

**FULL SELECTOR TERMINATING SENDERS
TESTS USING OUTGOING TRUNK TEST CIRCUIT SD-25177-01
AND TEST SELECTION CIRCUIT SD-25437-01
NO. 1 CROSSBAR OFFICES**

1. GENERAL

1.01 This section describes a method of testing full selector terminating senders in No. 1 crossbar dial offices, using the outgoing trunk test circuit SD-25177-01 and the full selector terminating and "B" sender test selection circuit SD-25437-01.

1.02 The information covered in this section has been revised to cover senders arranged to serve calls to multi-office terminating units, to cover the method of connecting to the sender using test selection circuit SD-25437-01 (which replaced SD-25282-01 previously covered) and to add a test of the sender S lamp.

1.03 The method of testing "B" senders by means of the above mentioned O.G.T. test frame and test selection circuit is covered in a separate section.

1.04 The tests are divided as follows:

- (A) Tests of Full Selector Terminating Senders
- (B) Test of Sender S Lamp

1.05 The method described in this section is for use in offices where no terminating sender test frame is provided. The tests consist of a check of the normal operation of the sender under test under service conditions.

1.06 The outgoing trunk test frame obtains access to the sender under test through incoming trunk and terminating sender link and controller circuits. The selection in the terminating sender link of the circuit to be tested is controlled by the full selector terminating and "B" sender test selection circuit, by making all other senders of the same type busy or unavailable to that link at the instant of seizure.

1.07 The calls are set up in the sender under test by the O.G.T. test frame. The numbers used cause the sender to direct the connection to one of several test lines, the test lines being so chosen as to check as many paths in the sender register as possible. (See 3.02)

1.08 Lamp indications are provided showing whether the desired sender has been seized, and whether the connection has been completed to the test line.

1.09 Facilities are provided for controlling the test at the individual sender frames, thus making it possible to observe the sender under test during the test.

1.10 Regular service circuits are made use of in addition to the O.G.T. test frame and the full selector terminating and "B" sender test selection circuit. These include full selector trunks, terminating sender link, terminating marker, incoming and line link and controllers and number group and line choice connector circuits.

2. APPARATUS

- 2.01 No. 275A or No. 322A (Make Busy) Plugs.
- 2.02 No. 32A Test Set.
- 2.03 Outgoing Trunk Test Circuit, SD-25177-01.
- 2.04 Test Selection Circuit, SD-25437-01.

3. PREPARATION

3.01 Prepare a chart for use at the O.G.T. test frame showing the arrangement of the full selector terminating senders with respect to the terminating sender links and controllers.

3.02 Allocate a group of test lines for use in testing terminating senders from the O.G.T. test frame. These test lines should be so chosen as to test the maximum number of paths through the sender P relays and through the crosspoints of the selections register switch. To check all paths through the sender P relays, three particular test lines are necessary, such as 0756, 9578 and 2489. To test all paths through the cross-points of the selections register switch, ten particular test lines are necessary, such as the three above and 5101, 6312, 0523, 3134, 5745, 6367 and 8990. In case the above numbers are not available for test lines, choose test lines such that the maximum number of P relays and of paths through the switch crosspoints are employed on test calls.

4. METHOD

(A) Tests of Full Selector Terminating Senders

4.01 If the test selection circuit is arranged for testing senders which serve calls to two terminating office units, op-

erate the OFF A or OFF B key, whichever corresponds to the unit in which the test lines appear.

4.02 Determine from the chart the sub-group and of the sender which it is desired to test and the number of the secondary switch of the terminating sender link through which the sender is reached.

4.03 Insert a make busy plug into the SG jack corresponding to the sub-group in which the sender to be tested appears. If the sender to be tested is reached through the No. 0 secondary switch of the terminating sender link, the SS1-SS2 (secondary switch) key should be normal. If the sender is reached through the No. 1 or No. 2 secondary switch, operate the SS1 or SS2 key respectively. Insert make busy plugs into all jacks MB0 to MB9 corresponding to terminating senders other than the sender which it is desired to test. Patch the MB0-9 jack corresponding to the sender under test to the SDR-T jack. Insert a make busy plug into the F jack associated with the terminating sender link frame through which the sender is to be seized.

4.04 Patch the T1 jack of the O.G.T. test frame to the test jack of the incoming trunk through which access to the terminating sender is to be obtained if the trunk appears at the O.G.T. test frame. If the incoming trunk through which access to the sender is to be obtained does not appear at the O.G.T. test frame, patch the TST jack at the incoming trunk frame to the T jack of the individual incoming trunk and operate the BLT-L (belt line) key of the test selection circuit. When a working trunk is used for test it should be made busy at the originating office before patching to the TST jack at the incoming trunk frame, and should be restored to service at the completion of test. Operate the TGO-9 key corresponding to the trunk group in which this incoming trunk appears on the terminating sender link frame.

4.05 Operate the proper TH, H, T and U keys of the O.G.T. test frame to direct selections to the desired test line. Operate the DM (direct mechanical) key and the proper trunk compensating resistance keys for the incoming trunk in use. Operate the FSS (full selector sender) key of the test selection circuit.

4.06 Observe that the ON (off-normal) and BY lamps of the test selection circuit are extinguished.

4.07 Operate the SDR-1 (Sender T1) key of the O.G.T. test frame. Then operate and hold the SDR-ST key of the test selection circuit.

4.08 Observe that the ON lamp lights, and then the BY and OK lamps of the test selection circuit light. The lighting of the

OK lamp is an indication that the proper sender has been selected.

4.09 Release the SDR-ST key.

4.10 Observe that, after an interval sufficient for the sender and marker to perform their functions, the BY lamp is extinguished and the OK lamp flashes. This is an indication that the sender has properly performed its function of directing the test call to the test line.

4.11 Restore the SDR-1 key and then operate the SDR-DISC key momentarily. Remove the make busy plugs and the patching cords from the jacks, restore all operated keys to normal.

Remote Control of Test of Terminating Sender

4.12 If it is desired to control the test from the terminating sender frame proceed in accordance with 4.01 to 4.05. Operate the DTC key of the test selection circuit, then operate the SDR-1 key of the O.G.T. test frame.

4.13 Insert the plug of the No. 32A test set into the E jack at the terminating sender frame. Operate and hold the white button of the No. 32A test set.

4.14 Observe that after a short interval the OK lamp at the sender frame lights. This indicates that the test call has selected the desired sender.

4.15 After the OK lamp lights, release the white button. The sender will proceed to the point where it awaits trunk closure, and will block in that position, thereby facilitating visual examination.

4.16 When any desired examination of the sender under test is completed, operate and release the white button a second time.

4.17 Observe that, after an interval sufficient for the sender and marker to complete their functions, the OK lamp at the sender frame flashes. This indicates that the sender has properly performed its function of directing the test call to the test line.

4.18 Remove the No. 32A test set from the E jack. Restore the SDR-1 key and then operate the SDR-DISC key momentarily at the O.G.T. test frame. Remove the make-busy plugs and the patching cords from the jacks and restore all operated keys to normal.

(B) Test of Sender S Lamp

4.19 Operate the BAT key at the terminating trouble indicator frame or, on earlier installations, operate the L key at the terminating sender link and controller frame.

4.20 Proceed as in 4.12 to 4.18, inclusive. The sender S lamp should light momentarily when the sender is seized.

5. PROCEDURE IN CASE OF ALARM INDICATION

5.01 If the BY lamp of the test selection circuit lights before the test call is started, it indicates that the sender desired for test is busy. The test call should not be started until the desired sender becomes idle. If it is desired to hold the sender out of service to make it more accessible to the test call, the SMB key should be operated after the connection is patched, but before the test call is started. This key makes the sender busy to service, but makes it idle immediately before the test call is ready to seize it. If it is desired to test a sender which is plugged busy, set up the test call and operate the SMB key, then remove the make busy plug from the sender.

5.02 If the WS lamp lights instead of the OK lamp, it indicates that the test call has failed to select the proper sender.

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In this case, disconnect the test call and repeat the test.

5.03 In case the OK lamp lights, but fails to flash after the proper interval, it indicates that the proper sender was seized, but that the test call was not directed to the test line.

Caution: Care should be taken that service circuits are not left off normal when test calls are disconnected. For this reason, test calls should not be disconnected until either the SUPV-1 lamp has lighted at the O.C.T. test frame, ringing induction is heard through the operators' telephone set at the sender frame, or, in the case of incoming trunks which are not arranged to give ringing automatically, sufficient time has elapsed to allow the connection to be completed.

6. REPORTS

6.01 The required record of these tests should be entered on the proper form.

