

## CENTRAL OFFICE TRUNKS OPERATION TESTS

### 550B, 550C, 550SC, 551A, 551B, 551D, 555, 556A AND 557A PBX

#### 1. GENERAL

1.01 This section describes a method of testing central office trunk circuits of the 550B, 550C, 550SC, 551A, 551B, 551D, 555, 556A, and 557A PBX.

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

1.03 In order to avoid the effects of clicks, the test receiver should be kept away from the ear.

1.04 On 550B, 550C, 550SC, 551A, 551B, and 551D PBXs, the trunk cord is the front cord and the station cord is the rear cord. On 555, 556A, and 557A PBXs, the trunk cord is the left cord and the station cord is the right cord. Ground may be obtained from the metal cams of the cord circuit keys on 550B, 550C, 550SC, 551A, 551B, and 551D PBXs or from the metal framework of 555, 556A, and 557A PBXs.

#### 2. APPARATUS

##### Test A

2.01 Attendant telephone set connected in the telephone set jacks of the PBX.

##### Tests B, D, and E

2.02 Test receiver—No. 716E receiver attached to a W2AB cord equipped with two No. 360A tools (2W21A cord) and two KS-6278 tools or equivalent.

##### Test C

2.03 Testing cord—W1U cord.

##### Tests D and E

2.04 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.

#### 3. METHOD

##### A. Test of Trunk Ringup Relay Operation

3.01 Insert the TRUNK & STATION plug of an idle cord circuit into an idle trunk jack. Originate a call from the PBX over the trunk. In manual central office areas request the operator ring back on the trunk. In dial system central office areas, except those with line-switch message rate trunks (see note), dial the appropriate reverting call code if available. In all other cases call the test desk and request a ring on the trunk.

**Note:** False registration of the message register may be caused by ringing through message register trunks in line switch offices.

3.02 After requesting a ring or after dialing the reverting call code, disconnect the cord circuit from the trunk. When the ringing signal is received, verify that the trunk lamp lights steadily, indicating that the ringup relay operates properly.

3.03 Insert the plug of a trunk cord into the trunk jack. Verify that the trunk lamp is extinguished (with manual ringing the lamp will remain lighted until ringing ceases on the 555, 556, and 557 PBXs), indicating the ringup relay releases properly.

3.04 On 551D and 557A PBXs, verify that the lamps in multiple with the trunk lamp are also lighted and extinguished in unison with it. The busy lamps associated with the trunk on 551D and 557A PBXs should remain lighted while the plug is in the jack.

3.05 Disconnect the cord. Verify that the trunk lamp remains extinguished.

##### B. Test of Trunk Polarity

3.06 Operate the NIGHT & THRU DIAL key of an idle cord circuit and insert the plug of the associated trunk cord into the trunk jack. Connect one clip of the test receiver to ground and touch the other clip alternately to the tip and ring of the plug on the associated station cord. A louder click should be obtained from the ring than from the tip of the plug unless, in accordance with local instructions, a reversed polarity is called for. (Also see note.) With reversed polarity, a louder click will be obtained from the tip than from the ring of the plug.

**Note:** In 24-volt manual office areas with PBXs having a local battery floated over a full metallic feeder from 48-volt office battery, or with a 555 or 557A PBX having a full metallic feeder from 48-volt office battery, a louder click will be obtained from the tip than from the ring if the voltage drop in the ground feeder is more than 12 volts.

3.07 Disconnect the test receiver and restore the equipment to normal.

##### C. Test for Short-circuited Tip Winding of the 1000-1000-ohm Central Office Line Relay of 550B, 550C, 550SC, 551A, 551B, and 551D PBXs (Manual Areas With Through Cord Supervision Only)

3.08 If the trunk is connected to a manual office, make this test after making the polarity test given in 3.06 and 3.07.

3.09 Operate the NIGHT & THRU DIAL key of an idle cord circuit and connect the tip and sleeve of the plug on the station cord together with a W1U cord. Insert the plug of the trunk cord into the trunk jack of the trunk under test. Verify that the station cord lamp lights.

3.10 Disconnect the W1U cord and restore the equipment to normal.

##### D. Test for Trunk Jack Cutout

3.11 Connect the test receiver to the tip and ring clips of the test plug cord and insert the plug into the trunk jack to be tested. In the 556A PBX only, connect the sleeve of the test plug cord to the sleeve of an idle TRUNK & STATION cord. 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 play in the jack, rotate the plug through a complete circle with a cranking motion. Cutouts will be indicated by clicks in the test receiver.

3.12 Remove the test plug and disconnect the test receiver.

##### E. Test of Trunk Jack Sleeve Circuit

3.13 On 550B, 550C, 550SC, 551A, 551B, and 551D PBXs, connect one clip of the test receiver to the tip of a plug on an idle cord circuit.

3.14 On 555, 556A, and 557A PBXs, connect one clip of the test receiver to the sleeve of an idle TRUNK & STATION cord.

3.15 Insert the test plug into the trunk jack and touch the free clip of the test receiver to the sleeve clip of the test plug cord. A click should be heard.

3.16 Remove the test plug.

3.17 With one clip of the test receiver still connected to the tip or sleeve (see 3.13 or 3.14) of the plug of an idle cord circuit, touch the free clip of the test receiver to the sleeve of

**SECTION 536-490-665**

the trunk jack. On the 550B PBX a sharp click is heard unless the board is equipped with a sleeve resistance of 2050 ohms, in which case a faint click should be heard. With the 550C, 550SC, 551A, 551B, 551D, 555, 556A, and 557A PBXs, no click should be heard.

3.18 Disconnect the test receiver.

**F. Test of Toll Rering Feature of 555, 556A, and 557A PBXs**

3.19 Connect the trunk plug of an idle cord circuit to the jack of the central office trunk.

3.20 Obtain a ring on the trunk from the operator in the case of a manual office, or from the test desk in the case of a dial office. Verify that the trunk lamp lights while ringing current is on the line.

3.21 On the 557A multiple PBXs, the trunk lamp and the lamps in multiple should light while ringing current is on the line.

3.22 Restore the equipment to normal.