CONNECTORS
OPERATION TESTS
700C AND 710C PBX
(DIAL EQUIPMENT)

1. GENERAL:

1.1 This section describes a method of testing the operating features of connectors, including the connector features of selector-connectors. The tests are divided as follows:

(a) **Local Connectors and Selector-Connectors.**

(b) **Combination Connectors.**

(c) **Incoming Selector-Connectors.**

(d) **Wiper Cord Test.**

This section has been reissued to include the 710C PBX in the title and convert it to letter size.

1.2 Any connector on which a failure is encountered, should be made busy until the trouble is cleared.

2. APPARATUS:

2.1 Dial Hand Test Set equipped with a No. 2-CB Dial and a No. 240-A Plug.

2.2 No. 375-A Make-busy Tools, as required.

2.3 Tests (b) and (c): Special Patching Cord per Figure 1. (Assembled locally.)

2.4 Test (b): One No. 18-DH Resistance, one terminal of which is connected to a No. 59 Cord Tip by means of a piece of insulated wire

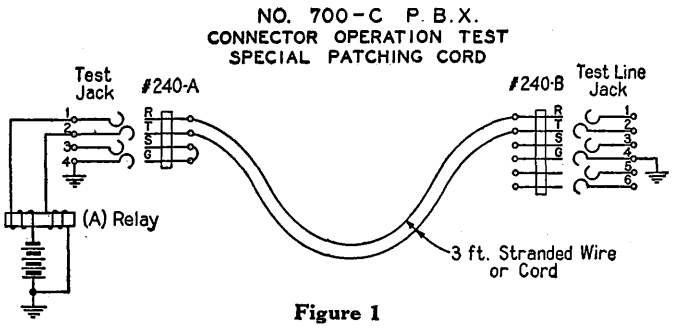

Figure 1

3. METHOD:

3.1 Place a No. 375-A tool between the two upper springs of the test jack of an idle selector, where this is necessary to keep the ringing machine running.

3.2 Connect the dial hand test set to the test jacks of an idle connector.

Note: When testing incoming selector-connectors and combination connectors, the sleeve and ground springs of the dial hand test set should be temporarily short-circuited. On incoming selector-connectors the plug should be inverted and connected to the four lower springs of the test jack.

3.3 Operate the C and R buttons. Dial the test line number and observe that the connector follows the impulses from the dial and stops on the test terminals. Hunting connectors should step to the number dialed and then automatically rotate to the next terminal. Release the R button. Note that the test line bell rings and that the audible ringing signal is heard in the receiver.

Caution: Should the connector fail to reach the test terminals, release the C and R buttons immediately to avoid ringing an extension.

(a) Local Connectors and Selector-Connectors:

3.4 Short-circuit the tip and ring springs of the test line jack during a ringing interval. Note that the ringing is tripped immediately and that a click is heard in the receiver when the ringing is tripped.

3.5 Remove the short circuit from the test line jack and note that a click is heard again in the receiver, indicating that the talking circuit through the connector is satisfactory.

3.6 Release the C button and observe that the connector releases properly.

3.7 Make the test line busy by placing a No. 375-A tool between the sleeve and ground springs of the test line jack.

3.8 Operate the C button and dial the test line number. Observe that the connector follows the impulses from the dial and selects a test terminal as outlined in paragraph 3.3. Note that the busy tone is heard in the receiver and that the test line bell does not ring.

3.9 Disconnect the dial hand test set and observe that the switch releases properly. Remove the No. 375-A tool from the test line jack.

(b) Combination Connectors:

3.10 Short-circuit the tip and ring springs of the test line jack during a ringing interval. Note that ringing is tripped immediately and that no click is heard in the receiver when the ringing is tripped.

3.11 Connect the test line jack to the test jack of an idle connector by means of the special patching cord. (See Figure 1.) Note that a click is heard as this connection is completed.

3.12 Disconnect the special patching cord and note that a click is heard in the receiver, indicating that the talking circuit is satisfactory for tie line operation.

3.13 Remove the short-circuit from the sleeve and ground springs of the dial hand test set plug and note that a click is heard in the receiver.

3.14 Momentarily short-circuit the tip and ring springs of the test line jack and note that a click is again heard in the receiver, indicating that the talking circuit is satisfactory for local operation.

3.15 Release the C and R buttons and observe that the connector releases properly.

3.16 Make the test line busy by placing a No. 375-A tool between the sleeve and ground springs of the test line jack. Connect the No. 59 cord tip wired to the No. 18-DH resistance to spring No. 4 of a connector heat coil assembly.

3.17 Operate the C button. Momentarily connect the other terminal of the No. 18-DH resistance to the sleeve of the connector test jack. This supplies battery through the test receiver and the 18-DH (700 ohm) resistance for operating the J relay.

3.18 Dial the test line number. Observe that the connector follows the pulses from the dial and selects a test terminal as outlined in paragraph 3.3. Note that the busy tone is heard in the receiver and that the test line bell does not ring.

3.19 Disconnect the dial hand test set and observe that the switch releases properly. Remove the No. 375-A tool from the test line jack.

(c) **Incoming Selector-Connectors:**

3.20 Short-circuit the tip and ring springs of the test line jack during a ringing interval. Note that ringing is tripped immediately and that no click is heard when the ringing is tripped.

3.21 Hold a cross on the two middle springs of the connector test jack to hold the switch while the plug is removed. Remove the plug and connect it straight to the four upper springs of the test jack.

3.22 Connect the test line jack to the test jack of an idle connector by means of the special patching cord. (See Figure 1.) Note that a click is heard as this connection is completed.

3.23 Disconnect the special patching cord and note that a click is heard again in the receiver, indicating that the talking circuit is satisfactory.

3.24 Disconnect the dial hand test set and observe that the switch releases properly.

3.25 Invert the dial hand test set plug and connect it to the four lower springs of the test jack. Make the test line busy by placing a No. 375-A tool between the sleeve and ground springs of the test line jack.

3.26 Operate the C button and dial the test line number. Hold a cross on springs No. 2 and No. 5 of the switch test jack and note that the busy tone is heard in the receiver.

3.27 Disconnect the dial hand test set and observe that the switch releases properly. Remove the No. 375-A tool from the test line jack.

(d) **Wiper Cord Test:**

3.28 While performing tests (a), (b) or (c), proceed as outlined in paragraphs 3.1 to 3.3. Also perform the operations covered in 3.4, 3.10 and 3.11, or 3.20, 3.21 and 3.22, depending upon the test being made.

3.29 Then move the wiper cords slightly and note that there are no clicks or scratching noises in the receiver. Then continue with the regular test as outlined under (a), (b) or (c), above.

4. REPORTS:

4.1 The required record of this routine should be entered on the proper form.