EMERGENCY LINE CIRCUIT SD-32313-01
OPERATION TESTS
USING DIAL HAND TEST SET
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of testing the emergency line circuit SD-32313-01 in No. 1, 350A step-by-step offices and No. 355A or 35-E-97 community dial offices.

1.02 The tests covered are:

A. Manual Originating and Incoming Calls: This test checks that the transfer feature from the distant office is operative. It also checks that the customer can obtain manual service during periods of emergency and checks the supervisory features.

B. Dial Incoming Calls: This test checks that a call can be completed to the dial customer when the emergency line circuit is in the transferred condition. It checks that a busy condition is given to a calling customer when the subscriber line associated with the emergency line circuit is busy on a call to or from the switchboard.

C. Monitoring by Operator: This test checks that an operator at the distant toll or DSA switchboard can monitor on an established dial call under the transferred condition.

1.03 These tests will require action and verification at the distant DSA or toll switchboard, at the emergency transfer circuit, and at the local office.

1.04 ***Caution should be exercised when making these tests, since the traffic handling capabilities will be affected.***

1.05 While performing these tests, any customer line on which service cannot be denied should be given emergency service in accordance with local practice.

1.06 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 3 or 4 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps goverened 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.

1.07 Local instructions should be followed with respect to advising the traffic operating forces of the tests being made on this equipment.

2. APPARATUS

All Tests

2.01 258C (make busy) plugs, as required.

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

2.03 1011G handset (dial hand test set) equipped with a 2W41A cord assembly consisting of a W2CJ cord, a 417A jack, a 360A and a 360B tool, and two 624B tools (for use in connecting to unit terminal strip).

Test A

2.04 411A (test pick) tool (for checking energized relays).

2.05 Two testing cords, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two 419A tools (one used at distant office).

Tests B and C

2.06 1011G handset (dial hand test set), equipped with a 2W39A cord, consisting of a W2CL cord, a 471A jack, and a 240A plug (for use when dialing at connector).

3. PREPARATION

All Tests

STEP	ACTION	VERIFICATION
1	Consult office records for the following. (a) Association of customer lines with emergency line circuit equipment. (b) Local cable pair information for customer line associated with trunk to be tested. (c) Outgoing trunks involved if working trunk conductors are used in establishing emergency service, special service or recording completing trunks ("Y" option), and intercept or information trunks ("Z" option). (d) PBX trunks requiring ground removed from tip ("V" option)	
2	Advise customer associated with emergency line circuit to be tested of time tests are to be made in accordance with local instructions.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Manual Originating and Incoming Calls	
3	At trunk circuit associated with emergency line circuit under test — Verify that trunk is idle, make busy in prescribed manner.	
4	At emergency line circuit — Block nonoperated all A relays associated with group of emergency line circuits being tested.	
5	At distant office — At emergency transfer circuit SD-96517-01 — Block nonoperated T relay, all TA relays, if provided.	
6	Operate TR AUX key.	TR AUX lamp lighted.
7	Using 411A tool, verify that T, TA relay windings are energized.	
8	Restore TR AUX key.	TR AUX lamp extinguished. T, TA relays not energized.

STEP	ACTION	VERIFICATION
9	At distant office— At emergency transfer circuit SD-96517-01 — Short 21M contact to 21 stationary of T relay.	At emergency line circuit — B relay operated. Associated A relays energized.
10	At distant office — Block operated TR relay associated with trunk under test.	
11	At emergency line circuit under test — With handset switch in MON position — Connect handset to terminals 15 (T), 25 (R) of unit terminal strip A.	Ringing, conversation, dial tone not heard. ***Note:*** Should line test busy, or an attempt to use line occur, discontinue test until line is idle.
12	Operate handset switch to TALK position.	Dial tone heard. Customer line idle.
13	Operate handset switch to MON position.	Dial tone silenced.
14a	If emergency line circuit is provided with "Z" option — Short one pair of make contacts on A relay corresponding to emergency line circuit being tested.	T relay operated.
15b	If emergency line circuit is provided with "Y" option — Short pair of make contacts on A relay corresponding to emergency line being tested.	T relay not operated.
16b	Insulate 12M contact of S relay.	T relay operated.
17c	If customer line is PBX trunk requiring ground removed from tip — Apply ground to tip side of customer line at terminal strip.	
18	Operate handset switch to TALK position.	At distant office — Call answered at switchboard. Cord supervisory lamp not lighted.
19	At emergency line circuit — Operate handset switch several times from TALK to MON position.	At switchboard — Cord supervisory lamp flashes in response.
20	At distributing frame — Remove heat coils from customer line.	
21	At emergency line circuit — Operate handset switch to MON position.	At distant office — Switchboard cord supervisory lamp lighted.
22	At distant office — Operate ringing key.	At emergency line circuit — Audible ringing heard in receiver.

STEP	ACTION	VERIFICATION
23	At emergency line circuit — Operate handset switch to TALK position.	At distant office — Supervisory lamp extinguished.
24	Operate handset switch to MON position.	Supervisory lamp lighted.
25	At distributing frame — Replace heat coils in subscriber line.	
26	At distant office — Remove short from 21M contact, stationary of T relay.	
27	At emergency line circuit — Remove blocking tools from all A relays.	
28	At distant office — Remove blocking tool from TR relays.	
29	At emergency line circuit — Remove short from make contacts of A relay.	
30c	If customer line is PBX trunk requiring ground removed from tip — Remove ground lead from terminal strip.	
31	Remove insulator from S relay contact.	
32	Disconnect handset from unit terminal strip.	
33	At associated trunk circuit — Remove busy condition.	

B. Dial Incoming Calls

3	At trunk circuit associated with emergency line circuit under test — Verify that trunk is idle, make busy in prescribed manner.	
4	At emergency line circuit under test — With handset switch in MON position — Connect handset to terminals 15(T), 25(R) of unit terminal strip A.	Ringing, conversation, dial tone not heard. ***Note:*** Should line test busy or an attempt to use the line occur, discontinue the test until line is idle.
5	Operate handset switch to TALK position.	Dial tone heard. Customer line idle.
6	At distant office — At emergency line circuit SD-96517-01 — Block operated TR relay associated with trunk under test.	
7	Block operated T relay of emergency line circuit being tested.	Dial tone silenced. At distant switchboard — Talking circuit established.

STEP	ACTION	VERIFICATION
8	Instruct operator to disconnect when disconnect indication is received.	
9	At connector associated with subscriber line under test — With handset switch in TALK position — Connect to test jack.	
10	Dial customer line.	Connector steps to subscriber line. Busy indication heard in receiver.
11	At connector — Operate handset switch to MON position.	Connector releases.
12	At emergency line circuit — Remove blocking tool from T relay.	At distant office — Disconnect signal received.
13	At distributing frame — Remove heat coils from subscriber line.	
14	At unit terminal strip — Operate handset switch to MON position.	
15	At connector — With handset switch in TALK position — Dial customer line.	At handset at unit terminal strip — Ringing induction heard.
16	At emergency line circuit — Again block operated T relay.	At connector — Connection held. Ringing continues.
17	At terminal strip — Operate handset switch to TALK position.	Ringing silenced.
18	Disconnect handsets from unit terminal strip, connector test jack.	
19	Remove blocking tool from T relay.	
20	At distributing frame — Replace heat coils in customer line.	
21	At distant office — Remove blocking tool from TR relay.	
	C. Monitoring by Operator	
3	At trunk circuit associated with emergency line circuit under test — Verify that trunk is idle, make busy in prescribed manner.	
4	At emergency line circuit under test — With handset switch in MON position, connect to terminals 15(T), 25(R) of unit terminal strip A.	
5	Block operated T relay.	

STEP	ACTION	VERIFICATION
6	At distant office — At emergency transfer circuit SD-96517-01 — Block operated TR relay associated with trunk under test.	
7	At distributing frame — Remove heat coils from customer line to be used in test.	
8	At connector associated with subscriber line — With handset switch in MON position, connect other handset to connector test jack.	
9	At emergency line circuit — Operate handset switch to TALK position.	At distant switchboard — Line lamp associated with trunk under test lighted. Operator answers.
10	Instruct operator to call back on line a short time after disconnect signal is received (determined by the time needed to set up call in Steps 11 through 13).	
11	At emergency line circuit — Operate handset switch to MON position.	At distant switchboard — Disconnect signal received.
12	At connector switch — Operate handset switch to TALK position, dial customer line.	Connector steps properly to subscriber line. Ringing induction heard.
13	At emergency line circuit — Operate handset switch to TALK position.	Ringing induction silenced. Connection established from connector to handset.
14	At distant switchboard — Operator calls back on emergency line circuit under test.	Talking connection established with operator position.
15	Operator disconnects from line.	
16	At distant office — Remove blocking tool from TR relay of emergency transfer circuit.	
17	At connector used in test — Disconnect handset from test jack.	
18	At emergency line circuit — Disconnect handset from terminal strip.	
19	Remove blocking tool from T relay.	
20	At distributing frame — Replace heat coils in customer line.	