apply ground through test receiver to sleeve (S) terminal three or four times slowly	Note by sound that D relay operates and releases each time

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

12c	If test jack is not located on trunk finder - Insert plug of W2W cord (Fig. 2), into test jack of trunk finder to be tested	
13c	Connect No. 419A tool to a commutator segment on some level other than tenth level	
14d	If test jack is located on trunk finder - Clip No. 419A tool connected to black (ring) conductor of 15 foot W3M cord to contact spring No. 3 of test jack of trunk finder under test	
15d	Clip No. 419A tool connected to red (sleeve) conductor of 15 foot W3M cord to commutator segment on some level other than tenth level	

STEP	ACTION	VERIFICATION
	Test Set SD-31456-01 With Remote Control	
16	With trunk finder normal - Momentarily depress ST (No. 1) key Note: For trunk finders associated with trunks that return ground on the sleeve before the operator answers it will be necessary to release the trunk finder by removing the switch cover and operating the release armature manually.	ST lamp lights Trunk finder steps vertically to level on which No. 419A tool is connected, cuts in, rotates to eleventh rotary step (tenth rotary step in the case of 100-point finders), then releases
17	Remove cord from trunk finder test jack	
18	Momentarily depress RLS (No. 3) key	ST lamp extinguished
	Test Set SD-31456-01 With Test Set Control	
19	With trunk finder normal - Operate RP key (see note, Step 16)	ST lamp lighted Trunk finder steps vertically to level on which No. 419A tool is connected, cuts in, rotates to eleventh rotary step (tenth rotary step in the case of 100-point finders), then releases
20	Remove cord from trunk finder test jack	
21	Restore RP key	ST lamp extinguished
	Test Set SD-31524-01	
22	With trunk finder normal - Operate LP key (see note, Step 16)	Trunk finder steps vertically to level on which No. 419A tool is connected, cuts in, rotates to eleventh rotary step (tenth rotary step in the case of 100-point finders), then releases
23	Remove cord from trunk finder test jack	
24	Restore LP key	
	For All Test Sets	
25	Remove remaining cords and restore all keys	