LINE FINDERS — WITHOUT CONTROL CIRCUIT OPERATION TESTS USING INDIVIDUAL MESSAGE-RATE TYPE TEST SET ES-30417-01 (X61351), SD-31246-01 (J34703A), OR SD-31524-01 (J34718A) AND AUXILIARY TEST SET SD-32173-01 (J34726) STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of testing the operating features of line finders using the individual message-rate type test sets. This section covers tests of 50-, 100-, and 200-point, 3- and 4-wire line finders in step-by-step offices. It also covers line finder tests in community dial offices in which the line finders are of the newer type with the test jack mounted on the switch.

1.02 This section is reissued to revise Tests B and E to include use of LF key added to line finder test set SD-31524-01.

1.03 The tests covered are:

A. Line Finder Operation Test — Coin and Noncoin: This test checks operating features of line finders and the continuity and polarity of the trunks to the selectors or trunk circuits beyond.

B. Line Finder Operation — B, C, and F Relay Test — Coin and Noncoin — Line Finders Arranged for Maximum Sleeve Potential 2.4 volts Negative: This test checks operating features of line finders and continuity and polarity of trunks to the selectors or trunk circuits beyond. It also checks finder B and F relays for nonoperate requirements and C relays for hold and release requirements.

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

D. Test of E Relay of Line Finders in Position 2, 12, or 22: This test checks the operation of the E relay of line finders in position 2, 12, or 22 on a marginal basis, and is intended as a supplement to Tests A, B, and E. 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.

E. Line Finder Operation — B, C, and F Relay Test — Coin and Noncoin — Line Finder Arranged for Maximum Sleeve Potential of 4.3 Volts or 7 Volts Negative: This test checks the operating features of the line finder and the continuity and polarity of the trunk to the selector or trunk circuit beyond. It also checks the B and F finder relays for nonoperate requirements, and C relays for hold and release requirements. This test is intended for use in those offices where line finders are equipped with a simplex battery network on the C relay to increase the maximum allowable sleeve potential to 7 volts negative and finders modified to operate with a maximum sleeve potential of 4.3 volts negative.

1.04 Test E is covered in two parts. The first part is using the auxiliary test set SD-32173-01 and a line finder test set; the second part covers the use of line finder test set SD-31524-01.

1.05 Tests B and E require a spare or nonbusy line circuit, which will be called the "marked line," on the same level and bank as the test line terminal.

(a) In the case of 200-point line finders, the "mate line" is also required; for example, the mate line is 15 if 115 is used as the marked line, or vice versa.

(b) Test B requires a test cord equipped with a 620A tool to connect the marked and mate line sleeve bank terminals to the line finder test set.

(c) Test E requires a test cord equipped with a 620A tool to connect the marked and mate line sleeve bank terminals to the auxiliary test set or to the line finder test set, SD-31524-01.

1.06 When Test B or E is made, it is not necessary to make Test A on the same testing cycle.

1.07 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.

1.08 Action and verification will be required at the called test position.

1.09 Care should be exercised when making these tests, so as not to affect normal traffic adversely.

1.10 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Parts 3 and 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.

1.11 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
Test set (2.02)	1	1		1	1
Head telephone set (2.03)	1	1		1	1
Auxiliary test set (2.04)					1
Patching cord (2.05)	1	1		1	1
Testing cord (2.06)	1	1		1	1
Patching cord (2.07)	*	*			*
Patching cord (2.08)	1	1			1
Patching cord (2.09)	1	1			1
Testing cord (2.10)		1			
No. 477A (make-busy) tools as required			1		
Testing cord (2.11)				1	
Testing cord (2.12)				1	
Testing cord (2.13)					1
Testing cord (2.14)					1

* As required, see 2.07 and Table A.

2.02 Line finder test set, X61351 (ES-30417-01), J34703A (SD-31246-01), or J34718A (SD-31524-01).

2.03 Head telephone set (associated with line finder test set).

2.04 Auxiliary test set, J34726 (SD-32173-01).

2.05 P3K cord, 12 feet long, equipped with 310 plugs (3P15B cord) (for use where battery supply jack is used to supply battery and ground to test set).

2.06 W2M cord, 9 feet long, equipped with a 310 plug, tip, and sleeve connections, and two 59 cord tips (2W12A cord) (for use when battery and ground block, or spare fuse [not to exceed 5 amperes] and frame ground is used to supply battery and ground to test set).

2.07 P3E cord, 10 feet long, equipped with 310 plugs (3P6F cord). See Table A.

TABLE A

P3E CORDS REQUIRED FOR TESTING VARIOUS TYPES OF LINE FINDERS

TEST JACK LOCATION	50- OR 100-POINT LF		200-POINT LF	
	3-WIRE	4-WIRE	3-WIRE	4-WIRE
Not on LF	2	3	3	1
On LF	1	2	2	—

2.08 P6B cord, 11 feet long, equipped with a 310 red-shell plug, a 310 black-shell plug, and two 240B plugs (6P6A cord) (for use with 200-point 4-wire line finders).

Note: It will be necessary to strap the T and R terminals of the 240B plug connected to the 310 black-shell plug.

2.09 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 use where the test jack is located on line finders).

2.10 Test cord, W3AJ cord, 12 feet long, equipped with a 310 black-shell plug and a 620A tool (3W13B cord). A modified Frankel clip attached to cord is provided to clip on bank rod when the 620A tool is inserted into the bank.

2.11 Test cord assembly, shown in Fig. 1, consisting of the following: one W3M cord, 6 feet long, equipped with a 310 plug and one each of 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 a 360A tool at each end (1W13B cord); 419A tool; and three 141 cord tips (for use where test jack is not located on line finder).

2.12 W3W cord, 15 feet long, equipped with a 310 plug, three 360 tools (3W4B cord) and two 419A tools. Connect one 419A tool to

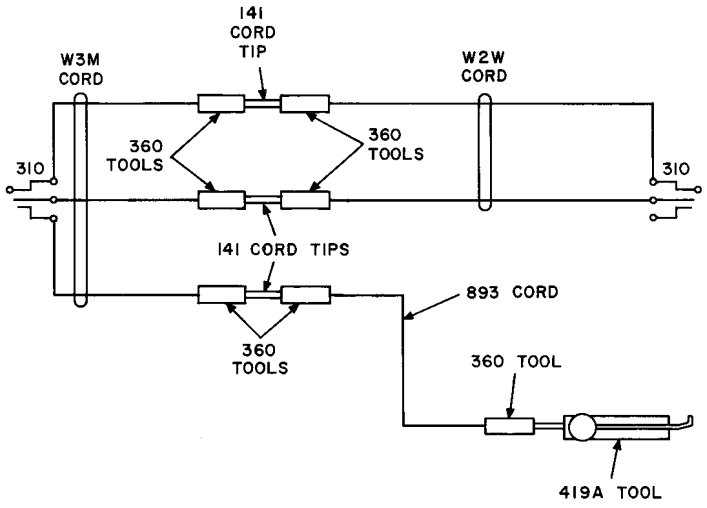

Fig. 1

the 360A (red) sleeve tool and the other 419A tool to the 360B (black) ring tool (for use where the test jack is located on the line finder).

2.13 W1H cord, 10 feet long, equipped with a 347B (or 47B) plug, one 360A tool (1W8A cord). A KS-6278 clip equipped with a 108 or 141 cord tip is required for attachment to the 360A tool.

2.14 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 cord is provided to clip on bank rod when the 620A tool is inserted into the bank.

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3. PREPARATION

STEP	ACTION	VERIFICATION
Tests A, B, D, and E		
1	Patch test set BAT G jack to 48-volt battery supply jack. *Note 1:* To avoid possible grounding of battery supply lead, connect cord to test set first and, when disconnecting, remove cord from test set last. *Note 2:* When using W2M cord, connect red (sleeve) conductor of cord to frame ground and white (tip) conductor to battery. (See Note 1.)	
2	Connect head telephone set to TEL jacks. *Note:* TRS key shall be left in normal position except when necessary to talk on a connection, and TCO key where provided (as in ES-30417-01) shall be operated and left in operated position, except when necessary to talk over a connection.	
Tests A, B, and E		
3a	If the jack is ***not*** located on line finder — Connect P3E cord to LF jack.	
4b	If test jack is located on line finder — Connect 310 plug of P3AA cord to LF jack.	
For 50- or 100-point 3-Wire Line Finders		
5	Connect test set jack A to test line jack A using P3E cord.	

STEP	ACTION	VERIFICATION
	For 50- or 100-Point 4-Wire Line Finders	
6	Connect test set jacks A and B to test line jacks A and B, respectively, using P3E cords.	
	For 200-Point 3-Wire Line Finders	
7	Connect test set jacks A and B to test line jacks A and B, respectively, using P3E cords. *Note:* In Tests A, B, or E, for 200-point 3-wire finders, the connections to test line jacks A and B shall be reversed on each alternate testing cycle, unless otherwise specified, in order to make a complete test of line finder B and F relays.	
	For 200-Point 4-Wire Finders	
8	Connect red-shell and black-shell plugs of P6B cords to test set A and B jacks, respectively. Connect 240B plugs of red and black cords to test line jacks A and B, respectively. *Note:* In Tests A, B, or E, for 200-point 4-wire finders, the connections to test line jacks A and B shall be reversed on each alternate testing cycle, unless otherwise specified, in order to make a complete test of line finder B and F relays.	
	Test B	
9	Insert 310 black-shell plug of W3AJ cord into line finder test set PL jack.	
	Test D	
10a	If test jack is ***not*** located on line finder — Insert plug of 6-foot W3M cord, connected as shown in Fig. 1, into test set LF jack.	
11b	If test jack is located on line finder — Insert plug of 15-foot W3M cord into test set LF jack.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Line Finder Operation Test — Coin and Noncoin	
9c	If using test set ES-30417-01 and wiring has not been changed to make FR key ineffective — Operate FR key.	
10	With line finder normal — Insert free plug of P3E or P3AA cord associated with test set into test jack of line finder.	
11d	If testing flat-rate line groups — Operate LK key.	Line finder operates smoothly, stops on test line terminal. Dial tone heard. R (green) lamp not lighted.
12e	If testing line finders used for concentrating manual lines — Operate LP key.	Line finder operates smoothly, stops on test line terminal. Ringing induction heard. Call answered. *Note:* If call is answered in less than 4 seconds, ringing induction may not be heard.
13e	At switchboard — Disconnect when disconnect signal is received.	
14f	If testing coin line groups — Operate LP key. Momentarily depress C key, if provided.	Line finder operates smoothly, stops on test line terminal. Dial tone heard. R (green) lamp not lighted.
For 3-Wire Line Finders		
15	Dial digit ( ) leading to second selector.	Dial tone removed.
For 4-Wire Line Finders		
16g	If fourth lead is used to operate a message register only — Dial digit ( ) leading to a second selector.	Dial tone removed.
17h	If fourth lead is used for class-of-service indication, identification, or restriction — Dial code ( ) which will direct selector or selectors to proper level or trunk which will simulate service condition.	Note that proper indication is received. *Note:* In some cases it may be necessary to check with the called position, as the indication is not always received by the tester.

STEP	ACTION	VERIFICATION
	For 3- or 4-Wire Line Finders	
18	Restore LP key.	Line finder releases.
19	Remove P3E or P3AA cord from line finder test jack.	
20	Unless other tests are to be made, restore all keys, remove remaining cords.	
	B. Line Finder Operation — B, C, and F Relay Test — Coin and Noncoin — Line Finders Arranged for Maximum Sleeve Potential 2.4 Volts Negative	
10	With line finder normal — Connect free plug of P3E or P3AA cord associated with test set to test jack of line finder.	
11	Select idle line finder other than one under test and make busy, or select bank with cleaned terminals not equipped with line finder.	
	For 50- or 100-Point 3-Wire Line Finders or 200-Point 3- and 4-Wire Line Finders (B Relay)	
12	Insert 620A tool of W3AJ cord from left side of bank into sleeve bank on same level in which test line appears. 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- or 100-Point 4-Wire Line Finders	
13	Insert 620A tool of W3AJ cord from right side of bank into sleeve bank on same level in which test line appears.	
	For 3- or 4-Wire Line Finders	
14	Move tool to select and idle line near middle of bank (marked line, see 1.04).	BY lamp not lighted.
15c	If 200-point line finders are being tested — Remove plug from PL jack, touch tip of plug to sleeve of jack.	BY lamp not lighted. *Note:* If BY lamp lights, it indicates that mate line is busy and another pair of lines must be selected by reinserting plug into PL jack, repeating Steps 14 and 15c.

STEP	ACTION	VERIFICATION
16c	Reinsert plug into PL jack.	
17	With line finder normal — Operate BF NO key, then LK key. *Note:* When using test set ES-30417-01, operate FR key before operating LK key except where wiring has been changed to make FR key ineffective.	Line finder operates smoothly and stops on terminal to which 620A tool is connected. *Note:* Failure of line finder to stop indicates that C relay failed to meet hold requirements or that marked or mate line became busy before being seized by line finder under test. In this event, restore BF NO and LK keys and note that line finder releases. The BY lamp is lighted if marked line is busy. If not lighted, remove plug from PL jack and touch tip of plug to sleeve of jack. Lighted BY lamp indicates busy mate line. In case of either line being busy, it will be necessary to proceed as in Steps 14 through 17.
↱ 18	Operate LF key, if provided, to CH position.	Line finder remains on terminal to which 620A tool is connected. *Note:* Operation of line finder indicates that C relay failed to meet holding requirements.
19d	If testing flat-rate line groups — Depress C key momentarily or operate LF key to CR position, as provided.	Line finder resumes rotary stepping and stops on test line terminals. Dial tone heard. R (green) lamp not lighted.
↳ 20e	If testing line finders used for concentrating manual lines — Depress C key momentarily or operate LF key to CR position, as provided.	Line finder resumes rotary stepping and stops on test line terminals. Ringing induction heard. Call answered. *Note:* If the call is answered in less than 4 seconds, ringing induction may not be heard.
21e	At switchboard — Disconnect when disconnect signal is received, proceed to Step 26.	
→ 22f	If testing coin line groups — Depress C key for about 2 seconds or operate LF key to CR position, as provided.	Line finder resumes rotary stepping, stops on test line terminals. Dial tone heard. R (green) lamp not lighted. *Note:* Dial tone will be heard before key operation if coin trunks are arranged to establish dial tone before deposit of coin.

STEP	ACTION	VERIFICATION
For 3-Wire Line Finders		
23	Dial digit ( ) leading to a second selector.	Dial tone removed.
For 4-Wire Line Finders		
24g	If fourth lead is used to operate message register — Dial code ( ) leading to second selector.	Dial tone removed.
25h	If fourth lead is used for class-of-service indication, identification, or restriction — Dial code ( ) which will direct selector or selectors to proper level or trunk which will simulate service condition.	Note that proper indication is received. *Note:* In some cases it may be necessary to check with called position, as the indication is not always received by the tester.
For 3- or 4-Wire Line Finders		
26	Restore BF NO and LK keys.	Line finder releases.
27c	If 200-point line finders are being tested — Remove 620A tool from line finder bank and reinsert it from the right side of bank (test of F relay), repeat Steps 14 through 22f and Step 26.	
28	Remove P3E or P3AA cord from line finder test jack.	
29	Remove 620A tool from line finder bank.	
30	Unless other tests are to be made, restore all keys, remove remaining cords.	

C. Make Busy From Circuit Beyond

1	Insert 477A (or 375A) tool into line finder monitor jack or test jack springs 1 and 2 in slow succession several times. ***Caution: Do not insert tool into jack of any line finder that is off-normal. If line finder starts to operate at the instant tool is inserted, remove tool immediately.***	Note by sound that D relay operates and releases with each insertion and removal of tool.

D. Test of E Relay of Line Finders in Position 2, 12, or 22

12a	If test jack is ***not*** located on line finder — Insert plug of W2W cord, connected as shown in Fig. 1, into test jack of line finder under test.	

STEP	ACTION	VERIFICATION
13a	Connect 419A tool of 893 cord to segment of commutator on some level other than tenth level.	
14b	If test jack is located on line finder — Clip 419A tool connected to black (ring) conductor of 15-foot W3M cord to contact spring No. 3 of the line finder test jack.	
15b	Clip 419A tool connected to red (sleeve) conductor of cord to commutator segment on some level other than tenth level.	
16	With line finder normal — Operate LP key.	Line finder steps to level on which 419A tool is connected, cuts in and rotates to eleventh rotary step, then releases.
17	Restore LP key.	
18	Remove 419A tool from commutator.	
19	Remove W2W cord plug or 419A tool from line finder test jack.	

E. Line Finder Operation — B, C, and F Relay Test — Coin and Noncoin — Line Finder Arranged for Maximum Sleeve Potential of 4.3 Volts or 7 Volts Negative

Using Auxiliary Test Set SD-32173-01 and a Line Finder Test Set

9	Insert plug of W1H cord into auxiliary test set B jack. Connect clip to frame battery supply or, if line finder test set is so arranged, insert 141 cord tip into battery pin jack of line finder test set.	
10	Insert 310 red-shell plug of W3AJ cord into auxiliary test set TST jack.	
11	With line finder normal — Connect free plug of P3E or P3AA cord associated with test set to test jack of line finder.	
12	Select an idle line finder, other than one under test, and make busy, or select bank with cleaned terminals not equipped with line finder.	
13	Insert 620A tool of W3AJ cord from right side of bank into sleeve bank on same level in which test line appears.	

STEP	ACTION	VERIFICATION
14	Operate auxiliary test set BY key and move tool to select idle pair of lines near middle of bank (see 1.05).	T or B lamp not lighted. *Note:* When either lamp is lighted it indicates that one of the lines is busy and another pair of lines must be selected. Restore BY key and select another pair of lines.
15	Restore BY key.	
16	With line finder normal — Operate auxiliary test set TST key.	
17c	If using test set ES-30417-01 and wiring has not been changed to make FR key ineffective — Operate FR key.	
18	Operate line finder test set LP key.	Line finder operates smoothly, stops on terminal to which 620A tool is connected. *Note:* Failure of line finder to stop indicates that the C relay failed to meet hold requirements, or that the marked or mate line became busy before being seized by line finder under test. In this event, restore LP key and observe that line finder releases. Restore TST key of auxiliary test set and momentarily operate BY key. If marked line or its mate is busy, the T or B lamp will light. If either lamp lights, it will be necessary to select another pair of lines as covered in Step 13 and repeat Steps 14 through 18.
	Auxiliary Test Set with CH-CR Key	
→ 19	Operate and hold auxiliary test set CH key.	Line finder does not step. *Note:* If finder resumes stepping it indicates the C relay failed to hold.
20d	If testing flat-rate line groups — Momentarily operate auxiliary test set CR key.	Line finder resumes rotary stepping, stops on test line terminal. Dial tone heard. R (green) lamp not lighted.
21e	If testing line finders used for concentrating manual lines — Momentarily operate auxiliary test set CR key.	Line finder resumes rotary stepping, stops on test line terminal. Ringing induction heard. Call answered. *Note:* If call is answered in less than 4 seconds, ringing induction may not be heard.

STEP	ACTION	VERIFICATION
22e	At switchboard — Disconnect when disconnect signal is received.	
23f	If testing coin line groups — Momentarily operate auxiliary test set CR key.	Line finder resumes rotary stepping, stops on test line terminal.
24f	Momentarily depress line finder test set C key.	Dial tone heard. R (green) lamp not lighted. *Note:* Dial tone will be heard before C key is depressed if coin trunks are arranged for dial tone before coin deposit.
	Auxiliary Test Set with C Key	
25d	If testing flat-rate line groups — Momentarily operate C key.	Line finder resumes rotary stepping, stops on test line terminal. Dial tone heard. R (green) lamp not lighted.
26e	If testing line finders used for concentrating manual lines — Momentarily operate C key.	Line finder resumes rotary stepping, stops on test terminal. Ringing induction heard. Call answered. *Note:* If call is answered in less than 4 seconds, ringing induction may not be heard.
27e	At switchboard — Disconnect when disconnect signal is received.	
28f	If testing coin line groups — Momentarily operate C key.	Line finder resumes rotary stepping, stops on test line terminal.
29f	Momentarily depress line finder test set C key.	Dial tone heard. R (green) lamp not lighted.
	3-Wire Line Finders	
30	Dial digit ( ) leading to a second selector.	Dial tone removed.
	4-Wire Line Finders	
31g	If fourth lead is used to operate message register — Dial code ( ) leading to second selector.	Dial tone removed.

STEP	ACTION	VERIFICATION
32h	If fourth lead is used for class-of-service indication, identification, or restriction — Dial code ( ) which will direct selector or selectors to proper level or trunk which will simulate service condition.	Proper indication received. *Note:* When necessary, check with called position, as the indication is not always received by the tester.
	3- or 4-Wire Line Finder	
33	Restore auxiliary test set TST key and the line finder test set LP key.	Line finder releases.
34	Remove the P3E or P3AA cord from line finder test jack.	
35	Remove 620A tool from line finder bank.	
36i	If testing 200-point line finders — Remove 620A tool from line finder bank, reinsert it from left side of bank (test of F relay), repeat Steps 14 through 29f, where required, and Step 26.	
37	Unless other tests are to be made, restore all test set keys and remove all test set connections.	
	Using Line Finder Test Set SD-31524-01	
38	Insert 310 black-shell plug of W3AJ cord into line finder test set PL jack.	
39	With line finder normal — Connect free plug of P3E or P3AA cord associated with test set to test jack of line finder.	
40	Select idle line finder other than one under test and make busy, or select bank with cleaned terminals not equipped with line finder.	
	For 50- or 100-Point 3-Wire Line Finders or 200-Point 3- and 4-Wire Line Finders (B Relay)	
41	Insert 620A tool of W3AJ cord from left side of bank into sleeve bank on same level in which test line appears. Select bank where test line is in some level between 4 and 9, inclusive, to avoid interference between tool and commutator or designation card.	

STEP	ACTION	VERIFICATION
	For 50- or 100-Point 4-Wire Line Finders	
42	Insert 620A tool of W3AJ cord from right side of bank into sleeve bank on same level in which test line appears.	
	For 3- and 4-Wire Line Finders	
43	Move tool to select and idle line near middle of bank (marked line, see 1.04).	BY lamp not lighted.
44i	If 200-point line finders are being tested — Remove plug from PL jack, touch tip of plug to sleeve of jack.	BY lamp not lighted. *Note:* If BY lamp lights, it indicates that mate line is busy and another pair of lines must be selected by reinserting plug into PL jack, repeating Steps 43 and 44i.
45i	Reinsert plug into PL jack.	
46	With line finder normal — Operate BF NO key, then LK key.	Line finder operates smoothly and stops on terminal to which 620A tool is connected. *Note:* Failure of line finder to stop indicates that C relay failed to meet hold requirements or that marked or mate line became busy before being seized by line finder under test. In this event, restore BF NO and LK keys and note that line finder releases. The BY lamp is lighted if marked line is busy. If not lighted, remove plug from PL jack and touch tip of plug to sleeve of jack. Lighted BY lamp indicates busy mate line. In case of either line being busy, it will be necessary to proceed as in Steps 43 through 46.
47	Operate LF key to CH position.	Line finder remains on terminal to which 620A tool is connected. *Note:* Operation of line finder indicates C relay failed to meet holding requirements.
48d	If testing flat-rate line groups — Operate LF key to CR position.	Line finder resumes rotary stepping, stops on test line terminals. Dial tone heard. R (green) lamp not lighted. *Note:* If line finder fails to operate, C relay has not met release requirement.

STEP	ACTION	VERIFICATION
49e	If testing line finders used for concentrating manual lines — Operate LF key to CR position.	Line finder resumes rotary stepping, stops on test line terminals. Ringing induction heard. Call answered. *Note:* If the call is answered in less than 4 seconds, ringing induction may not be heard.
50e	At switchboard — Disconnect when disconnect signal is received, proceed to Step 55.	
51f	If testing coin line groups — Depress C key for about 2 seconds.	Line finder resumes rotary stepping, stops on test line terminals. Dial tone heard. R (green) lamp not lighted. *Note:* Dial tone will be heard before depressing C key if coin trunks are arranged to establish dial tone before deposit of coin.
	For 3-Wire Line Finders	
52	Dial digit ( ) leading to a second selector.	Dial tone removed.
	For 4-Wire Line Finders	
53g	If fourth lead is used to operate message register — Dial code ( ) leading to second selector.	Dial tone removed.
54h	If fourth lead is used for class-of-service indication, identification, or restriction — Dial code ( ) which will direct selector or selectors to proper level or trunk which will simulate service condition.	Note that proper indication is received. *Note:* In some cases it may be necessary to check with called position, as the indication is not always received by the tester.
	For 3- or 4-Wire Line Finders	
55	Restore BF NO and LK keys.	Line finder releases.
56i	If 200-point line finders are being tested — Remove 620A tool from line finder bank and reinsert it from the right side of bank (test of F relay), repeat Steps 43 through 51f and Step 55.	
57	Remove P3E or P3AA cord from line finder test jack.	
58	Remove 620A tool from line finder bank.	
59	Unless other tests are to be made, restore all keys, remove remaining cords.	