TOLL LINES AND CLOSED LOOP TOLL LINE EXTENSIONS

TELETYPEWRITER SWITCHBOARDS NOS. 3 AND 3A

1. GENERAL

1.01 This section outlines the methods of performing tests of the toll line and closed loop toll line extension (TLX) circuits associated with teletypewriter switchboards Nos. 3 and 3A. These tests are made at the test boards Nos. 4, 5 or 9. The information in this section is under the following headings:

1. GENERAL
2. APPARATUS
3. GENERAL INFORMATION FOR ESTABLISHING AND RESTORING TEST CONNECTIONS

   Toll Line and TLX Testing Facilities

   Making Toll Line or TLX Under Test "Out-of-Order" at the Switchboard

   Reestablishing Connections for Toll Line or TLX Use on Receipt of Incoming Calls
4. METHOD OF PERFORMING TESTS

   (A) Overall Toll Line Operation Test

   (B) Overall TLX Operation Test

   (C) Operation Test of Toll Line or TLX Exclusive of Switchboard Relay Circuit
5. REPORTS

1.02 Tests (A) and (C) require two persons, one at the test board and one at the distant end, usually an operator.

1.03 Test (B) requires two persons, one at the test board and one at the station end. The test will be made usually in connection with the visit of an installer or repairman to the station.

2. APPARATUS

Tests (A) and (B)

2.01 Two P2A Cords 8'-0" long equipped with No. 347B Plugs.

3. GENERAL INFORMATION FOR ESTABLISHING AND RESTORING TEST CONNECTIONS

Toll Line and TLX Testing Facilities

3.01 A plugging-up circuit is provided for use in testing toll line and TLX circuits at the test board. This circuit provides an arrangement for splitting the toll line or TLX circuit and terminating the two ends of the circuit for testing either towards the switchboard or distant end. This circuit may also be used for terminating a spare toll line or TLX at the test board.

3.02 When the test board attendant wishes to establish a connection with a toll line or TLX for making local tests at the test board, the test board attendant communicates with the operator at the switchboard over the testing and two-way trunk and requests the circuit to be tested made "out-of-order" if the line is idle. After the line is made "out-of-order" the test board attendant should first insert the plug of a P2A cord into the PTCH jack of the plugging-up circuit and then the other end of this cord into the LIST jack of the telegraph loop terminal associated with the toll line or TLX to be tested. Connect the test board teletypewriter to the SWBD jack of the plugging-up circuit. The test board attendant is in a position to make local tests of the toll line or TLX circuit by means of the test board and switchboard teletypewriters.

3.03 When the test board attendant wishes to establish a connection with the distant end of the circuit which is connected as outlined in 3.02, the test board teletypewriter is connected to the LINE jack instead of the SWBD jack of the plugging-up circuit.

3.04 When the test board attendant wishes to establish a connection with a toll line or TLX through the teletypewriter switchboard, the test board attendant communicates with the switchboard operator over the testing and two-way trunk and requests the switchboard operator to insert the plug of the calling cord into the jack of the desired circuit after first determining that the circuit is idle. The test board attendant is in a position to communicate with the distant end.

Making Toll Line or TLX Under Test "Out-of-Order" at the Switchboard

3.05 If it is desired to make a toll line or TLX "out-of-order" at the switchboard, such as when tests are to be made which do not require the use of the plugging-up circuit, the test board attendant should communicate with the operator at the switchboard. Request the switchboard operator to make the toll line or TLX "out-

of-order" in accordance with approved operating instructions.

Reestablishing Connections for Toll Line or TLX Use On Receipt of Incoming Calls

3.06 If a call is received for a toll line or TLX circuit when a test connection has been established in accordance with 3.02 or 3.03, the switchboard operator should advise the test board attendant. If the line can be released, the test board attendant should communicate with the switchboard and request the "out-of-order" condition be removed.

3.07 If a call is made on the toll line or TLX when a test connection has been established in accordance with 3.02 or 3.03 the ANS lamp of the plugging-up circuit will light at the test board. The test board attendant answers the call by connecting the test board teletypewriter to the LINE jack of the plugging-up circuit. The test board attendant should advise the calling person that the line is under test and if it is feasible, also advise that the line will be restored and the operator will call back. The test board attendant should then remove the cords from the plugging-up circuit and telegraph loop terminal, communicate with the switchboard and request the "out-of-order" condition be removed. At the same time the switchboard operator should be instructed to communicate with the distant end.

4. METHOD OF PERFORMING TESTS

(A) Overall Toll Line Operation Test

4.01 Establish connections with the switchboard end of the toll line circuit to be tested through the testing and two-way trunk.

4.02 Transmitting a Calling Signal: Operate the BREAK key of the test board teletypewriter for approximately 2 seconds. This interval should not be less than 2 seconds nor more than 7 seconds.

4.03 Transmitting Teletypewriter Signals: When the distant end answers the call, signals should be received on the test board attendant's teletypewriter indicating that the distant end is on the line. Operate the test board teletypewriter in acknowledgment of the signals and inform the distant end that this is a test call and to report any irregularities in the operation of the circuits.

4.04 Receiving a Recall Signal: Request the distant end to send a recall signal. The cord circuit supervisory lamp at the switchboard should flash. Upon receipt of the recall signal, the switchboard operator should momentarily operate the recall release key, extinguishing the cord supervisory lamp and advise the test board attendant.

4.05 Receiving a Disconnect Signal: Request the distant end to send a disconnect signal and to call back on the toll line shortly thereafter. Upon receipt of the disconnect signal the switchboard operator should advise the test board attendant and disconnect from the jack of the toll line circuit under test.

4.06 Receiving a Calling Signal: The line lamps of the toll line under test should light when the distant end calls back. Upon receipt of the calling signal the operator should reconnect the toll line being tested to the testing and two-way trunk and advise the test board attendant that a call signal has been received.

4.07 Disconnection: The test board attendant should advise the distant end to again send a disconnect signal. Upon receipt of the disconnect signal the switchboard operator should advise the test board attendant and disconnect from the toll line under test. The connections to the testing and two-way trunk should be removed.

(B) Overall TLX Operation Test

4.08 Establish connection with the switchboard end of the TLX circuit to be tested through the testing and two-way trunk and request the operator to signal the station.

4.09 Transmitting Teletypewriter Signals: When the TLX station answers the call, signals should be received on the test board attendant's teletypewriter. Operate the test board teletypewriter in acknowledgment of the signals and indicate that this is a test call.

4.10 Receiving a Recall Signal: Request the station to send a recall signal. The cord circuit supervisory lamp at the switchboard should flash. Upon receipt of the recall signal, the switchboard operator should momentarily operate the recall release key extinguishing the cord supervisory lamp and advise the test board attendant.

4.11 If orientation tests are to be made with the station, they should be made at this time. The requirements for the orientation tests cannot be specified on account of the varied make-up of the TLX line and station arrangements which may be used.

4.12 Receiving a Disconnect Signal: Request the station to send a disconnect signal and to call back on the circuit shortly thereafter. Upon receipt of the disconnect signal the switchboard operator should advise the test board attendant and disconnect from the jack of the TLX circuit under test.

4.13 Receiving a Calling Signal: The line lamps of the TLX under test should light when the station calls back. Upon receipt of the calling signal the operator should reconnect TLX being tested to the testing and two-way trunk and advise the test board attendant that a call signal has been received.

4.14 Disconnection: The test board attendant should advise the station to again send a disconnect signal. Upon receipt of the disconnect signal the switchboard operator should advise the test board attendant and disconnect from the TLX under test. The connections to the testing and two-way trunk should be removed.

(C) Operation Test of Toll Line or TLX Exclusive of Switchboard Relay Circuit

4.15 Communicate with the switchboard operator over the testing and two-way trunk and have the toll line or TLX circuit to be tested made "out-of-order."

4.16 Establish connections with the plugging-up circuit and telegraph loop terminal associated with the circuit to be tested and connect the test board teletypewriter to the LINE jack of the plugging-up circuit.

4.17 Transmitting a Calling Signal: In the case of a toll line operate the BREAK key of the test board teletypewriter for approximately 2 seconds. This interval should not be less than 2 seconds nor more than 7 seconds. In the case of TLX circuit operate the BREAK key for a short period, followed by operating upper case S key intermittently.

4.18 Transmitting Teletypewriter Signals: When the distant end answers the call, signals should be received on the test board attendant's teletypewriter indicating that distant end is on the line. Operate the test board teletypewriter in acknowledgment of the signals and indicate that this is a test call.

4.19 Receiving a Disconnect Signal: Request the distant end to send a disconnect signal and disconnect the test board teletypewriter from the LINE jack. The ANS lamp associated with the plugging-up circuit at the test board should light.

4.20 Disconnection: Remove the connections from the plugging-up circuit and the telegraph loop terminal circuit. The ANS lamp associated with the plugging-up circuit should be extinguished.

4.21 Communicate with the switchboard operator and request the "out-of-order" condition be removed.

5. REPORTS

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