CROSSED MULTIPLE AND CROSSED TRUNK TESTS

STEP-BY-STEP OFFICES

1. GENERAL

1.01 This section describes the tests to be made to detect multiple or outgoing trunk circuit crosses except in selector multiple. This section includes information on digit absorbing selectors.

1.02 The tests covered are as follows:

(A) Primary Line Switch Bank Multiple and Trunk Test (Where Secondary Line Switches are Used).

(B) Secondary Line Switch Bank Multiple and Trunk, and Primary Line Switch Bank Multiple and Trunk Test (Where Secondary Line Switches are not Used).

(C) Plunger-Type Out-Trunk Switch and Rotary Out-Trunk Switch Bank Multiple and Trunk Test.

(D) Interoffice Trunk Test.

(E) Selector Level to Plunger-Type Out-Trunk Switch Test.

1.03 Any trunk line switch, or selector on which trouble is encountered when making this test should be made busy until the trouble is cleared.

1.04 To avoid the possible interruption of service, this routine should be made only at a time of very light traffic.

2. APPARATUS

Tests (A), (B), (D), (E)

2.01 Test receiver, equipped with a W2AB cord having a No. 360A tool and a No. 411A tool on one cord terminal and the other cord terminal connected to the T & R springs of a No. 240A plug. (Assemble locally.)

2.02 Two hundred and fifty blocking tools per Drawing AS-1818.

2.03 No. 375A or No. 477A (make busy) tools, as required.

Test (C)

2.04 1011G dial hand test set or equivalent, equipped locally with a No. 240F plug and a No. 2-T lamp.

2.05 No. 375A or No. 477A tools, as required.

3. METHOD

(A) Primary Line Switch Bank Multiple and Trunk Test (Where Secondary Line Switches are Used)

3.01 Block all secondary line switch plungers in one pick-up group in an operated position with the blocking tools per Drawing AS-1818. The blocking tools are placed between the plunger arm and the backstop screw.

NOTE: Distribute over nine trunks only to prevent master switch from fanning.

3.02 Insert the No. 240A plug in the test jack of any switch that is blocked in an operated position.

3.03 Remove the blocking tool from the switch to be tested, and test the tip and ring of that switch for crosses with battery or ground, by contacting the tip and ring jack springs with the No. 411A tool of the test receiver. A click in the receiver indicates a cross with either battery or ground.

3.04 If trouble is encountered, the plunger of the switch should again be blocked in an operated position, as covered in Paragraph 3.01. If no trouble is found, the switch should be left in its normal unoperated position.

3.05 Test each switch in the pick-up group in the manner outlined in Paragraphs 3.03 and 3.04, and repeat the entire operation in each secondary pick-up group in the office.

CAUTION: AT THE CONCLUSION OF THE TEST IN EACH MASTER SWITCH SECTION, THE MASTER SWITCH SHOULD BE FANNED TO PICK UP ALL PLUNGERS THAT ARE OFF THE GUIDE. IF THIS IS NOT DONE, DOUBLE CONNECTIONS WILL OCCUR.

(B) Secondary Line Switch Bank Multiple and Trunk and Primary Line Switch Bank Multiple and Trunk Test (Where Secondary Line Switches are Not Used)

3.06 Insert a No. 375A or a No. 477A make-busy tool between springs 3 and 4 of the test jack of a first selector associated with a primary or secondary line switch trunk, and insert the No. 240A plug of the test receiver into the test jack of an idle switch.

3.07 Lift the shaft off normal on the switch under test, and test the tip and ring springs of the test jack for battery and ground with the No. 411A tool on the test receiver cord. A click in the receiver indicates a cross with either battery or ground.

NOTE: For digit absorbing selectors, remove switch cover and manually operate the (F) or other cut-through relay before lifting shaft off normal.

3.08 Repeat these operations until all first selectors associated with line switch trunks have been tested.

(C) Plunger-Type Out-Trunk Switch and Rotary Out-Trunk Switch Bank Multiple and Trunk Test

3.09 Insert the No. 240F plug of the hand test set into the test jack of the repeater of the trunk under test, operate the switch of the test set, and observe that the lamp lights dimly. If the brillancy of the lamp is greater than normally encountered during this test, a tip cross on the repeater to secondary line switch trunk is indicated. If the lamp does not light, a ring cross on this trunk is indicated.

3.10 Repeat these operations on each repeater associated with an out-trunk line switch trunk until all have been tested.

(D) Interoffice Trunk Test

3.11 Insert a No. 375A or a No. 477A make-busy tool between springs 3 and 4 of the test jack of the incoming trunk switch under test, and plug the No. 240A plug of the test receiver into the test jack of any idle switch.

3.12 Lift the shaft off normal and test the tip and ring springs of the test jack for battery and ground with the No. 411A tool on the test receiver cord. A click in the receiver indicates a cross with either battery or ground.

NOTE: For digit absorbing selectors, remove switch cover and manually operate the (F) or other cut-through relay before lifting shaft off normal.

3.13 The procedure outlined in Paragraphs 3.11 and 3.12 shall be followed on each incoming trunk switch until all have been tested.

(E) Selector Level to Plunger-Type Out-Trunk Switch Test

NOTE: Due to the wide diversity of multiple arrangements, it is impossible to specify just what plungers should be blocked when making this test, however, as a general rule it will only be necessary to block switches that appear on adjacent levels of the selectors. For example, if the first, second, and third level in a group all terminate on plunger-type out-trunk switches, all three groups of switches should be blocked in; or, where one level of a selector group terminates in plunger-type out-trunk switches, and the levels above and below go direct to selectors or repeaters, the one group of switches should be blocked in and tested, as there may be crosses within the group or crosses with contacts of the adjacent levels. It will be the duty of the local supervisor to study the multiple arrangement and decide

what groups of switches should be blocked in for each test.

3.14 Block all out-trunk line switch plungers of the group under test in an operated position with blocking tools, per Drawing AS-1818. The blocking tools are placed between the plunger arm and the back stop screw.

3.15 Insert the No. 240A plug of the special test receiver into the test jack of any switch that is blocked in an operated position.

3.16 Remove the blocking tool from the switch to be tested, and touch the test pick of the receiver to the tip and ring springs of the test jack. A click in the receiver indicates a cross with either battery or ground.

3.17 If trouble is encountered, the plunger of the switch under test should again be blocked in an operated position, as covered in Paragraph 3.14. If no trouble is found, the switch should be left in its normal unoperated position.

3.18 Test each switch in the group in the same manner. Repeat the operations described in Paragraph 3.14 to 3.17 on each group of plunger-type out-trunk switches in the office.

4. REPORTS

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