

INCOMING TRUNKS
USING OUTGOING TRUNK TEST FRAME SD-25177-01
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers a method of testing the incoming trunk circuits by using the outgoing trunk test frame on a remote control basis.

1.02 This section is reissued to incorporate material from the addendum in its proper location. In this process marginal arrows have been omitted.

1.03 The tests covered are:

- (A) Calls to Incoming Trunk Test Line
- (B) Calls to Busy Line
- (C) Calls to Tip Party
- (D) Calls to Ring Party
- (E) Free Line Calls
- (F) Overflow Calls
- (G) Coin Box Calls
- (H) "B" Auxiliary Trunks
- (I) Test of Crossbar Tandem Incoming Trunks

1.04 By the use of the remote control belt line circuit between the outgoing trunk test frame and all the incoming trunk frames in the crossbar offices in one building, certain of the incoming trunks originating in distant offices as well as those used locally can be tested as covered herein.

2. APPARATUS

- 2.01 Operator's Telephone Set.
- 2.02 No. 32A Test Set.

2.03 P3E Cord, 10 feet long equipped with two No. 110 (or 310) Plugs (3P6F).

2.04 1011D or D-81762 Dial Hand Test Set.

2.05 No. 275A or No. 322A Plug (Make Busy).

3. PREPARATION

3.01 Restore to normal any of the test circuit keys which may be in the operated position.

3.02 At the incoming trunk frame or at the relay rack in the case of Test (H), connect the trunk (T) test jack to the TST (test) jack with a P3E cord. Insert the plug of the No. 32A Test Set into the RC (remote control) jack. Also, insert the plug of the operator's telephone set into the TEL 1 jack. Operate the TST 1 (test), TLK 1 (talk) and RC (remote control) keys at the outgoing trunk test frame.

3.03 When testing toll incoming trunks arranged for coin operation, plug the dial hand test set into the frame line circuit D jack on the incoming trunk frame and establish a connection to the special service operator.

3.04 All trunks to be tested should be made busy in the approved manner.

3.05 (a) If the trunk under test has a B-type A relay, operate the AOB (A relay operate B-type) key; if it has an S-type A relay, operate the AOS (A relay operate S-type) key.

(b) If the trunk under test is equipped with either a UA- or AJ-type A relay, operate the AOUA key.

(c) In offices where no AOB key is furnished the circuit is arranged to test B-type A relays when both the AOUA and AOS keys are normal.

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3.06 If the trunk is a full selector trunk and has an "S" type (A) relay, operate the 250-ohm compensating resistance key. On incoming trunks from a No. 1 toll switchboard where the relay equipment for the trunk circuits is in the local office, also operate the NO. 1 TOLL key.

4. METHOD

(A) Calls to Incoming Trunk Test Line

4.01 If the trunk to be tested is in a group common to two office units, insert a make-busy plug into the TL (test line) jack associated with the office unit it is desired to test. If a plug is in any other TL jack, remove it before inserting the plug into the TL jack associated with the office unit it is desired to test.

4.02 At the outgoing trunk test frame operate the proper test keys in accordance with the test chart (Page 5) depending upon the type of trunk circuit under test and the desired test line number.

4.03 This chart shall be used as a guide in performing the tests outlined in this section supplemented where necessary by local qualifications as to the test line numbers for busy, overflow, return test lines and incoming trunk test line.

4.04 If any special features are to be checked, refer to Part 5.

4.05 On full selector trunks write up the desired test line number on the test circuit keys.

4.06 Operate and release the white button of the No. 32A test set or the ADV (advance) key of the test frame.

4.07 On "B" trunks, when order tone (two spurts of tone except where the office designation is required, in which case one long spurt of tone) is heard, pass the desired test line number to the operator.

4.08 When the incoming trunk is connected to the test line or operator's position, the SUPV (supervisory) lamp will light and remain lighted until the start of the test of the supervisory features. (The SUPV lamp and the associated TST, RC- and TEL- jacks are multiplied to all incoming trunk frames.)

4.09 On "B" or key pulsing trunks from No. 1 or No. 3 toll switchboards when the SUPV lamp lights, operate the white button of the No. 32A test set or the ADV key to start ringing. The SUPV lamp is extinguished while the key is operated.

4.10 When the incoming test line is called, the test man should receive ringing induction during the ringing intervals until tripping takes place. If the ringing is tripped falsely, the test man will receive interrupted ringing tone as an indication of this failure.

4.11 After the ringing features are checked, the SUPV lamp should be extinguished for one long period followed by two shorter periods. This sequence should be repeated once.

Note: In some cases, an additional short flash of the SUPV lamp may occur before the first extinguished period.

4.12 If the supervisory tests are completed satisfactorily, the test man will receive a series of clicks (tick tock) as an indication of a successful test and when the ringing and supervisory tests are completed, the SUPV lamp is lighted steadily.

4.13 Operate and release the white button of the No. 32A test set or the ADV (advance) key of the test frame. Observe that the SUPV lamp is extinguished.

4.14 When the test on a particular incoming trunk has been completed, operate and release the red button of the No. 32A test set or the DISC 1 (disconnect) key of the test frame to disconnect the call and cause the test circuit to return to normal. Remove the plug from the incoming trunk test jack and insert it into the next circuit to be tested.

(B) Calls to Busy Line

4.15 Proceed as in 4.01 to 4.07, inclusive.

4.16 The SUPV lamp should flash in response to busy back interruptions. Check the speed of the flashes to see that they are correct for the office.

4.17 Proceed as in 4.14.

(C) Calls to Tip Party

4.18 Proceed as covered in 4.01 to 4.09, inclusive.

4.19 The bell in the test set should ring or the T lamp (T+ or T- depending upon the type of apparatus used and which return test

line number is called) should light intermittently during the intervals machine ringing is applied, indicating a satisfactory condition.

4.20 Operate the TMR (time measure release) key of the test frame to trip ringing and check supervision. When the SUPV lamp has been extinguished, release the TMR key. The TMR lamp lights when the ringing is tripped and remains lighted after the TMR key is released.

4.21 Proceed as in 4.14.

(D) Calls to Ring Party

4.22 This test is required only when no tip party line is available for the return test line.

4.23 The method of checking for this condition is the same as outlined in 4.18 to 4.21, inclusive, except that the RGO (ringing ground) key of the test frame should also be operated if the trunk has a J type double winding ring start relay and except that the R+ or R- lamp should light when ringing is received.

(E) Free Line Calls - Full Selector Trunks and Full Selector Tandem Trunks Only

4.24 Proceed as in 4.01 to 4.06, inclusive. The subscriber set bell in the test set should ring or the R- lamp should light, indicating a satisfactory condition.

4.25 Proceed as in 4.20 except that the SUPV lamp will remain lighted when the TMR key is operated to trip ringing.

(F) Overflow Calls - Full Selector Trunks and Full Selector Tandem Trunks Only

4.26 Proceed as in 4.01 to 4.06, inclusive.

4.27 The SUPV lamp should flash in response to overflow interruptions. Check the speed of the flashes to see that they are correct for the office.

4.28 Proceed as in 4.14.

(G) Coin Box Calls - Toll Full Selector and "B" Delayed Ringing Trunks Arranged for Coin Disposal Under Control of Local Operator Only

4.29 Proceed as in 4.01 to 4.09, inclusive.

4.30 When the bell of the coin box rings, answer the call and deposit a coin. Inform the special service operator of the number of the trunk under test and request her to return the coin. Deposit the coin again and ask the operator to collect the coin.

4.31 Proceed as in 4.14.

(H) "B" Auxiliary Trunks

4.32 Proceed as in 4.01 to 4.07, inclusive.

4.33 If any special features are to be checked, refer to Part 5.

4.34 Press the white button of the No. 32A test set.

4.35 The test circuit will direct a call to the "B" operator. When order tone is heard, pass the desired test line number to the operator.

4.36 When the incoming test line is called the test man should receive ringing induction during the ringing intervals until tripping takes place. If the ringing is tripped falsely, the test man will receive interrupted ringing tone as indication of this failure.

4.37 After the ringing features are checked, the SUPV lamp should light for one long period followed by two shorter periods. This sequence should be repeated once. When the tests are completed, the SUPV lamp is extinguished.

Note: In some cases, an additional short flash of the SUPV lamp may occur before the first long period.

4.38 Proceed as in 4.14.

(I) Test of Crossbar Tandem Incoming Trunk

4.39 Proceed as in 4.01 to 4.07 to establish a test call. Although this arrangement will not make marginal tests of circuit features it is a means of establishing test calls to aid in clearing troubles on calls that fail to terminate through tandem linkage to any office served by the tandem unit.

5. SPECIAL FEATURES

Time Measure Release Test - Full Selector and Full Selector Tandem Trunks Only

5.01 Originate a tip, ring or free line call to the desired return test line.

5.02 After ringing is tripped and before the TMR key is released, operate and release the ADV key. When the trunk times out, the TMR lamp should be extinguished. The TMR lamp will remain lighted two to four minutes before going out and before the ONL lamp is extinguished. Since the time-out feature is common

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to a unit of 20 trunks, these intervals may be reduced if one of the associated incoming trunks is timing out on a service call. Release the TMR key.

Series Condenser Test - Full Selector, Full Selector Tandem and "B" Auxiliary Trunks

5.03 Originate a tip or ring party call to the desired return test line.

5.04 After the ringing is tripped and the TMR lamp lights, operate the CTT (condenser test - tip) or CTR (condenser test ring) key to make a test of the tip or ring series condensers. The ICT lamp should light to indicate a satisfactory condition.

Test for Rering - Toll Full Selector with Delayed Ringing and Toll "B" Delayed Ringing Trunks Having Bridged Ringing Start Relays Only

5.05 Originate a tip or ring party call to the desired test line with the TMR key and the RTL key operated.

5.06 After ringing is tripped operate the ADV key. The bell in the test frame should respond for every operation of the ADV key.

Ring Start Relay Non-Operate - Toll Full Selector with Delayed Ringing and Toll "B" Delayed Ringing Trunks Only

5.07 If the trunk has a double winding "J" type ring start relay, operate the RNO (ringing relay non-operate) key and originate a tip party call to the desired return test line. When the SUPV lamp lights operate the ADV key. The RNO lamp should light, indicating that ringing current is being applied to the trunk ringing relay. The bell should not ring and the ringing lamps should not light if the test is satisfactory.

Ring Start Relay Operate - Toll Full Selector with Delayed Ringing and Toll "B" Delayed Ringing Trunks Only

5.08 Originate a tip or ring party call with the R+ (resistance ringing) key and the RTL key operated. When the SUPV lamp lights

operate the ADV key. The proper ringing indications should be received. If the trunk has a double winding J type ringing start relay a ring party test line call should be originated with the RGO key operated in addition to the R+ and RTL keys. When the SUPV lamp lights operate the ADV key. The bell should ring and the proper ringing lamp should light.

6. INTERPRETATION OF LAMP SIGNALS

6.01 The significance of the lamps is indicated in the following paragraphs.

6.02 The ONL lamp indicates that a test is in progress. It remains lighted until all relays are normal.

6.03 The SUPV lamp lights when the trunk tip and ring are closed. The light and extinguished periods are reversed on "B" auxiliary trunks.

6.04 The SDR lamp flashes until the test circuit is ready to dismiss the sender.

6.05 The OFL lamp lights when an overflow condition is encountered.

6.06 The TMR lamp lights when machine ringing is tripped. It also indicates a failure of the time measure release test.

6.07 The T-, T+, R- and R+ lamps indicate the type of ringing and the side of the test line it is on.

6.08 The ICT lamp indicates a satisfactory series condenser test.

6.09 The RNO lamp indicates that the non-operate test is being applied to the ringing relay.

7. REPORTS

7.01 The required record of these tests should be entered on the proper form.

KEYS OPERATED AT THE OGT TEST FRAME

Trunk Circuit Under Test	Pulsing Type	No. Digits	Trunk Appearance Bat on T or R		Start Pulse Called Sub. Signal Expected		Keys Operated in Addition to RC, TST-, TLK-, and Register Keys, x
			Normal	Rec. Off Hook	Wink	Delay Pulsing	
SD-25875-01	RP	4	T	R			DM, IRM, SDR-, COMP KEYS
SD-25295-01	RP	4	T	R			DM, IRM, SDR-, COMP KEYS
SD-25302-01	RP	4	T	R			DM, DRM, SDR-, COMP KEYS
SD-26204-01	RP	4	T	R			DM, IRM, SDR-, COMP KEYS
SD-25887-01	(RP Thru Distant Off. Sel.)	OB, OG, 4	T	R			DM, 1 OFF COMP, SDR-, COMP KEYS
SD-25887-01	(PCI Thru Distant Off. Sel.)	OB, OG, 4	T	R			CI, 1 OFF COMP, SDR-, COMP KEYS
SD-25875-01	Manual	4 or 5	T	R			No SDR-, IRB, +
SD-25295-01	Manual	4	T	R			No SDR-, IRB, +
SD-26204-01	Manual	4 or 5	T	R			No SDR-, IRB, +
SD-25302-01	Manual	4	T	R			No SDR-, DRB, +
SD-25025-01 } SD-25875-01 } SD-26204-01 }	Manual	4	T	R			No SDR-, AUX
SD-25875-01	MF	4	T R	T R		✓ ✓	MF-, TO, IRB, + MF-, TO, IRB, RS-, +
SD-25295-01	MF	4	T R	T R		✓ ✓	MF-, TO, IRB, + MF-, TO, IRB, RS-, +
SD-25302-01	MF	4	T R	T R		✓ ✓	MF-, TO, DRB, + MF-, TO, DRB, RS-, +
SD-26204-01	MF	4	T R	T R		✓ ✓	MF-, TO, IRB, + MF-, TO, IRB, RS-, +
SD-25887-01	MF	7 or 8	T R	T R		✓ ✓	MF-, TO, COMP, + MF-, TO, COMP, RS-, +
SD-25875-01	DP	4	T R	T R		✓ ✓	DP-, *, TO, IRB, + DP-, *, TO, IRB, RS-, +
SD-25295-01	DP	4	T R	T R		✓ ✓	DP-, *, TO, IRB, + DP-, *, TO, IRB, RS-, +
SD-25302-01	DP	4	T R	T R		✓ ✓	DP-, *, TO, DRB, + DP-, *, TO, DRB, RS-, +
SD-26204-01	DP	4	T R	T R		✓ ✓	DP-, *, TO, IRB, + DP-, *, TO, IRB, RS-, +
SD-25887-01	DP	7 or 8	T R	T R		✓ ✓	DP-, *, TO, COMP, + DP-, *, TO, COMP, RS-, +
SD-25025-01 } SD-25875-01 }	MF	4 or 5	T R	R T		✓ ✓	MF-, TO, AUX, AUX MF, MF-, TO, AUX, AUX MF, RS-
SD-25875-01	MF	4 or 5	T R	R T		✓ ✓	MF-, IRB, + MF-, IRB, RS-, +
SD-25295-01	MF	4 or 5	T R	R T		✓ ✓	MF-, IRB, + MF-, IRB, RS-, +
SD-26204-01	MF	4 or 5	T R	R T		✓ ✓	MF-, IRB, + MF-, IRB, RS-, +
SD-25887-01	MF	6 or 7	T R	R T		✓ ✓	MF-, COMP, + MF-, COMP, RS-
SD-25302-01	MF	4 or 5	T R	R T		✓ ✓	MF-, DRB, + MF-, DRB, RS-, +
SD-25875-01	DP	4 or 5	T R	R T		✓ ✓	DP-, *, IRB, + DP-, *, IRB, RS-, +
SD-25295-01	DP	4 or 5	T R	R T		✓ ✓	DP-, *, IRB, + DP-, *, IRB, RS-, +
SD-26204-01	DP	4 or 5	T R	R T		✓ ✓	DP-, *, IRB, + DP-, *, IRB, RS-, +
SD-25302-01	DP	4 or 5	T R	R T		✓ ✓	DP-, *, DRB, + DP-, *, DRB, RS-, +

* Operate the LPD key when testing loop dial pulsing trunks. Operate BGD key when testing Bat. and Grd. dial pulsing trunks.

+ Operate the No. 1 TOLL key when testing trunks that are equipped with compensating resistance. Operate the NO A SH key if the secondary winding of the trunk A relay is not shunted when the trunk is normal.

x Operate AOUA key when testing trunk equipped with UA- or AJ- type A relay; operate AOS key when testing trunk equipped with S-type A relay. Keys AOUA and AOS remain normal when testing trunk equipped with B-type A relay.

Operate AOB key when testing trunk equipped with B-type A relay when AOB key is provided.

Note: On full selector trunks arranged for multioffice operation if the desired test number is one assigned to office "B" of a multioffice unit the (HF) key at the outgoing trunk test frame shall be operated in addition to those outlined on the chart.

