

TROUBLE AND FUSE ALARMS
MISCELLANEOUS CIRCUITS
OPERATION TESTS
355A COMMUNITY DIAL OFFICES

1. GENERAL

PAGE

1.01 This section describes methods of testing the visual and audible alarms associated with the various miscellaneous equipment and the operational features of the alarm equipment.

E. Ringing Machine Failure Alarm: This test checks the audible and visual features of the ringing machine failure alarm. **6**

1.02 This section is reissued to include all of the latest options. The information in this section has been completely revised. Since this reissue is a general revision, no revision arrows have been used to denote significant changes. The Equipment Test List is not affected.

F. Alarm Checking Terminal Circuit: This test checks the trouble identifying features of the alarm checking terminal circuit and the overriding feature of successive alarms in the order of their importance. This test covers step-by-step local circuits and step-by-step intertoll circuits arranged for CAMA. . **12**

1.03 The tests covered are:

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A. Alarm Timing Circuit: This test checks the accuracy of the 2-minute, the 20-minute, and the 24-second timers of the alarm timing circuit in an office equipped with SD-31844-01 and the 2-minute and 20-minute timers in offices equipped with SD-32192-01. . **3**

G. Alarm Sender or Miscellaneous Alarm Circuit SD-32192-01: This test checks that the various alarms that originate in the step-by-step local circuits and step-by-step intertoll circuits arranged for CAMA are transmitted to a distant office or to a switchboard in the same building when the office is equipped with one of the following circuits:

B. Message Rate Alarm: This test checks the alarm features of the message-rate trunk circuit. . . . **4**

(1) Alarm sender nonlock-in type arranged to transmit alarms over one or two operator office trunks

C. Miscellaneous Relay Rack and Power Board Fuse Alarms: This test checks the audible and visual fuse alarms on the miscellaneous relay racks and the power shelf equipment. . **4**

(2) Alarm sender lock-in type arranged to transmit alarms over one or two operator office trunks

D. Ringing Machine Transfer: This test checks the operating features of the ringing machine transfer circuit when the numbers assigned to the machine for transfer purposes are dialed. . . **6**

(3) Alarm sender or miscellaneous alarm circuit SD-32192-01 arranged to transmit alarms over an extension alarm circuit

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(4) Alarm sender or miscellaneous alarm circuit SD-32192-01 arranged to transmit alarms to switchboard in the same building.	14
H. Verification of Alarm Transfer:	
This test ensures that the alarm equipment transmits an alarm to a distant location from step-by-step local circuits and step-by-step intertoll circuits arranged for CAMA.	17
I. No Voltage Alarm Tests of Superimposed Ringing Supply:	
This test checks the no voltage alarm on the superimposed ringing supply.	18
1.04 Tests for miscellaneous fuse alarm circuits for ANI equipment are covered in Section 227-504-500.	
1.05 Tests G and H require action and verification at the originating and terminating office.	
1.06 Tests of high-low voltage alarms are covered in the section which describes operation of the power plant involved.	
1.07 Tests of cable protective device alarm, cable insulation alarm, and permanent signal alarm circuit per SD-31912-01 are covered in Section 226-802-500. Tests of cable insulation alarm circuit per SD-96348-01 are covered in a separate section.	
1.08 In the various tests where it is necessary to dial a connector terminal or communicate with an operator or another craftsman, either the office telephone or handset shall be used for this purpose.	
1.09 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 or 4 of this section, indicates an action which may or may not be required depending on local conditions. The conditions under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter	

within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

Test A

2.01 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), a KS-6278 connecting clip with jaws insulated by means of a 108 cord tip, and a 419A tool (for use in connecting ground to a relay spring).

2.02 KS-3008 stopwatch (or watch with second hand).

Tests B, E, and F

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

Tests C and I

2.04 Testing cord, W1AF cord, 8 feet 6 inches long, equipped with two 360A tools, a KS-6278 connecting clip, and a 411B tool (cord contains 188-ohm resistor for use in connecting battery to alarm stud or where 70-type fuses are used with 48V supply and connecting ground to no voltage alarm relay).

2.05 226C tool (wire burnisher) held in a 265C tool (contact burnisher holder) (for use where 70-type fuses are used in dc circuits exceeding 52 volts or in ac circuits).

2.06 KS-14510-volt-ohm-milliammeter (or equivalent).

2.07 3-inch C screwdriver (or the replaced 3-inch cabinet screwdriver).

2.08 Test receiver—716C receiver (or equivalent) attached to a W2AB cord equipped with two 360A tools (2W21A cord), a KS-6278 connecting clip, and a 411B tool (for use in checking for the presence of battery).

Tests D, E, F, and G

2.09 477A or 375A (make-busy) tools, as required.

Test E

2.10 KS-2631 screwdriver.

Test G

2.11 1011G dial hand test set (handset) equipped with a W2CL cord, a 471A jack, and a 240A plug (2W39A cord).

STEP	ACTION	VERIFICATION
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3. PREPARATION

Tests B, C, E, F, and I

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|----|---|--------------------------------|
| 1a | If office is equipped with key to prevent signaling distant office—
Operate key. | Associated guard lamp lighted. |
| 2b | If office is not equipped with key to prevent signaling distant office—
Follow local instructions relative to disabling signaling feature. | |

4. METHOD**A. Alarm Timing Circuit**

Offices Equipped With SD-31844-01

2-Minute Timer

- | | | |
|---|-----------------------------------|--|
| 1 | Connect ground to 2T of T3 relay. | Within 2 to 4 minutes—
T3 relay operates. |
| 2 | Remove ground. | Relay restores. |

20-Minute Timer

- | | | |
|---|-----------------------------------|--|
| 3 | Connect ground to 2T of T6 relay. | Within 20 to 30 minutes—
T6 relay operates. |
| 4 | Remove ground. | Relay restores. |

24-Second Timer

- | | | |
|---|-----------------------------------|--|
| 5 | Connect ground to 2B of T9 relay. | Within 24 to 28 seconds—
T9 relay operates. |
| 6 | Remove ground. | Relay restores. |

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STEP	ACTION	VERIFICATION
Offices Equipped with SD-32192-01		
2-Minute Timer		
7	Connect ground to 5T of T3 relay.	Within 2 to 4 minutes— T3 relay operates.
8	Remove ground.	T3 relay restores.
20-Minute Timer		
9	Connect ground to 4T of C relay.	Within 20 to 30 minutes— T6 relay operates.
10	Remove ground.	T6 relay restores.
B. Message Rate Alarm		
3c	If testing trunk circuit SD-32082-01— Block operated A relay.	In proper time— M and aisle pilot lamps lighted, if provided. Audible alarm sounds.
4d	If testing trunk circuits other than SD-32082-01— Block operated A and B relays.	In proper time— MR and aisle pilot lamps lighted, if provided. Audible alarm sounds.
5	Remove blocking tools.	All lamps extinguished. Audible alarm silenced.

C. Miscellaneous Relay Rack and Power Board Fuse Alarms

Note 1: To test the alarm feature of the 70-type fuse blocks, used in 52 volt (maximum) dc circuits, insert the tip of the 411B tool (attached to the W1AF cord) into the aperture of the fuse block cap and touch the alarm lead ring. This will sound the plant alarm.

Note 2: To apply test battery to the alarm bar on 70-type fuse blocks used in ac or dc circuits exceeding 52 volts, insert a 266C tool (wire burnisher) held in a 265C tool (contact burnisher holder) into the aperture of the fuse block cap. Insert the tool far enough to short the collar (sleeve) in the fuse block cap to the fuse body, thus causing plant alarm.

Caution: *If the alarm circuit of the fuse under test should be falsely grounded, severe arcing can result when the tool is inserted. Therefore,*

STEP	ACTION	VERIFICATION
	<p><i>before making an alarm test by this method, test the alarm circuit with a volt-ohmmeter to determine first, that there is no voltage present on the alarm lead ring, and second, that there is at least 200 ohms resistance to ground present on the alarm lead ring for the circuit under test. When shorting fuse parts to cause an alarm, hold burnishing tool cap only.</i></p>	
Individual Circuit Fuse Alarms		
3	At fuse under test, connect battery to alarm stud for the individual circuit fuses.	FA lamp lighted. Floor alarm board lamp lighted. Audible alarm sounds. Aisle pilot lamps light, where provided.
4	Disconnect battery.	All alarm lamps extinguished. Audible alarms silenced.
	<p>Caution: <i>When testing alarm type pilot fuses, every precaution should be taken to avoid accidental grounding of the test equipment, as the battery sides of the alarm type pilot fuses are directly connected to main distributing fuses.</i></p>	
Battery Distributing Fuse Alarms 35-Type Fuses		
5	Remove pilot fuse.	
6	Connect one pilot fuse post to associated alarm stud.	FA lamp lighted. Floor alarm board lamp lighted. Audible alarm sounds. Aisle pilot lamps light, where provided.
7	Remove connection.	All alarm lamps extinguished. Audible alarms silenced.
8	Repeat Steps 6 and 7 using other pilot fuse post.	
9	Replace pilot fuse.	
Battery Distributing Fuse Alarms 70-Type Fuses		
10	Remove pilot fuse.	
11	Test for battery on spring upon which base of fuse normally rests.	Battery present.

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STEP	ACTION	VERIFICATION
12	Test for battery on contact nearest small slot in fuse block.	Battery present.
13	Replace fuse.	
14	Connect battery to alarm lead ring.	FA lamp lighted. Floor alarm board lamp lighted. Audible alarm sounds. Aisle pilot lamps light, where provided.
15	Disconnect battery.	All alarm lamps extinguished. Audible alarms silenced.

D. Ringing Machine Transfer

1a	If office is so arranged that ringing machine does not start until a call is originated— Insert make-busy tool between test jack springs 1 and 2 of an idle first selector.	
2b	If No. 1 ringing machine is not in operation— Dial number () assigned to ringing machine No. 1.	No. 1 machine starts. No. 2 machine stops.
3b	Disconnect, dial number () assigned to ringing machine No. 1.	Busy tone heard in receiver.
4	Disconnect, dial number () assigned to machine No. 2.	No. 2 machine starts. No. 1 machine stops.
5	Disconnect, dial number () assigned to machine No. 2.	Busy tone heard in receiver.
6	Disconnect, dial number () assigned to machine No. 1.	No. 1 machine starts. No. 2 machine stops.
7	Disconnect from dialed number.	
8a	If office is so arranged that ringing machine does not start until a call is originated— Remove make-busy tool from test jack springs of first selector.	

E. Ringing Machine Failure Alarm

3	Remove interrupter spring assembly cover guard from each ringing machine.	
4c	If office is so arranged that ringing machine does not start until call is originated— Insert make-busy tool between test jack springs 1 and 2 of an idle first selector.	

STEP	ACTION	VERIFICATION
5d	If No. 1 ringing machine is not in operation— Dial number () assigned to ringing machine No. 1.	No. 1 machine starts. No. 2 machine stops.
6	Dial number () assigned to alarm checking terminal.	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
	Note 1: Connection to alarm checking terminal should be maintained throughout this test except when directed to disconnect, in order to ensure continuous operation of ringing machine and for verification of alarm signals.	
	Note 2: If transfer circuit is equipped with LV electron tube, perform Steps 7 through 27c; otherwise, perform Steps 28 through 50c.	
Transfer Circuit Equipped With LV Electron Tube (SD-80885-01)		
7	In ringing machine transfer circuit— Remove LV tube from its socket.	No. 2 machine starts. No. 1 machine stops. G1 FAIL lamp lighted. Audible alarm sounds. In short time— RING FAIL lamp lighted. No tone heard in receiver (major alarm).
8	Reinsert LV tube in socket.	RING FAIL lamp extinguished. G1 FAIL lamp remains lighted. Audible alarm continues to sound. Busy tone heard in receiver (minor alarm).
9	When interrupter spring listed in Table A makes contact— Momentarily operate RT1 key.	No. 1 machine starts. No. 2 machine stops. G1 FAIL lamp extinguished. Audible alarm silenced. Code 2 (two short) ringing tone heard in receiver (no alarm condition).

TABLE A

RINGING MACHINE	INTERRUPTER SPRING ASSEMBLY
KS-5546, List 3, 7, or 11	6
KS-5546, List 5	12
KS-5546, List 6	11

Caution: It is important to operate the
RT1 key at the time indicated which is the
pickup interval, since otherwise the code
ringing will be mutilated.

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STEP	ACTION	VERIFICATION
10	Disconnect from alarm checking terminal.	
11	Dial number () assigned to machine No. 2.	No. 2 machine starts. No. 1 machine stops.
12	Disconnect from dialed number.	
13	Dial alarm checking terminal ().	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
14	In ringing machine transfer circuit— Remove LV tube.	No. 1 machine starts. No. 2 machine stops. G2 FAIL lamp lighted. Audible alarm sounds. In short time— RING FAIL lamp lighted. No tone heard in receiver (major alarm).
15	Reinsert LV tube.	RING FAIL lamp extinguished. G2 FAIL lamp remains lighted. Audible alarm continues to sound. Busy tone heard in receiver (minor alarm).
16	When interrupter spring listed in Table A makes contact— Momentarily operate RT2 key.	No. 2 machine starts. No. 1 machine stops. G2 FAIL lamp extinguished. Audible alarm silenced. Code 2 (two short) ringing tone heard in receiver (no alarm condition).
17	At bus bar located on ringing power board— Remove A4 fuse.	No. 1 machine starts. No. 2 machine stops. Busy tone heard in receiver (minor alarm). G2 FAIL lamp lights. Audible alarm sounds.
18	Replace A4 fuse.	G2 FAIL lamp remains lighted.
	Note: In circuit SD-80885-01, the A4 fuse is designated B fuse.	
19	When interrupter spring listed in Table A makes contact— Momentarily operate RT2.	No. 2 machine starts. No. 1 machine stops. Audible alarm silenced. Code 2 (two short) ringing tones heard in receiver (no alarm condition).
20	Disconnect from alarm checking terminal.	
21	Dial number () assigned to machine No. 1.	No. 1 machine starts. No. 2 machine stops.

STEP	ACTION	VERIFICATION
22	Disconnect from dialed number.	
23	Dial alarm checking terminal ().	Code 2 (two long) ringing tone heard in receiver (no alarm condition).
24	At bus bar located on ringing power board— Remove A3 fuse. <i>Note:</i> In circuit SD-80885-01 the A3 fuse is designated A fuse.	No. 2 machine starts. No. 1 machine stops. G1 FAIL lamp lighted. Audible alarm sounds. No tone heard in receiver (major alarm).
25	Replace A3 fuse. <i>Note:</i> In circuit SD-80885-01, the A3 fuse is designated A fuse.	G1 FAIL lamp remains lighted.
26	When interrupter spring listed in Table A makes contact— Momentarily operate RT1 key.	No. 1 machine starts. No. 2 machine stops. G1 FAIL lamp extinguished. Audible alarm silenced. Code 2 (two short) ringing tones heard in receiver (no alarm condition).
27	Disconnect from alarm checking terminal.	
28	Replace cover guards on interrupter spring assembly of each ringing machine.	
29c	If office is so arranged that ringing machine does not start until a call is originated— Remove make-busy tool from test jack springs of first selector.	
Transfer Circuit Not Equipped with LV Electron Tube (SD-80780-01)		
30	In ringing machine transfer circuit— Block nonoperated LV2 relay.	
31	Momentarily release LV1 relay.	No. 2 machine starts. No. 1 machine stops. G1 FAIL lamp lighted. Audible alarm sounds. In short time— RING FAIL lamp lighted. No tone heard in receiver (major alarm).
32	Remove blocking tool from LV2 relay.	RING FAIL lamp extinguished. G1 FAIL lamp remains lighted. Audible alarm continues to sound. Busy tone heard in receiver (minor alarm).

STEP	ACTION	VERIFICATION
33	When interrupter spring listed in Table A makes contact— Momentarily operate RT1 key.	No. 1 machine starts. No. 2 machine stops. G1 FAIL lamp extinguished. Audible alarm silenced. Code 2 (two short) ringing tone heard in receiver (no alarm condition).

TABLE A

RINGING MACHINE	INTERRUPTER SPRING ASSEMBLY
KS-5546, List 3, 7, or 11	6
KS-5546, List 5	12
KS-5546, List 6	11

Caution: It is important to operate key at time indicated which is the pickup interval, since otherwise code ringing will be mutilated.

34	Disconnect from alarm checking terminal.	
35	Dial number () assigned to machine No. 2.	No. 2 machine starts. No. 1 machine stops.
36	Disconnect from dialed number.	
37	Dial alarm checking terminal ().	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
38	In ringing machine transfer circuit— Block nonoperated LV1 relay.	
39	Momentarily release LV2 relay.	No. 1 machine starts. No. 2 machine stops. G2 FAIL lamp lighted. Audible alarm sounds. In short time— RING FAIL lamp lighted. No tone heard in receiver (major alarm).
40	Remove blocking tool from LV1 relay.	RING FAIL lamp extinguished. G2 FAIL lamp remains lighted. Audible alarm continues to sound. Busy tone heard in receiver (minor alarm).
41	When interrupter spring listed in Table A makes contact— Momentarily operate RT2 key.	No. 2 machine starts. No. 1 machine stops. G2 FAIL lamp extinguished. Audible alarm silenced.

STEP	ACTION	VERIFICATION
		Code 2 (two short ringing tone heard in receiver (no alarm condition).
42	At bus bar located on ringing power board— Remove A4 fuse.	No. 1 machine starts. No. 2 machine stops. Audible alarm sounds. Busy tone heard in receiver (minor alarm). G2 FAIL lamp lighted. Audible alarm sounds.
43	Replace A4 fuse.	G2 FAIL lamp remains lighted.
44	When interrupter spring listed in Table A makes contact— Momentarily operate RT2 key.	No. 2 machine starts. No. 1 machine stops. Audible alarm silenced. Code 2 (two short) ringing tones heard in receiver (no alarm condition). G2 FAIL lamp extinguished.
45	Disconnect from alarm checking terminal.	
46	Dial number () assigned to machine No. 1.	No. 1 machine starts. No. 2 machine stops.
47	Disconnect from dialed number.	
48	Dial alarm checking terminal ().	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
49	At bus bar located on ringing power board— Remove A3 fuse.	No. 2 machine starts. No. 1 machine stops. G1 FAIL lamp lighted. Audible alarm sounds. No tone heard in receiver (major alarm).
50	Replace A3 fuse.	G1 FAIL lamp remains lighted.
51	When interrupter spring listed in Table A makes contact— Momentarily operate RT1 key.	No. 1 machine starts. No. 2 machine stops. G1 FAIL lamp extinguished. Audible alarm silenced. Code 2 (two short) ringing tones heard in receiver (no alarm condition).
52	Disconnect from alarm checking terminal.	
53	Replace cover guards on interrupter spring assembly of each ringing machine.	
54c	If ringing machine does not start until call is originated—	

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STEP	ACTION	VERIFICATION
	Remove make-busy tool from test jack springs of first selector.	
F. Alarm Checking Terminal Circuit		
Offices Equipped with SD-32192-01		
3	Retire existing alarms in approved manner (except permanent signal alarms).	
4	Block nonoperated D relay.	
5	Dial number () assigned to alarm checking terminal.	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
	Note: If alarm checking terminal is reached through terminal-per-line connector arranged to cut through without station digit, do not dial station digit.	
6	Remove blocking tool from D relay.	
7c	If individual permanent signal alarm feature is provided— If no permanent signal alarm is in existence— Block operated D relay.	Tone heard in receiver changes to code 1 (one long) ringing tone.
8	Originate minor step-by-step (non-CAMA) alarm by blocking operated MN relay.	Tone heard in receiver changes to busy tone.
9d	If alarms for step-by-step intertoll with CAMA are provided— Originate CAMA minor alarm by blocking operated CMN relay in CAMA alarm circuit.	Tone heard in receiver changes to high tone interrupted at 120 ipm.
10e	If cumulative cable protective device permanent signal and low insulation alarm feature SD-31912-01, or cable insulation alarm feature SD-96348-01 is provided— Without retiring alarm originated in Step 8 or 9d— Block operated MP relay.	Tone heard in receiver changes to dial tone.
11d	If alarms for step-by-step intertoll with CAMA are provided— Originate CAMA major alarm by blocking operated CMJ relay in CAMA alarm circuit.	Tone heard in receiver changes to steady high tone.
12	Without retiring alarms originated in Steps 8, 9d, 10e, or 11d— Originate major step-by-step alarm by blocking operated MJ relay.	Tone heard in receiver changes to no tone (major step-by-step alarm).

STEP	ACTION	VERIFICATION
13	Retire all alarms.	
14	Remove blocking tools from D, MN, CMN, MP, CMJ, and MJ relays.	Indication heard in receiver changes from no tone to code 2 (two short) ringing tones (no alarm condition).
15	Disconnect from alarm checking terminal.	
Offices Equipped with SD-31980-01		
16	Retire existing alarms in approved manner (except permanent signal alarms).	
17	Block nonoperated B relay.	
18	Dial number () assigned to alarm checking terminal.	Code 2 (two short) ringing tone heard in receiver (no alarm condition).
	Note: If alarm checking terminal is reached through terminal-per-line connector arranged to cut through without station digit, do not dial station digit.	
19	Remove blocking tool from B relay.	
20c	If individual permanent signal alarm feature is provided— If no permanent signal alarm is in existence— Block operated B relay.	Tone heard in receiver changes to code 1 (one long) ringing tone.
21	Originate minor step-by-step (non-CAMA) alarm by blocking operated M1 relay.	Tone heard in receiver changes to busy tone.
22d	If alarms for step-by-step intertoll with CAMA are provided— Originate CAMA minor alarm by blocking operated CMN relay in CAMA alarm circuit.	Tone heard in receiver changes to high tone interrupted at 120 ipm.
23e	If cumulative cable protective device permanent signal and low insulation alarm feature SD-31912-01, or cable insulation alarm feature SD-96348-01 is provided— Without retiring alarm originated in Step 8 and 9d— Block operated S relay.	Tone heard in receiver changes to dial tone.
24d	If alarms for step-by-step intertoll with CAMA are provided— Originate CAMA major alarm by blocking operated CMJ relay in CAMA alarm circuit.	Tone heard in receiver changes to steady high tone.

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STEP	ACTION	VERIFICATION
25	Without retiring alarms originated in Steps 21, 22d, 23e, or 24d— Originate major step-by-step alarm by blocking operated E1 relay.	Tone heard in receiver changes to no tone (major step-by-step alarm).
26	Retire all alarms.	
27	Remove blocking tools from B, M1, CMN, S, CMJ, and E1 relays.	Indication heard in receiver changes from no tone to code 2 (two short) ringing tone (no alarm condition).
28	Disconnect from alarm checking terminal.	

G. Alarm Sender or Miscellaneous Alarm Circuit (SD-32192-01)

Note: The action and verification in this test is performed at the originating office unless otherwise indicated.

Alarm Sender—Nonlock-In Type Arranged to Transmit Alarms Over One or Two Operator Office Trunks

1	Originate minor alarm.	At switchboard location— Trunk lamp lighted.
2	At switchboard location— Answer trunk as if indication were regular call.	At switchboard location— Trunk lamp extinguished.
3	At switchboard location— Disconnect from trunk.	At switchboard location— Trunk lamp does not relight.
4a	If two office operator trunks are associated with alarm sender— Make first trunk busy.	
5a	Repeat Steps 2 and 3 on second trunk.	
6	Retire minor alarm.	

Alarm Sender—Lock-In Type Arranged to Transmit Alarms Over One or Two Operator Office Trunks

7	Originate minor alarm.	At switchboard location— Trunk lamp lighted.
8	At switchboard location— Answer trunk as if indication were regular call.	At switchboard location— Trunk lamp extinguished.

STEP	ACTION	VERIFICATION
9	At switchboard location— Momentarily remove plug of answering cord from trunk.	At switchboard location— Trunk lamp lights while plug is removed.
10	Dial number () assigned to alarm checking terminal circuit.	Busy tone heard in receiver (minor alarm). Trunk lamp lighted at switchboard location.
11	Disconnect from alarm checking terminal circuit.	
12	At switchboard location— Disconnect from trunk.	At switchboard location— Trunk lamp remains extinguished.
13a	If two office operator trunks are associated with alarm sender— Make first trunk busy.	
14a	Repeat Steps 8 through 12 on second trunk.	
15	Retire minor alarm.	

**Alarm Sender or Miscellaneous Alarm Circuit
(SD-32192-01) Arranged to Transmit Alarms Over
an Extension Alarm Circuit**

16	Retire all alarms in approved manner.	
	<i>Note:</i> Where individual selector permanent signal and connector disconnect alarms are not transmitted to distant office, they need not be retired.	
17	Operate alarm transfer keys (where provided) to normal position.	Associated guard lamp extinguished. At distant office— No alarms received.
	<i>Note:</i> It may be necessary at distant office to operate and release DA key to retire any residual alarm indications.	
18	Originate minor alarm.	At distant office— Minor alarm lamp lighted. Audible alarm sounds.
19	Without retiring minor alarm originated in Step 18— At distant office— Operate and release DA key.	At distant office— Minor alarm lamp remains lighted. Audible alarm silenced.
20	Without retiring minor alarm originated in Step 18—	At distant office— Major alarm lamp lighted.

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STEP	ACTION	VERIFICATION
	Originate major alarm.	Minor alarm lamp extinguished. Audible alarm sounds.
21	At distant office— Extend alarm from alarm cabinet, using appropriate associated switching facilities, successively to each available alarm receiving location. <i>Note:</i> It will be necessary in these tests at distant office alarm cabinet to verify alarm indications appearing at other locations through assistance of attendants at these locations.	Major alarm indication received at each extended location.
22	At distant office— Restore switching transfer key (or keys).	At distant office— Major alarm retired at extended location. Major alarm still received at alarm cabinet.
23	At distant office— Operate and release DA key.	At distant office— Major alarm lamp remains lighted. Audible alarm silenced.
24	Without retiring minor alarm originated in Step 18— Retire major alarm originated in Step 20.	At distant office— Major alarm lamp extinguished. Minor alarm lamp lighted. Audible alarm sounds.
25	At distant office— Extend alarm from alarm cabinet, using appropriate associated switching facilities, successively to each available alarm receiving location.	Minor alarm indication received at each extended location.
26	At distant office— Restore switching transfer key (or keys).	Minor alarm retired at extended locations. Minor alarm still received at alarm cabinet.
27	At distant office— Operate and release DA key.	At distant office— Minor alarm lamp remains lighted. Audible alarm silenced.
28	Retire minor alarm originated in Step 18.	At distant office— SUPV lamp lighted. Minor alarm lamp extinguished. Audible alarm sounds.
29	At distant office— Operate and release DA key.	At distant office— SUPV lamp extinguished. Audible alarm silenced.
30	Restore alarm transfer keys to position where alarms are no longer extended.	Associated guard lamp lighted. At distant office—

STEP	ACTION	VERIFICATION
		Normal OK or trouble guard indication for particular alarm circuit under test is received.
Alarm Sender or Miscellaneous Alarm Circuit (SD-32192-01) Arranged to Transmit Alarms to a Switchboard in the Same Building		
31	Retire all alarms in approved manner.	
	<i>Note:</i> Where individual selector permanent signal and connector disconnect alarms are not transmitted, they need not be retired.	
32	Operate keys to transfer alarms to switchboard.	Associated guard lamp extinguished, if provided.
33	Originate minor alarm.	At switchboard location— Minor alarm indication received. Audible alarm sounds, if provided.
	<i>Note:</i> The minor and major alarms, in some cases, may be extended to same trunk lamp and jack appearance at switchboard. Where the alarms are so arranged, it will be necessary to dial alarm checking terminal to determine the class of alarm.	
34	At switchboard location— Insert answering cord into trunk answering jack.	At switchboard location— Line signal extinguished. Cord lamp does not light. Audible alarm silenced.
35	Retire alarm.	At switchboard location— Cord lamp lighted.
36	At switchboard location— Remove answering cord from trunk jack.	
37	Originate major alarm.	At switchboard location— Major alarm indication received. Audible alarm sounds.
38	Repeat Steps 34, 35, and 36.	
39	Restore alarm transfer keys to position where alarms are no longer extended.	Associated guard lamp lighted, if provided.
H. Verification of Alarm Transfer		
1	Determine that alarm transfer keys are in a position to extend alarms to distant office.	Associated guard lamp extinguished, if provided.
2	Originate minor alarm.	At distant location— Minor alarm indication received.

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STEP	ACTION	VERIFICATION
3	Retire minor alarm.	At distant location— Minor alarm indication retired.
4	Originate major alarm.	At distant location— Major alarm indication received.
5	Retire major alarm.	At distant location— Major alarm indication retired.
I. No Voltage Alarm Tests of Superimposed Ringing Supply		
3	Momentarily apply ground to the 1M winding of the positive superimposed no voltage alarm relay.	Audible alarm is sounded. Superimposed ringing alarm lamp and aisle pilot lamp (if provided) are lighted.
4	Momentarily apply ground to the 1M winding of the negative superimposed no voltage alarm relay.	Audible alarm is sounded. Superimposed ringing alarm lamp and aisle pilot lamp (if provided) are lighted.