TEST OF NUMBER CHECK AND REGISTER TEST INCOMING TRUNKS AND THE SLEEVE SIGNAL REPEATING CIRCUIT

CONTENTS

1. GENERAL INFORMATION

1.1 Description of Tests

1.11 Refer to Section 207 for the common tests to be applied to the circuits covered by this section.

1.12 The following circuits are tested by this method:

SD No.	Name	Supp. Test Para.
25288	Slv. Sig. Rep. Ckt.	6
25329	No. Checking Inc. Trunk	5
25352	Misc. Ckt. for LMRR	4
25433	Inc. Trunk from LMRR	4

In addition to the above circuit tests a test is made of the associated TSL crosspoints.

1.2 Manload: For recommended manload refer to Section 0.1 HB 62.

1.3 TSL Crosspoint Test

The crosspoint test described in Paragraph 3 is made to test the TSL crosspoints referred to in Paragraph 12, Section 212, of this handbook.

2. TEST EQUIPMENT

2.1 Equipment Required For Testing SD-25352 and SD-25433

2.11 Test Sets and Accessories

Amt.	ITE	Description	With ITE
1	D-81762	Telephone Handset	4023
As Req.	8507	Alligator Clip	4023
As Req.	298A	Make Busy Plug	4023

2.12 Cords

Amt	ITE	Lgth	Cdrs	One End	Other End	With ITE
2	1W6A	12'	1	116 Plug	360B Clip	≠
1	1W12A	12'	1	116 Plug	262 Pick	≠
1	5P2A	12'	5	325BPlug	109 & 110 Plugs	≠
¢1	9639	12'	3	110 Plug	ITE-2455	4023
1	9650	6'	4	137 Plug	Tel. Set	4023

≠ Telephone Company Equipment.
¢ Equip the ITE-2455 plugs with alligator clips.

2.2 Equipment Required for Testing SD-25329

2.21 Test Sets and Accessories

Amt	ITE	Description	With ITE
1	4010	Term. Equip. Test Set	
1	2418	Buzzer Set	
1	4052	Contact Fixture	4010

2.22 Cords

Amt.	ITE	Lgth	Cdrs	One End	Other End	With ITE
1	9598	12'	2	110 Plug	110 Plug	4023
1	9601	12'	3	110 Plug	110 Plug	4023
1	9639	12'	3	110 Plug	ITE-2455	4023
1	9650	6'	4	137 Plug	Tel. Set	4023

3. TSL CROSSPOINT TEST (Refer to Handbook 62, Section 212, Paragraph 12)

Complete three test calls over each trunk by routing one call through each sender subgroup. Busy out the sender subgroups not used. One tester originates the call while the other tester observes that the proper sender is selected. The sender selected is indicated by a momentary flash of the associated S lamp on the TTI frame.

4. INCOMING TRUNK FROM LMRR SD-25433 AND MISCELLANEOUS CIRCUIT FOR LMRR SD-25352

4.01 Setup for Test

4.011 Patch the T and T1 jacks (associated with the miscellaneous circuit for the LMRR) to an assigned two party line using a 5P2A S.O. cord.

4.012 If both registers are not cross-connected, make temporary connections.

4.02 Ring Party

4.021 Plug the D-81762, Hand Telephone Set, into the TRK jack at the line message register rack. Order tone or dial tone is heard in the handset receiver. Pass to the B operator or dial the directory number as required of the ring party. The R and BY lamps light when connection is made to the line.

4.022 Plug a 1W12A test cord into BUZ jack. Touch the test pick to the ring party message register punching at the line distributing frame. The MR buzzer on the LDF sounds.

4.023 Remove the handset from the TRK jack to release the connection.

4.03 Tip Party and Call Originating By Subscriber

4.031 Plug the handset into the TRK jack. Order tone or dial tone is heard. Pass to the B operator or dial the directory number of the tip party. The T and BY lamps light when the connection is made to the line.

4.032 Touch the test pick of the 1W12A test cord in BUZ jack to the tip party message register punching. The MR buzzer on the LDF sounds.

4.033 Insert the plug of an ITE-9639 cord into a multiple of the T jack at the line link frame. Connect the tip and ring together. The buzzer associated with the incoming trunk and located at the LMRR sounds. Repeat this test at each multiple appearance of the T jack.

4.034 Withdraw the handset from the TRK jack to release the connection.

4.04 Busy Line

4.041 Plug the handset into the TRK jack. Pass to the B operator or dial the number of the office permanent busy line. The marker attempts to make connection and upon finding the line busy sets the incoming so that line busy tone interrupted at 60 IPM is returned to the originating point.

4.042 Withdraw the handset from the TRK jack to release the connection.

4.05 Overflow

4.051 Plug the handset into the TRK jack. Pass to the operator or dial the number of the overflow test line. Overflow tone interrupted at 120 IPM is heard in the handset.

4.052 Release the connection.

4.06 Calling Wrong Line

NOTE: A tester should occupy an A intercept position for this test. When centralized A Board intercepting outgoing trunk circuits (SD-25412 or similar) are installed, ringing indication will not be heard, nor will operator answer. Verify that call is directed to intercepting trunk.

4.061 Originate a call to an unassigned number. The call will be routed to intercept. Observe that ringing is heard until the operator answers.

4.062 Restore the equipment to normal.

4.07 NH Lead (Z Wiring, SD-25433)

4.071 Connect the 5P2A S.O. cord to the second cross-connected line of an assigned PBX group of three or more lines.

4.072 Plug the handset into the TRK jack. Pass to the operator or dial the line number (not the PBX group directory number.) Lamps H and BY light when the line is reached.

4.073 Touch the test pick of the 1W12A test cord in the BUZ jack to the message register punching associated with the called line. The MR buzzer sounds.

4.074 Release the connection.

4.08 NHX Lead (Y Wiring, SD-25433)

4.081 Connect the 5P2A S.O. cord to a cross-connected line whose number is not in the regular numbering series. Use the second line of a PBX group of more than two lines.

4.082 Plug the handset into the X-TRK jack. After order or dial tone is heard, pass to the operator or dial, the patched line number. Lamps H and BY light when the line is reached.

4.083 Touch the test pick of the 1W12A test cord in the BUZ jack to the message register punching associated with the called line. The MR buzzer sounds.

4.084 Release the connection.

4.09 Premature Disconnect

4.091 Make connections as outlined in Paragraph 4.01.

4.092 Plug the handset into the TRK jack. When order tone or dial tone is heard, remove the handset from the TRK jack and note that the equipment restores to normal.

4.10 Calls to Second Office - Incoming Trunks Not Common

4.101 When two offices which do not have common trunks are served by the same message register rack miscellaneous circuit, repeat the tests of Paragraphs 4.01 to 4.08, using the B-TRK and BX-TRK jacks instead of the TRK and X-TRK jacks, respectively.

4.11 Test Jack and Buzzer Test

4.111 Set up a call as outlined in Paragraphs 4.01 and 4.021 or 4.031.

4.112 Insert the plug of an ITE-9639 cord into the message register rack T jack. Connect the ring to ground and the tip to the line distributing frame BUZ 2 jack using a 1W6A test cord. Insert the plug of a 1W12A test cord in the BUZ 1 jack and touch the test pick to the T jack tip BUZ 2 jack connection. The MR buzzer sounds.

4.113 Remove the connection from the BUZ 2 jack to the T jack tip. Using two 1W6A test cords connect the BUZ 2 jack to the T jack of the line distributing frame. Touch the test pick of the cord from the BUZ 1 jack to this connection. The MR buzzer sounds.

4.114 Remove the plug from the BUZ 2 and insert it in the BUZ jack connecting together the T and BUZ jacks. The buzzer remains silent and neither the B nor G relays of the line message register rack miscellaneous circuit operate. Remove all cords from the jacks.

4.12 Call Through Test-Ring Party Message Register and Non-Coin L Relay Test

4.121 Make connections as outlined in Paragraph 4.01.

4.122 Insert a 298A plug into the NO jack at the register rack. Plug the handset into the L jack. This applies a non-operate test to the line relay. If the line relay fails, lamp BY lights and dial tone is heard in the handset.

4.123 If the line relay meets the non-operate test, remove the plug from the NO jack. An operate test is applied to the line relay. Lamp BY lights and dial tone is heard if the operate test is satisfactory.

4.124 Dial the code and number of the subscriber line assoicated with this circuit. When ringing induction is heard in the handset receiver, insert a 298A plug in the ANS jack. Ringing is tripped and the ring party message register operates. Remove the plug from the ANS jack and the handset from the L jack to release the circuit. The BY lamp is extinguitshed.

4.13 Call Through Test - Tip Party Message Register

4.131 The connections for this test are the same as for ring party. (See Paragraph 4.01.)

4.132 Insert a 298A plug into the GRD jack at the register rack. Plug the handset into the L jack. Lamp BY lights and dial tone is heard.

4.133 Dial the code and number of the subscriber line associated with this circuit. When ringing induction is heard, remove the plug from the GRD jack and insert it in the ANS jack. Ringing is tripped and the tip party message register operates. Remove the plug from the ANS jack and the handset from the L jack to release the circuit. Lamp BY is extinguished.

4.14 L Relay Test - Prepayment Coin Line

4.141 At the line link frame patch the T and T1 jacks to an assigned prepayment coin line using a 5P2A cord.

4.142 Insert 298A plugs in the NO, ANS and GRD jacks. Plug the handset into the L jack. A non-operate test is applied to the line relay. If the relay fails, lamp BY lights and dial tone is heard.

4.143 If the line relay meets the non-operate test remove the plug from the NO jack. An operate test is applied to the line relay. Lamp BY lights and dial tone is heard in the handset if this test is met.

4.144 Remove all pluts and connections to restore the equipment to normal.

4.15 Dialing Recorders Talking Line (Figures 9 and 10 - SD-25352)

4.151 Originate a call from the line message register rack dialing recorders talking line to the recorders desk. Check talking between the register rack and the recorders desk. Restore the circuits to normal.

4.152 Dial the code and number of the message register rack talking line at the recorders desk. The subset rings at the register rack.

4.153 Answer the call with the handset at the register rack. Connect an operator's telephone set to the RCDR jacks at the register rack then hang up the handset. Check talking from the telephone set to the recorders desk. Remove the telephone set from the RCDR jacks to release the connection.

4.154 Make another call per Paragraph 4.152. Answer the call by plugging the operator's telephone set into the RCDR jacks. Check talking. Release the connection.

4.16 Direct Recorder's Talking Line (Figures 7 and 8 - SD-25352)

4.161 Connect an operator's telephone set to the RCDR jacks at the message register rack. Check talking between the register rack and the recorder's desk.

4.162 Disconnect from both ends.

4.17 Crosspoint Test (See Paragraph 3.)

4.18 Miscellaneous Frame Circuit Tests

4.181 Frame Line: This circuit is tested in accordance with Section 309 of Handbook 63.

4.182 Frame A Jack: Check for 48 volt battery and ground on the tip and sleeve, respectively, of the A jack at the line message register rack.

5. NUMBER CHECKING TRUNK FROM TOLL, B OR FS, SD-25329

5.1 Setup for Test

5.11 Locate the ITE-4010 test set at the incoming trunk frame. Patch an operator's telepnone set into the TEL jacks. Patch an ITE-9598 cord into the test set and trunk frame A jacks. If the trunk circuit is provided with a test jack use an ITE-9601 cord and patch the trunk T jack to the test set T jack. If a trunk test jack is not provided use an ITE-9639 cord patched to the test set T jack. Attach the T and R terminals of the cord to an ITE-4052 fixture and attach the fixture to the trunk T and R terminals on the vertical unit terminal strip.

5.12 Run a test lead from the LDF to the MDF. Use it to connect the NS lead of an assigned (cross-connected) line to the CT lead of the sleeve signal repeating circuit, SD-25288. Connect to the CT lead (CT punching) on the HMDF which is normally connected to the recording completing trunks. For this test, the CT lead cross-connection between the repeating circuit and the number checking trunk must be installed.

5.13 Operate test set TL and HB keys. When testing B trunks operate key IRB. When testing FS trunks operate key IRM and key AOS or AOB. If S type A relays are installed operate key AOS. If B type A relays are installed operate key AOB.

5.2 Test Operations

5.21 Tests Common to B and FS Trunks

5.211 Y Wiring Check: When Y wiring is provided verify the strapping of the A compensating resistances as specified by the Telephone Company.

5.212 Office Preference: When Figures A and C or Figures A, B and C are furnished, make a continuity test of the CT lead through each NC relay to the associated F relays. Check the ground chain circuit of the NC lead from the first NC relay through every other NC relay and to the associated F relay. Check that the operation of the last NC relay prevents the operation of the preceding NC relays. Continue this test checking that the operation of each NC relay above the first prevents the operation of the first relay. Check that all of the NC relays can be operated in sequence starting with the first.

5.213 T.S.L. Crosspoint Test: See Paragraph 3.

5.22 B Trunk Tests

5.221 OK Check: Operate and release the test set ST key. When order tone is heard pass the directory number of the line described in Paragraph 5.12 to the B operator. A number check is made of that line. Restore the equipment to normal by operating and releasing the RS key.

5.222 Failure to Check: Make a test similar to Paragraph 5.221 except that a number other than the one used for OK check is passed to the operator. A number check failure results and the SU lamp flashes at 120 IPM. Restore the equipment to normal by operating and releasing the RS key.

5.223 Premature Disconnect: Start a test call as in Paragraph 5.221 and when order tone is heard operate and release the RS key. Observe that the trunk restores to normal.

5.224 Paths Busy Register: Block operated the A1 relay in each trunk. Release and reoperate each relay in turn and observe that the associated register scores each time.

5.225 Peg Count Register: Operate the BAT key. (Traffic register rack associated with the peg count registers.) Operate and release the F relay of each trunk. Observe that the peg count register scores each time. Restore the equipment to normal.

5.23 FS Trunk Tests

5.231 OK Check: Set up on the keyset the number of the line described in Paragraph 5.12. Operate and release key ST. A number check is made of the line called and lamp SU is extinguished as an OK indication. Restore the equipment to normal by operating and releasing key RS.

5.232 Failure to Check: Make a test similar to 5.231 except that a different number is used. A number check failure results and lamp SU flashes at 120 IPM. Restore the equipment to normal by operating and releasing the RS key.

5.233 Premature Disconnect: Start a test call as in Paragraph 5.231 and as soon as a sender is seized operate and release the RS key. Observe that the trunk restores to normal.

5.234 Paths Busy Register: Block operated the D relay in each trunk and observe that the assoicated PB register scores each time.

5.235 Peg Count Register: Operate the BAT key (traffic register rack) associated with the peg count registers. Operate and release the F relay of each trunk. Observe that the peg count register scores each time. Restore the equipment to normal.

6. SLEEVE SIGNAL REPEATING CIRCUIT SD-25288

6.1 General: The tests described in Paragraph 5 perform an operation test on this circuit from the CT lead on the recording completing trunk end to the CT lead on the number checking trunk end. An additional check should be made to test that the B condenser is not shorted. This may be done by checking that it will not pass direct current.

The TNC relay 218B shown on Figure 2 should have been checked during the period of "Verification." The following test probably duplicates some of the verification effort but it is repeated here to insure that a proper test is made after the associated test resistances have been checked.

6.2 Operation Test, Figure 2: An operate test of relay TNC is made by manually operating relay Z. Note that wile relay Z is operated relays TNC, TNA and NCD are operated. Release Z relay. Relays TNC, TNA and NCD release. A readjust test of relay TNC may be applied by insulating contacts 3T and 4T of relay Z and then manually operating relay Z. The rest of the test is the same as for the operate test. Remove the insulation from relay Z.

→ Arrowed lines indicate new or changed information.

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Reason for Reissue: To make minor changes.

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