REGULAR, COMBINATION AND HUNTING TYPE CONNECTORS

1. GENERAL

1.01 This section covers the detailed methods to be followed in making transmission tests on regular, combination and hunting type connectors.

1.02 Information covered in this section of practices is outlined in the following table:

1.03 Reference should be made to Section K20.01 for general testing methods and to Section K20.11 for general testing apparatus requirements.

2. REGULAR CONNECTORS

(a) Local Connectors

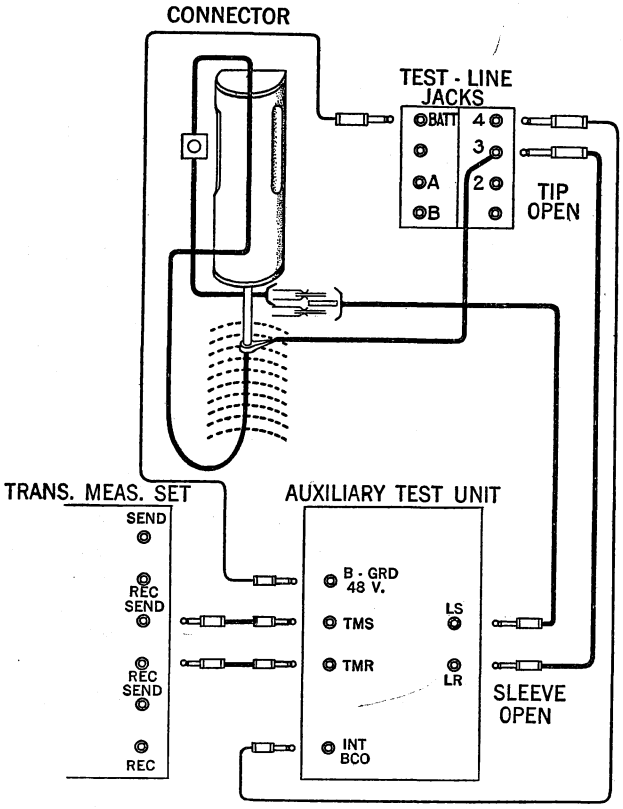
2.01 These circuits should be tested from the test jacks of the connectors to be tested and the connections to the transmission measuring set completed over the connector test line circuit.

2.02 Figure 1 shows schematically the connections for the test.

Preliminary Connections

2.03 Provide four regular double ended patching cords equipped with 110 type plugs, one No. P3C cord equipped with a No. 110 plug and a No. 240-A plug (No. 4 Terminal Open) and one special patching cord equipped and connected as follows:

110 Type Plug connected to	**110 Type Plug**
Tip	Sleeve
Ring	Ring
Sleeve Open	Tip Open



⊡ APPARATUS IN TRANSMISSION CIRCUIT

Figure 1

2.04 Connect the TMS and TMR jacks of the auxiliary test unit, respectively, to the sending and receiving jacks of the transmission measuring set, using two of the regular patching cords.

2.05 Connect the B-GRD (48V) jack of the auxiliary test unit to 48 volt battery and ground (battery on tip and ground on sleeve) using a regular patching cord.

Note: This battery and ground may be obtained from any source convenient to the location of the testing apparatus, preferably a nearby BATT jack.

2.06 Connect the INT-BCO jack of the auxiliary test unit to jack No. 4 of the test line group associated with the connectors under test, using a regular patching cord.

2.07 Connect the LR jack of the auxiliary test unit to the connector test line circuit (jack No. 3 of the test line group) associated with the connectors under test, using the special patching cord described in paragraph 2.03,

inserting the plug with the "open sleeve" in the LR jack and the plug with the "open tip" in the test line circuit jack (jack No. 3).

2.08 Insert the No. 110 plug of the No. P3C cord in the LS jack of the auxiliary test unit.

Testing Procedure

2.09 Operate the following keys of the auxiliary test unit to the positions specified. Keys not mentioned should remain in the normal position.

Key 1 to OPEN Key 3 to MET
Key 2 to OPEN Key 4 to MET
Key 15 Depressed and locked

2.10 Insert the No. 240-A plug of the No. P3C cord connected to the LS jack of the auxiliary test unit into the test jack of an idle connector to be tested and operate key 1 of the auxiliary test unit to TEST.

Note: Before operating key 1 of the auxiliary test unit to TEST inspect the shaft and wiper to determine if the connector is still idle. If the connector is not idle another connector should be chosen for test and the operation just outlined repeated.

2.11 Dial the connector test line circuit. Usually this number is "99" or "90." For some offices other connector terminals may be assigned for the connector test line circuit and in these cases it will be necessary to dial the two digit number assigned for that purpose.

Note: When the connection has been completed to the auxiliary test unit, the sleeve lamp associated with the LR jack should light.

2.12 Operate key 1 and key 2 of the auxiliary test unit to HOLD.

Note: The sleeve lamp associated with the LR jack remains lighted until the connector is released.

2.13 With the transmission measuring set in the measuring condition test the connector for cutouts by tapping the cover and carefully tapping the wiper cords with a pencil.

2.14 Measure the transmission loss.

2.15 Measure the current supply from the "D" relay of the connector (called subscriber's end which is associated with the LR jack of the auxiliary test unit) while depressing key 10 of the auxiliary test unit to remove the holding bridge from the circuit.

2.16 Measure the current supply from the "A" relay of the connector (calling subscriber's end which is associated with the LS jack of the auxiliary test unit) while depressing key 9 of the auxiliary test unit to remove the holding bridge from the circuit.

2.17 Release the connector by operating key 1 and key 2 of the auxiliary test unit to OPEN and removing the No. 240-A plug from the test jack.

2.18 Repeat the above testing procedure from the remaining connectors to be tested.

(b) Toll Connectors

2.19 These connectors have no equipment in the transmission circuit and do not require transmission tests.

3. COMBINATION CONNECTORS

3.01 When these connectors function as toll connectors they have no equipment in the transmission circuit and do not require transmission tests on that part of the equipment.

3.02 These connectors are similar to regular local connectors when they function as local connectors and should be tested as outlined in paragraphs 2.01 to 2.18, inclusive.

Note: In some offices the connector test line circuit cannot be freed of its associated equipment and, therefore, cannot be used to complete the connection from the connector under test to the transmission measuring set. In these cases it will be necessary to select a vacant connector terminal at the HCDF in the group to which the connectors under test have access and connect subscriber line circuit equipment to the tip, ring and sleeve terminals. To complete the connection it is necessary to dial the last two digits of the number of the terminal to which the auxiliary test unit is connected. The sleeve lamp associated with the LR jack of the auxiliary test unit lights at the conclusion of the dialing of the two digits and remains lighted until the connector is released.

4. HUNTING TYPE CONNECTORS

(a) Local Rotary Hunting Connectors

4.01 These connectors should be tested as outlined in paragraphs 2.01 to 2.18, inclusive.

4.02 As covered in paragraph 2.11, the connector test line circuit in most cases is reached by dialing either "99" or "90." With this type of connector, however, the connector terminal "99" is usually arranged to test busy as this condition is required for certain local central office routine tests and in these cases when "99" is dialed, the con-

nector wiper will step to the "90" terminal. Other numbers may be assigned for the test line circuit and in these cases the proper code should be dialed to reach the test line circuit.

(b) **Toll Rotary Hunting Connectors**

4.03 These connectors have no equipment in the transmission circuit and do not require transmission tests.

(c) **Local Level Hunting Connectors**

4.04 These circuits should be tested from the test jack of the connectors and the connections for the test are shown schematically in Figure 1.

Preliminary Connections

4.05 The preliminary connections for testing this type of connector are the same as for the regular local type as covered in paragraphs 2.03 to 2.08, inclusive.

Testing Procedure

4.06 Operate the following keys of the auxiliary test unit to the positions specified. Keys not mentioned should remain in the normal position.

Key 1 to OPEN	Key 3 to MET
Key 2 to OPEN	Key 4 to MET

4.07 Insert the No. 240-A plug of the No. P3C cord connected to the LS jack of the auxiliary test unit into the test jack of an idle connector to be tested and operate key 1 of the auxiliary test unit to TEST.

Note: Before operating key 1 of the auxiliary test unit to TEST, inspect the shaft and wiper to determine if the connector is still idle. If the connector is not idle, another connector should be chosen for test and the operation just outlined repeated.

4.08 Dial the connector test line circuit and as the wiper begins to ascend or is about to cut in on the level on which the test line terminals appear, depress key 15 of the auxiliary test unit and hold it depressed until the sleeve lamp associated with the LS jack lights. Usually the number to be dialed for the test line is "9." For some offices other connector terminals may be assigned for the connector test line circuit and in these cases it will be necessary to dial the number assigned for the purpose.

Note: It is important that key 15 of the auxiliary test unit be depressed at the proper time in order to preclude any other connector switches from cutting in on the test line circuit or the particular connector involved in the test from cutting in on any P.B.X. terminals which may be assigned on the same level as the connector test line circuit.

4.09 Release key 15 of the auxiliary test unit.

4.10 Operate key 1 and key 2 of the auxiliary test unit to HOLD.

Note: The sleeve lamp associated with the LR jack should be extinguished.

4.11 With the transmission measuring set in the measuring condition test the connector for cutouts by tapping the cover and carefully tapping the wiper cords with a pencil.

4.12 Measure the transmission loss.

4.13 Measure the current supply from the "D" relay of the connector (called subscriber's end which is associated with the LR jack of the auxiliary test unit) while depressing key 10 of the auxiliary test unit to remove the holding bridge from the circuit.

4.14 Measure the current supply from the "A" relay of the connector (calling subscriber's end which is associated with the LS jack of the auxiliary test unit) while depressing key 9 of the auxiliary test unit to remove the holding bridge from the circuit.

4.15 Release the connector by operating key 1 and key 2 of the auxiliary test unit to OPEN and removing the No. 240-A plug from the test jack.

4.16 Repeat the above testing procedure for the remaining connectors to be tested.

(d) **Toll Level Hunting Connectors**

4.17 These connectors have no equipment in the transmission circuit and do not require transmission tests.