TRUNKS - OPERATION TESTS
750A PBX

1. GENERAL

1.01 This section describes a method of testing the operating features of trunks.

1.02 This section has been reissued to describe a method of testing trunk polarity, operation of the emergency trunk key, and visual signals arranged to provide a flashing signal on incoming calls and a steady signal on busy trunks, and to include information on the timing circuit feature. Since this issue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

(A) Trunk Polarity.
(B) Trunk Ringing Circuit.
(C) Timing Circuit for Trunk Signals.
(D) Trunk Holding, Busy, and Transfer Feature.
(E) Control Cabinet Circuit.
(F) Trunk Emergency Key Circuit.

1.04 The receiver of the dial hand test set should be kept away from the ear to avoid the effect of clicks when performing tests.

2. APPARATUS

2.01 Dial Hand Test Set No. 1011B equipped with a W2BT Cord, or equivalent.

3. METHOD

(A) Trunk Polarity

3.01 At the terminal strip in the PBX cabinet, connect one clip of the dial hand test set to the PBX ground and operate the switch to the Talk position. Alternately touch the other clip to the tip and ring terminals of the trunk under test. A louder click should be obtained from the ring terminal than from the tip. Where the trunk is from a 24-volt manual office and the PBX has a local battery floated over a 48-volt full metallic feeder, there will be a louder click obtained from the tip than from the ring if the ground feeder has a voltage drop of more than 12 volts.

3.02 Disconnect the dial hand test set.

(B) Trunk Ringing Circuit

3.03 At a key station that is arranged for outgoing service, depress a trunk button, establish a call to the operator, and request a ringback on the trunk. If the trunk is connected to a dial central office which is equipped with a reverting call circuit, the ringback may be obtained by dialing the appropriate reverting ring code. Replace the hand set on the mounting.

3.04 When ringing current is applied to the trunk, observe that the audible or visual signal, or both signals when provided, operates satisfactorily and in accordance with the circuit arrangement.

3.05 Remove the hand set from the mounting. Note that the audible signal is silenced and that the visual signal, if arranged for steady operation on incoming calls, is extinguished. If the visual signal is arranged to flash on incoming calls and to remain steadily lighted when the trunk is busy, observe that flashing ceases.

3.06 Replace the hand set on the mounting and observe that the trunk busy lamp is extinguished.

3.07 Repeat the operation covered in 3.03 to 3.06 on all working trunks.

(C) Timing Circuit for Trunk Signals

3.08 At a key station that is arranged for outgoing service, depress a trunk button, establish a call to the operator, and request a ringback on the trunk. If the trunk is connected to a dial central office which is equipped with a reverting call circuit, the ringback may be obtained by dialing the appropriate reverting ring code. Replace the hand set on the mounting.

3.09 When ringing current is applied to the trunk, observe that the lamp associated with the trunk lights and, if connected to a manual office, remains lighted for slightly more than four seconds after ringing current is removed. When machine ringing current is employed, observe that the lamp remains lighted during the silent period. Trip the ringing.

(D) Trunk Holding, Busy, and Transfer Features

3.10 At a key station that is arranged for outgoing service, depress a trunk button, establish a call to the operator, and request her to leave the plug in the jack until a disconnect signal is received.

3.11 Depress the (H) button for a short interval. After operating the (H) button, blow in the transmitter and note that battery is removed from the station set. Also, observe that trunk busy lamp remains lighted, if provided.

3.12 Depress the local (L) button and when local dial tone is heard in the receiver, dial 00 (zero-zero). Busy tone should be heard in the receiver.

3.13 Reoperate the button of the trunk under test. The connection to the central office should still be held and the operator should not answer nor should dial tone be heard if connected to a dial central office. If the operator challenges or dial tone is heard, this indicates a holding circuit failure. However, should a failure occur, operations covered in 3.10 to 3.13 should be repeated to retest the holding feature, as the connections may possibly have been broken by the operator removing the plug from the jack in error or by faulty operation of the keys at another station. Leave the hand set off the mounting.

3.14 At a nearby key station that is restricted from connection to a busy trunk, but is arranged for outgoing service, depress the button associated with the trunk being tested and remove the hand set from the mounting. Busy tone should be heard in the receiver.

3.15 Depress the local (L) button and when dial tone is heard, dial the number of the station to which the trunk is connected. Busy tone should be heard in the receiver.

3.16 Replace the hand set on the mounting and return to the station which is connected to the trunk.

3.17 Listen in the receiver and flash the operator. No excessive clicks should be heard in the receiver while flashing. When the operator challenges, request her to disconnect from the circuit. Replace the hand set on the mounting.

3.18 Repeat the operations covered in 3.10 to 3.17 on all working trunks.

(E) Control Cabinet Circuit

3.19 At the control cabinet, connect the dial hand test set, with its switch in the monitor position, to the T and R terminals of the MON key associated with a keyless station line.

3.20 Operate the dial hand test set switch to the Talk position. When dial tone is heard in the receiver, reoperate the switch to the monitor position.

3.21 At the key telephone set associated with the control cabinet, establish a call to the operator and request her to leave the plug in the jack until she receives a disconnect signal.

3.22 Operate the dial hand test set switch to the Talk position.

3.23 Operate the MON key at the control cabinet and listen in the receiver of the hand set of the key telephone set. Local dial tone should be heard in the receiver.

© American Telephone and Telegraph Company, 1956
Printed in U. S. A.

3.24 Release the MON key, listen in the receiver of the dial hand test set, and operate the Ring key at the control cabinet. Ringing current should be heard in the receiver.

3.25 While listening in the receiver of the dial hand test set, release the Ring key, operate the Talk key at the control cabinet, and tap the transmitter of the key telephone set. The tapping should be heard in the receiver of the dial hand test set.

3.26 Replace the hand set of the key telephone set on the mounting, flash the operator from the dial hand test set, and request her to disconnect from the circuit.

3.27 Disconnect the dial hand test set from the control cabinet and restore the equipment to normal.

(F) Trunk Emergency Key Circuit

3.28 At the key station, with which the trunk emergency key is associated, operate the local (L) button and remove the hand set from the mounting. Local dial tone should be heard in the receiver.

3.29 Operate the trunk emergency key. Operation of the trunk emergency key connects the station directly to the trunk. When the operator answers or central office dial tone is heard in the receiver, obtain a ringback in the usual manner. Replace the handset on the mounting.

3.30 When ringing current is applied to the trunk, the ringer or ringers connected to the station side of the trunk emergency key and any audible signals, such as ringers, that may normally be connected to the trunk ahead of the PBX, should operate satisfactorily.

3.31 When the test is completed, inform the operator or trip the ringing and restore the trunk emergency key to normal.