

COIN TRUNK TEST SET  
 FOR OUTGOING TRUNKS - ARRANGED FOR  
 DIAL COIN ZONE SERVICES

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1. GENERAL INFORMATION

1.1 Description: This section describes the tests to be applied to the Coin Trunk Test Set, SD-96372-01 (J94721A-2). This Test set is used for testing outgoing trunks arranged for coin first or dial tone first coin zone service.

2. RECORDS AND REQUIREMENTS

2.1 Records

2.11 Forms SD-4-1313 and SD-4-1315 are required for recording the results of these tests. For further information see Handbook 3, Section 6B.

2.2 Requirements

2.21 The tests in this section are based on SD and CD information.

3. TEST EQUIPMENT

3.1 Test Sets

Note	Amt	Code	Description
R	1	ITE-4040	D.C. Adjusting Set
	1	ITE-4631	Test Receiver

3.2 Cords

Note	Amt	Code	Lgth	Cdrs	One End	Other End	With Set
T	4	397A	6'	3	310 Plug	310 Plug	J94721
T	1	3P12E	6'	3	310 Plug	310 Plug	J94721
T	1	3P15A	6'	3	310 Plug	310 Plug	J94721
	1	20 GA Wire	6'	1	Alligator clips		-

3.3 Accessories

Note	Amt	Code	Description	With Set
T	1	52S Opr.	Tel. Set	J94721

3.4 Notes

T - Telephone company maintenance equipment which should be available on the job and need not be requisitioned.  
 R - Requisition.

4. TEST SETUP

4.1 As outlined in the method.

5. OPERATION TESTS

5.1 General Information

5.11 The operation tests are divided into a number of parts, covering the major functions of the test circuit over the tip, ring and sleeve leads of the CR, CO, and T jacks. The CNF key should be operated until told to release.

5.12 Locate the test set near the trunk frame and connect the A jack of the test set to the corresponding jack on the trunk frame.

5.13 The DC adjusting set, ITE-4040, is used to measure current flow and polarity for certain conductors. In order to prevent damage to the milliammeter, always set the resistance sliders for maximum resistance before closing any telegraph key circuit. Place the M toggle switch in the POS position. Connect 48 volts and ground to the set. Connect the other jacks as requested in the method.

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- 5.2 Sleeve Lead - CR Jack
- 5.21 Busy and Idle Test
- 5.211 Operate key CNF, ground the sleeve of the CR jack. Lamp B lights.
- 5.212 Operate key BT-CP. No change takes place.
- 5.213 Remove the ground from the sleeve of the CR jack. Lamp B is extinguished. Lamp IDL lights.
- 5.214 With a test receiver, test for ground on the sleeve of the CR jack.
- 5.22 Trunk C Relay Path
- 5.221 Connect the test jack of the DC adjusting set to the CR jack.
- 5.222 Place the SETUP switch in the BAT position.
- 5.223 Block the TC relay normal.
- 5.224 Operate key T-CO. Lamp IDL is extinguished.
- 5.225 Connect the tip and sleeve pin jacks, of the DC adjusting set, together. (This preparation permits the sleeve of the coin trunk test set CR jack to be associated with the milliammeter, and leaves the tip and ring, open and clear).
- 5.226 Close the circuit of one of the telegraph keys and slowly reduce and remove all resistance associated with it. The current reading should be approximately 89 milliamperes, (H) option or 29 milliamperes (G) option. This verifies the path through the B resistance.
- 5.227 Observe that the sleeve circuit through the meter is opened, by manually operating either the CO or CO1 relay.
- 5.228 Open the telegraph key circuit and remove the connection from between the tip and sleeve pin jacks.
- 5.229 Release the T-CO key and remove the block from the TC relay. Lamp IDL lights.
- 5.3 Tip and Ring - CR Jack
- 5.31 Trunk A Relay Operate Path
- 5.311 Place the SETUP switch of the DC adjusting set in the BG position.

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- 5.312 Block operated the P2 relay. Check that P3 relay operates.
- 5.313 Insulate contacts upper 2 and 3 of the C5 relay
- 5.314 Close the circuit of one of the telegraph keys and slowly reduce and remove all resistance associated with it. The current reading should be approximately 31 milliamperes, (H) option and 24 milliamperes with (G) option. Lamp TRK-C lights.
- 5.315 Block operated the AR1 relay the current reading should be approximately 14 milliamperes with (H) option and 11 milliamperes with (G) option.
- 5.316 Block operated the C5 relay. The current reading should be approximately 20 milliamperes with (H) option and 15 milliamperes with (G) option. Lamp C lights (disregard CC or CR lamps).
- 5.317 Remove insulation from 2 and 3 upper contacts of C5 relay and the block from relay AR1. Open the telegraph key circuit. Lamp TRK-C is extinguished.
- 5.32 C2 Marginal Relay
- 5.321 Insulate contacts upper 1 and 2 of the C5 relay. Lamp C is extinguished.
- 5.322 Block operated the C1 relay. Lamp TRK-C lights.
- 5.323 Place the SETUP switch of the DC adjusting set in the BAT position and leave the REV key normal.
- 5.324 Close the circuit one of the telegraph keys and slowly reduce the resistance. When all resistance has been removed a current reading of approximately 33 milliamperes should be obtained. Lamp TG lights.
- 5.325 Open the telegraph key circuit. Lamp TG is extinguished.
- 5.33 CC and CR Lamps
- 5.331 Remove insulation from upper 1 and 2 contacts of the C5 relay and leave the C5 relay blocked operated. Lamps C and CC light, (when Z wiring is furnished).
- NOTE: When Y wiring is furnished, the lighting of the CC and CR lamps is reversed.

- 5.332 Remove the block from the C1 relay. Lamp TRK-C is extinguished.
- 5.334 Place the SETUP switch of the DC adjusting set in the LG position.
- 5.335 Close the circuit of one of the telegraph keys and slowly reduce the resistance until a current reading of 13 milliamperes is obtained.
- 5.336 The C relay operates. Lamp C remains lighted. Lamp CC is extinguished and lamp CR lights. (When Z wiring is furnished.)
- 5.337 Remove all insulation and blocks from relays and open the telegraph key circuit. Manually release the P3 relay.
- 5.34 Continuity and Polarity Path
- 5.341 Key BT-CP should still be operated.
- 5.342 Block normal the TC relay.
- 5.343 Close the circuit of one of the telegraph keys and slowly remove all resistance associated with it. The current reading (thru the CP relay and resistance) should be approximately 1.6 milliamperes. Lamp CP lights.
- 5.344 Open the telegraph key circuit. Place the SETUP switch of the DC adjusting set in the M position. Lamp CP is extinguished. Remove the block from the TC relay.
- 5.345 Operate key TRL. Close the circuit of one of the telegraph keys and slowly reduce all resistance associated with it. The current reading should be approximately 0.7 of a milliampere. Lamp T lights.
- 5.346 Open the telegraph key circuit and raise its resistance. Lamp T is extinguished. Release key TRL. Operate key TC-O. Lamp IDL is extinguished.
- 5.347 Close the circuit of one of the telegraph keys and slowly remove all resistance associated with it. The current reading should be approximately 6 milliamperes. Lamp T lights.
- 5.348 Open the telegraph key. Lamp T is extinguished.
- 5.349 Place the SETUP switch of the DC adjusting set in the LG position. The R lamp lights. Release all keys. The circuit restores to normal.
- 5.35 Trunk P Relay Path
- 5.351 Block operated the IDL relay. Operate the P and P-NS keys.
- 5.352 Place the SETUP switch of the DC adjusting set in the M position. Close the circuit of one of the telegraph keys and slowly remove all resistance associated with it. The current reading should be approximately 105 milliamperes.
- 5.353 Open the telegraph key circuit. Operate the REV key.
- 5.354 Release the P-NS key and operate the P-PS key.
- 5.355 Close the telegraph key circuit and remove all associated resistance. The current reading should be approximately 105 milliamperes.
- 5.356 Release key P-PS and operate key P-OPR. The current reading should be approximately 10 milliamperes.
- 5.357 Release key P-OPR and operate key P-NO. The current reading should be approximately 7 milliamperes.
- 5.358 Release key P-NO. The current reading should be approximately 4 milliamperes.
- 5.359 Remove the block from the IDL relay, open the telegraph key circuit, release P and REV keys.
- 5.4 Talk and Tone Test
- 5.41 CR Jack
- 5.411 Remove the test cord from the test jack of the DC adjusting set.
- 5.412 Block the P2 relay operated. Insert the 52S operator's telephone set into the A and B TEL jacks.
- 5.413 Talk into the operator's telephone set and listen for your voice with a test receiver connected to the tip and ring of the CR jack.
- 5.414 Observe that when either the DISC-5-12 or TLK-OE key is momentarily operated, transmission cannot be heard.
- 5.415 Operate the T key. Tone should be heard in the test receiver.

- 5.42 CO Jack
- 5.421 Remove the test cord and test receiver from the CR jack and insert the cord in the CO jack with the test receiver connected to the tip and ring.
- 5.422 Operate the TLK-OE key. Dial tone should be heard in the test receiver, with the T key operated.
- 5.423 Release the T key. Talk into the operator's telephone set and listen for your voice in the test receiver.
- 5.424 Observe that when the TLK-OE key is released, the transmission cannot be heard.
- 5.425 Remove the block from the P2 relay. Disconnect the test receiver from the test cord.
- 5.5 Tip and Ring - CO Jack
- 5.51 Trunk P Relay Path
- 5.511 Connect the test cord between the CO jack of the coin trunk test set and the test jack of the DC adjusting set.
- 5.512 Place the SETUP switch of the DC adjusting set in the BG position.
- 5.513 Block operated the P relay.
- 5.514 Close the circuit of one of the telegraph keys and slowly reduce the associated resistance until a current reading of 3 milliamperes is obtained. The P1 relay operates and lamp P lights.
- 5.515 Open the telegraph key circuit and remove the block from the P relay. Lamp P is extinguished.
- 5.52 Trunk Tip and Ring Continuity Check
- 5.521 Remove the test cord from the DC adjusting set and with a test receiver test for absence of battery or ground from either the tip or ring of the cord. Reinsert the test cord in test jack of the DC adjusting set.
- 5.522 Block operated the TC relay. Place the SETUP switch of the DC adjusting set in the M position and operate the REV key.
- 5.523 Close the circuit of one of the telegraph keys and slowly remove all resistance associated with it. The current reading should be approximately 30 milliamperes.
- 5.524 Remove the block from the TC relay and operate the CTR key. With all resistance removed, the current reading should be the same as in Paragraph 5.523.
- 5.525 Open the telegraph key circuit and release the CTR key.
- 5.53 Trunk CS Relay Path
- 5.5301 Block operated the P2 relay.
- 5.5302 Remove the test cord from the DC adjusting set, and using the test receiver, ground the tip of the test cord that is inserted in the CO jack. Lamp TG lights (may be dim). Remove the ground. Lamp TG is extinguished.
- 5.5303 Operate keys CS-NS.
- 5.5304 Connect the test cord between the test jack of the DC adjusting set and the CO jack.
- 5.5305 Close the circuit of one of the telegraph keys, and slowly reduce the associated resistance until a current reading of 62 milliamperes is obtained. The CS relay operates.
- 5.5306 Using the test receiver, ground the sleeve of the CR jack. Lamps SG and CS light (may be dim).
- 5.5307 Remove the ground. Lamps SG and CS are extinguished.
- 5.5308 Open the telegraph key circuit, and release the REV key.
- 5.5309 Release key CS-NS and operate key CS-OPR.
- 5.5310 Close the circuit of one of the telegraph keys and slowly reduce and remove all resistance associated with it. The current reading should be approximately 8 milliamperes.
- 5.5311 Open the telegraph key circuit and insert a test cord in the INT jack of the test set.
- 5.5312 Release key CS-OPR and operate key CS, S-R.
- 5.5313 Temporarily short circuit the tip and ring of the INT cord that is inserted in the coin trunk test set and protect it from being grounded.

- 5.5314 Close the telegraph key circuit and slowly reduce the associated resistance until a current reading of 100 milliamperes is obtained.
- 5.5315 Remove the short circuit from the tip and ring of the INT cord. Slowly remove the remaining resistance associated with the telegraph key. The current reading should be approximately 1.1 milliamperes.
- 5.5316 Remove all insulation and block from relay. Restore all keys to normal. Remove the test cords from the CO and INT jacks.
- 5.6 Tip, Ring and Sleeve - T Jack
- 5.61 Tip Lead
- 5.611 Connect the test cord between the T jack of the DC adjusting set.
- 5.612 Place the SETUP switch of the DC adjusting set in the BAT position.
- 5.613 Block operated the IDL relay. Operate OPR-DISC key. Lamp OPR-D lights.
- 5.614 Close the circuit of one of the telegraph keys and slowly reduce and remove all resistance associated with it. The current reading should be approximately 2 milliamperes with (H) option and approximately 1.5 with (G) option. Lamp H-A1 lights.
- 5.615 Momentarily operate A-RL key. Check that the ARI relay operates and locks when the A-RL key is released. The current reading should be approximately 3.7 milliamperes with (H) option and 2.4 with (G) option.
- 5.616 Operate A1-RL key. When (S) option is furnished, the current reading should be approximately 1.1 milliamperes. When (T) option is furnished, the current reading should be approximately 0.9 milliamperes. When (G) option is furnished, current reading should be approximately .37 milliamperes.
- 5.617 Open the telegraph key circuit. Remove block from IDL relay release keys A1-RL and OPR-DISC. Lamps H-A1 and OPR-D are extinguished.
- 5.62 Ring Lead
- 5.621 Place the SETUP switch of the DC adjusting set in the GRD position.
- 5.622 Operate key BT-CP. Lamp IDL lights.
- 5.623 Close the circuit of one of the telegraph keys and slowly remove all resistance associated with it. The current reading should be approximately 48 milliamperes.
- 5.624 Using the test receiver, ground the sleeve of the CR jack. Lamp SG lights.
- 5.625 Release key BT-CP. Lamps SG and IDL are extinguished.
- 5.626 Open the telegraph key circuit and remove the ground from the sleeve of the CR jack.
- 5.63 Sleeve Lead
- 5.631 Remove the test cord from the DC adjusting set but leave it inserted in the T jack of the coin trunk test est.
- 5.632 Operate key TA. Block operated relay P3.
- 5.633 Using a test receiver, test for ground on the sleeve of the test cord. Release key TA and test for absence of ground on the sleeve of the test cord.
- 5.634 Remove the block from the P3 relay. Operate key T-RL.
- 5.635 Using the test receiver, ground the sleeve of the T jack. Lamp T-C lights. (May be dim). Remove the ground. Lamp T-C is extinguished.
- 5.636 Operate key CO. Lamps T-C and CO light.
- 5.637 Release key CO. Lamps TC and CO are extinguished. Check that CO1 relay lock operated.
- 5.638 After completion of test, restore circuit to normal and remove all associated cords, plugs, strapping, insulators and blocking tools if applicable.
6. DIAL TONE FIRST
- 6.1 General Information
- 6.11 Two features were added to the test circuit to test trunks arranged for Dial Tone First. The first feature checks for presence of a positive 48 volt battery on the ring lead only the second feature checks for coin collect and coin return potentials on the tip lead only.

- 6.21 Connect the test jack of the LC adjusting set to the CR jack.
- 6.22 Place the SETUP switch of the DC adjusting set in the BG position, the M toggle switch in the NEG position, and operate the REV keys.
- 6.23 Block relay P2 operated, relay P3 operates. Insulate 2 and 3 top of Relay C5.
- 6.24 Close the circuit of one of the telegraph keys and slowly reduce all resistances associated with it. The current reading should be approximately 31 milliamperes, (H) option, and 24 milliamperes with (G) option. Lamp TRK-C lights.
- 6.25 Operate key T, lamp POS lights indicating that the test circuit has received a positive 48 volt battery potential.
- 6.26 Release the T key, lamp POS extinguishes.
- 6.27 Open the telegraph key circuit and remove the insulation from 2 and 3 top of relay C5. Lamp TRK-C is extinguished.
- 6.3 Coin Collect and Coin Return Test
- 6.31 Release the CNF key and short out the V resistor.
- 6.32 Operate key BT-CP, lamp IDL lights.
- 6.33 Momentarily operate the C6 relay.
- 6.34 Place the SETUP switch of the DC adjusting set in the BAT position, the M toggle switch in the POS position, and release the KEV key.
- 6.35 Close the circuit of one of the telegraph keys and slowly reduce all resistances associated with it. The current reading should be approximately 38 milliamperes/
- 6.36 Open the telegraph key, lamp C lights as an indication of the removal of coin current. Lamp CC lights with option (Y), lamp CR lights with option (Z) as an indication that coin potential was applied.
- 6.37 Remove the block from relay P2, release and reoperate key BT-CP, the test circuit returns to normal.
- 6.38 After completion of test, restore circuit to normal and remove all associated cords, plugs, strapping, insulators and blocking tools if applicable.

→ Arrowed lines indicate new or changed information.

Manager, Engineering, Switching  
Equipment and SXS P.E.C.C.

#### Reason for Reissue:

To incorporate miscellaneous Handbook Sections into one Handbook Section and to make general revisions to update to current engineering standards.