TIE TRUNK CIRCUITS
OUTGOING MANUAL AND DIAL REPEATING
INCOMING MANUAL OR DIAL SELECTED
OPERATION TESTS
555 AND 557A PBX

1. GENERAL

1.01 This section describes a method of testing tie trunk circuits from 555 and 557A PBXs to dial PBXs.

1.02 The section is reissued to change the title and to include the 557A PBX. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted.

1.03 To avoid the effects of clicks when performing tests, the test receiver should be kept away from the ear.

2. APPARATUS

2.01 Test plug (No. 123B gauge) connected to a P3A cord equipped with three KS-6780 connecting clips or one No. 360A tool, one No. 360B tool, one No. 360C tool, and three KS-6278 connecting clips or equivalent (Tests A, B, C, and D).

2.02 Test receiver—No. 716E attached to a W2AB cord equipped with No. 360A tools (2W21A cord) and two KS-6287 tools or equivalent (all tests).

2.03 One B2 lamp in a No. 38B lamp socket (Test D).

2.04 Two W1U cords or equivalent (Test D).

2.05 Attendant telephone set connected in the telephone set jacks of the PBX (Test E).

3. METHOD

A. Trunk Jack Sleeve Circuit Test

3.01 Insert the test plug into the talk jack of the tie trunk. Connect one clip of the test receiver to ground by attaching it to the framework of the switchboard. Touch the other clip of the test receiver to the sleeve clip of the test plug cord. A click should be heard in the receiver.

3.02 Remove the test plug from the talk jack and insert it into the dial jack of the trunk. Touch the free clip of the test receiver to the sleeve clip of the test plug cord. A click should be heard in the receiver. Remove the test plug from the dial jack.

3.03 Touch the free clip of the test receiver successively to the sleeves of the talk and dial jacks of the trunk. No click should be heard in the test receiver. Disconnect the test receiver.

B. Trunk Jack Cutout Test

3.04 Connect one clip of the test receiver to ground and connect the other clip to the sleeve clip of the test plug cord. Insert the test plug into the talk jack of the trunk, and after a short interval, disconnect the test receiver. Connect the test receiver clips to the tip and ring clips of the test plug cord. A click should be heard in the test receiver as it is being connected.

3.05 Manipulate the test plug to determine if the jack cuts out, by grasping the test plug cord at the plug end, and while applying sideward pressure away from the center of rotation just sufficient to take up the play in the jack, slowly rotate the plug through a complete circle with a cranking motion. Cutouts will be indicated by clicks in the test receiver.

3.06 Momentarily open the connection between the test receiver and the test plug. A click should be heard in the receiver.

3.07 Remove the test plug from the talk jack and insert it into the dial jack of the trunk. Proceed as outlined in 3.05.

3.08 Remove the test plug and disconnect the test receiver.

C. Test of Dial Jack Operation Sequence

3.09 Using a W1U cord, connect ground to the sleeve of the right plug of an idle cord circuit.

3.10 Connect the tip clip of the test plug cord to one terminal of the No. 38B lamp socket. Connect the other terminal of the lamp socket to the ring of the right plug of the idle cord circuit.

3.11 At the tie trunk circuit apparatus, block the ST relay nonoperated. Connect one clip of the test receiver to the top winding terminal of relay ST and connect the other clip to battery. Using a W1U cord, connect ground to the No. 4 bottom spring of relay D.

3.12 While observing the B2 lamp in the No. 38B lamp socket and listening for clicks in the test receiver, slowly insert the test plug into the dial jack. When the tip of the plug makes contact with the ring spring of the jack, the lamp should light.

3.13 Continue to insert the test plug into the jack very carefully until the B2 lamp is extinguished. No click should be heard in the test receiver up to this time.

3.14 Complete the insertion of the test plug into the jack. A click should be heard in the test receiver before the plug is fully seated.

3.15 Remove the test plug and disconnect the lamp socket. Remove the blocking tool from relay ST and disconnect the test receiver and W1U cords.

D. Trunk Operation Test

3.16 Insert the left plug of an idle cord into the talk jack of the trunk. The line lamp of the trunk should light. Operate the NIGHT & THRU DIAL key. Connect the clips of the test receiver to the tip and ring of the right plug of the cord circuit. A click should be heard in the test receiver.

3.17 Disconnect the test receiver and restore the NIGHT & THRU DIAL key. Connect the attendant telephone set to the telephone set jacks. Insert the left plug of another idle cord circuit into the dial jack of the trunk and operate the TALK & DIAL key of this cord circuit.

3.18 Dial the number assigned to the attendant of the distant PBX. When dialing is completed, remove the plug from the dial jack and restore the TALK & DIAL key of this cord. Operate the TALK & DIAL key of the cord circuit connected to the talk jack of the trunk under test. When the distant attendant answers, the line lamp should be extinguished.

3.19 Request the distant attendant to disconnect from the trunk and to originate a call to the tie trunk under test after a few seconds. When the distant attendant disconnects, the line lamp at the trunk under test should light. When the line lamp lights, remove the cord circuit plug from the talk jack. The lamp should be extinguished.

3.20 When the distant attendant originates a call, the line lamp of the tie trunk under test should light. Insert the left plug of the cord circuit into the talk jack. The line lamp should be extinguished. Advise the distant PBX attendant that the tests are completed. When the distant PBX attendant disconnects, the line lamp should light.

3.21 Remove the left plug of the cord circuit from the talk jack. The line lamp should be extinguished. Restore the TALK & DIAL key. Disconnect the attendant telephone set.