

141-TYPE SWITCHBOARD MULTIPLE JACKS NOS. 9 AND 10 SWITCHBOARDS TESTS AND INSPECTIONS

1. GENERAL

1.01 This section describes methods of making tests for cutout and sleeve wear of No. 141 jacks of subscriber lines and O.G.T. circuits in Nos. 9 and 10 switchboards. The tests are as follows:

- (A) Test with A-C Continuity Test Circuit
- (B) Test without a Test Circuit
- (C) Test for Jack Sleeve Wear

1.02 This section has been reissued to include a test for jack sleeve wear and to revise the list of apparatus.

1.03 When making tests on subscriber lines, the tester should listen for any sounds, or observe any signals indicating the attempt of a subscriber to originate a call and, if noted, should immediately disconnect from the line in order that the call can be completed.

1.04 No attempt should be made at the central office to adjust the springs of a jack.

1.05 Check of Gauge: Before using a No. 123B gauge, check to see that it is within its proper requirements by inserting it into the No. 111A gauge and turning it to the position where the needle of the No. 111A gauge is farthest to the right. No portion of the needle should then be to the right of the green line. If, during tests, defective jacks are indicated, check the No. 123B gauge often enough to ensure that it is within its requirements.

1.06 While making tests on jacks, note any jack mountings that are loose, cracked, or broken and any jacks that are loose in the mounting.

1.07 When jacks of outgoing trunks are being tested, arrangements should be made to clear the incoming end of the trunk as follows: On trunks terminating at a manual switchboard, request the operator to connect to a busy-back jack for a moment, then disconnect. On trunks terminating in a panel office, obtain a connection to a local station, to the supervisor, or to a number known to be intercepted and, when answered, request a disconnect.

As an alternative method of clearing trunks to either a manual or panel office, the heat coils in the circuit at the testing office may be removed temporarily. On trunks terminating in a step-by-step office, it is not necessary to clear the trunk.

1.08 In Test (B), the procedure for testing the first multiple jack appearance can be applied to all appearances if desired.

2. APPARATUS

2.01 One No. 111A Gauge equipped with a scale having a green line for checking No. 123B Gauges.

2.02 Operator's Telephone Set.

2.03 A spare multiple circuit with the sleeve connected the same as a subscriber line sleeve.

2.04 P3E Cord with a No. 310 Plug and a No. 257A Plug for a No. 10 Switchboard (3P10A Cord). For a No. 9 Switchboard, use a No. 257B Plug (3P11A Cord). This cord is not always required - see test.

Test (A)

2.05 No. 716E or No. 528 Receiver with an R2CF Cord and No. 310 Plug (2W4A Cord).

2.06 P3E Cord with a No. 310 Plug and a No. 123B Gauge (3P8B Cord).

2.07 No. 58A Test Set.

Test (B)

2.08 No. 716E or No. 528 Receiver with an R2CF Cord and a No. 123B Gauge.

2.09 No. 58A Test Set or a testing circuit consisting of two multiple jack circuits connected together; tip to ring, ring to tip and sleeve to sleeve. Two spare O.G.T. or subscriber multiple jack circuits cross-connected at the distributing frames may be used. Fig. 3 shows the arrangement with two spare subscriber multiple circuits at a No. 10 switchboard. The No. 58A Test Set is more convenient at a No. 9 switchboard.

Test (C)

2.10 No. 33 Gauge.

3. METHOD(A) Test with A-C Continuity Test Circuit

Jack Appearances Other Than the First

3.01 At the first jack (the jack nearest the M.D.F. end of the line), insert the 257-type plug into the jack with the white line on the plug on top. See Fig. 1. Insert the No. 310 plug of the same cord into a jack of the No. 58A test set.

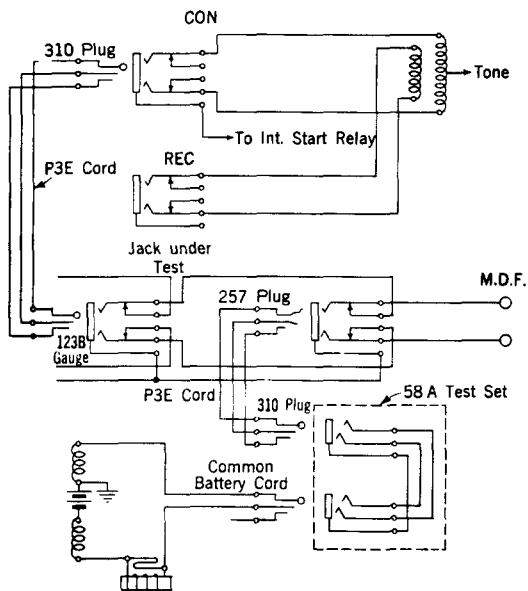


Fig. 1 - Test with A-C Continuity Test Circuit - Except First Jack

3.02 Using a common battery cord, make a busy test on the sleeve of the jack in the No. 58A test set associated with the jack connected to the circuit under test and, if idle, insert the plug of the cord. Refer to 1.07.

3.03 At the jack to be tested, connect the test receiver to the REC jack of the A-C continuity test circuit. Insert the No. 310 plug of the cord with the No. 123B gauge into the CON jack.

3.04 Before proceeding with the test, check the operation of the tone circuits as follows: While listening in the receiver, partially insert the gauge into the jack to be tested so that the tip of the gauge makes contact with the ring spring of the jack and the

sleeve of the gauge makes contact with the sleeve of the jack. Tone should be heard as an indication that the tone circuit is functioning properly.

3.05 Complete the insertion of the gauge into the jack and listen in the receiver during the following operations for clicks or tone which would indicate a cutout or other trouble condition.

3.06 Push the gauge to the right and to the left with just sufficient pressure to take up the play in the sleeve.

3.07 Rotate the gauge in the jack one complete revolution without exerting any sidewise or up and down pressure.

3.08 While holding the gauge firmly in the jack, tap the jack strip lightly with the handle of a small screwdriver.

First Multiple Jack Appearance on Line

3.09 Make a temporary connection of the tip and ring of the circuit to be tested to a spare multiple jack circuit having a sleeve condition the same as a subscriber line. See Fig. 2.

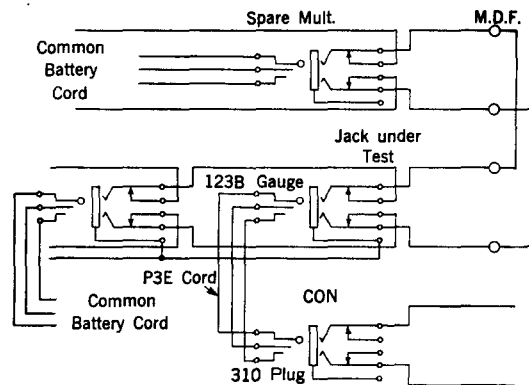


Fig. 2 - Test with A-C Continuity Test Circuit - First Jack

3.10 With a common battery cord, make a busy test on the circuit to be tested. If idle, insert the plug of the cord in order to supply battery to the sleeve of the jack to be tested. This battery is required to start the interrupter in the A-C continuity test circuit. Refer to 1.07.

3.11 Insert the plug of an idle cord arranged to connect to a common battery line into a jack of the spare multiple circuit.

3.12 At the jack to be tested, follow the procedure outlined in 3.03 to 3.08.

(B) Test without a Test Circuit (See 2.09)

Jack Appearances Other Than the First (See 1.08)

3.13 At an idle position toward the M.D.F. end of the circuit from the jack to be tested, connect a position cord to a jack of the test line or the No. 58A test set. See Fig. 3. (This figure shows the arrangement at a No. 10 switchboard.) Refer to 1.07.

3.14 Insert the No. 310 plug of the patching cord into a jack of the other test line or the other jack of the No. 58A test set. While listening with the position telephone set, make a busy test on a jack of the circuit to be tested by touching the jack sleeve with the ring spring of the 257-type plug. If idle, insert the 257-type plug with the white line on the plug on top.

3.15 At the jack to be tested, insert the No. 123B gauge. The supervisory signal of the position cord connected to the test line or the 58A test set, should indicate an answer condition.

3.16 Listen in the test receiver for any clicks and observe the cord supervisory signal during the following operations.

3.17 Push the gauge to the right and to the left with just sufficient pressure to take up the play in the sleeve. Rotate the gauge in the jack one complete revolution without exerting any sidewise or up and down pressure. If clicks are heard or if the cord signal indicates a no-answer condition, it is an indication that the contacts or springs of the jack are not in proper adjustment.

3.18 While holding the gauge firmly in the jack, tap the jack strip lightly with the handle of a small screwdriver. Clicks heard indicate a loose connection in the multiple jack wiring.

First Multiple Jack Appearance

3.19 Make a temporary connection of the tip and ring of the circuit to be tested to the spare multiple circuit (tip and ring reversed). See Fig. 4. Use either cross-connection wire run temporarily or a cord with suitable connectors.

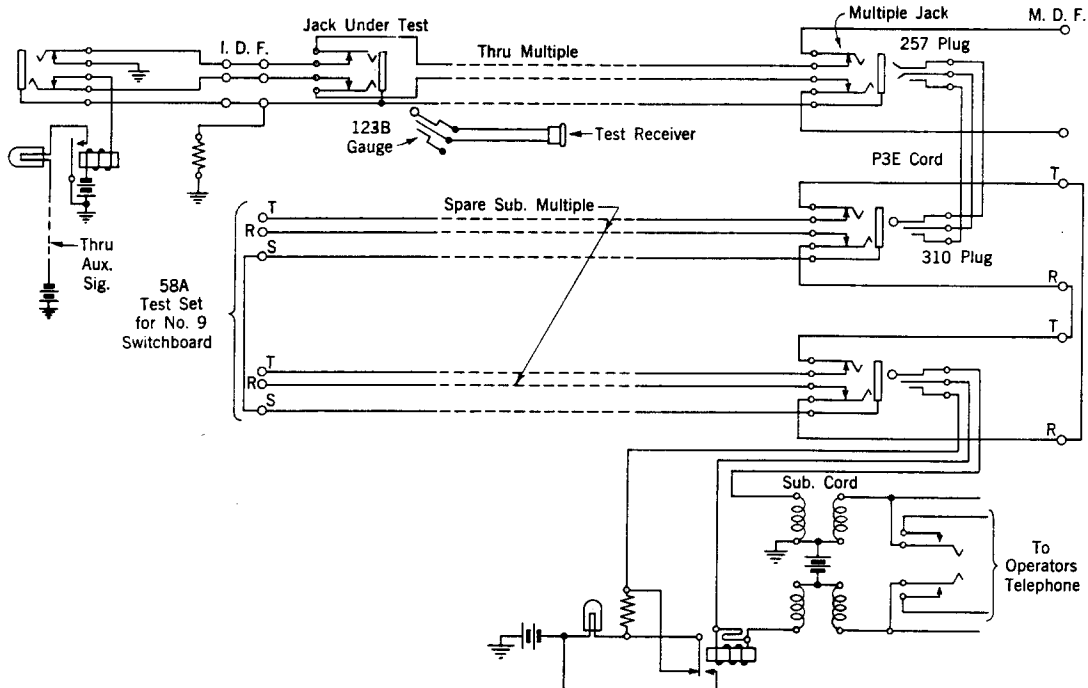


Fig. 3 - Test without a Test Circuit - Except First Jack

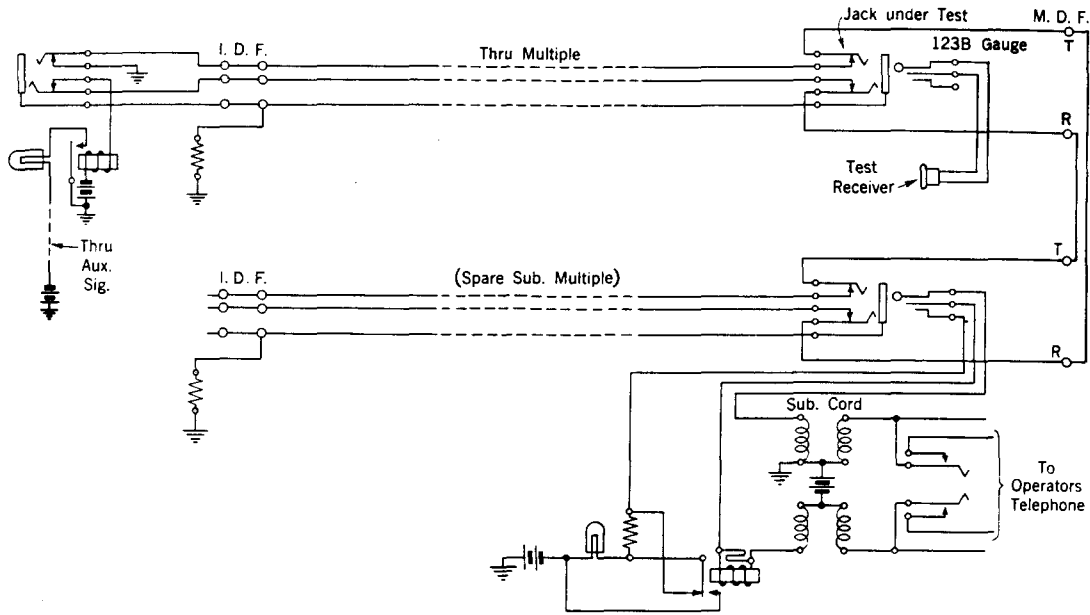


Fig. 4 - Test without a Test Circuit - First Jack

3.20 Connect the operator's telephone set to the position at which the jack to be tested appears and make a busy test of the jack.

3.21 If it is not busy insert the plug of a cord arranged to connect to common battery lines into a jack of the spare multiple circuit. Refer to 1.07.

3.22 Follow the procedure outlined in 3.15 to 3.18.

➤ (C) Test for Jack Sleeve Wear

3.23 Gauge the sleeves of the jacks with the No. 33 gauge to locate any sleeve that has reached the limit of wear.

➤ 3.24 To make the check, attempt to insert the gauge into the jack, rotating it approximately one-half turn and using a very slight pressure. In performing this operation, the gauge should not be forced.

3.25 If the gauge enters the jack to the shoulder of the gauge, the sleeve is outside the limit of wear.

3.26 Any sleeve found outside the limit of wear, as determined above, should be considered for possible replacement. Normally, this check is in the nature of a readjust requirement and is applied only when jacks are readjusted.

➤ 4. REPORTS

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