

**INCOMING TRUNK  
TESTS USING TEST SET SD-25187-01 (J24751A)  
NO. 1 CROSSBAR OFFICES**

**1. GENERAL**

**1.001** This addendum supplements Section 216-381-501, Issue 5.

**1.002** The addendum is issued to incorporate Test B of Section 216-769-501, Issue 3 covering 1000-hertz transmission loss. The following change applies to Part I of the section:

(a) 1.03 — added Test N

**1.03** (Add to list of tests)

**N.** 1000-Hertz Transmission Loss Test —  
This test checks the loss of the incoming trunk circuit using the office 102-type test line.

**2. APPARATUS**

The following changes apply to Part 2 of the section:

- (a) 2.01 — additional information for Table A
- (b) 2.10 — added
- (c) 2.11 — added

**2.01** On Table A, Test N requires two patching cords (2.10) and one each of the following: patching cord (2.02), 32A test set (2.06), 40B test set (2.07), J24751A test set (2.08), head telephone set, 322A plug (make-busy), and 23A TMS (2.11).

**2.10** Patching cord, P3F cord, 8 feet long, equipped with one 309 plug and one 310 plug (3P12H cord).

**2.11** 23A transmission measuring set (TMS) J94023A.

**3. PREPARATION**

The following changes apply to Part 3 of the section:

- (a) Sub-heading changed — Tests A through N
- (b) Table B — revised

**TABLE B**

CORDS	TEST SET JACK	INCOMING TRUNK FRAME MISC. JACK STRIP (SEE NOTE 1)	REMARKS
P2J	BAT (See Note 2)	A	Battery supply.
P3E	INT	INT	Interruptor supply.
P3E	RTL	TST (See Note 3)	Operates transfer relay at OGT frame for return test line.
P3E	AC	RC (See Note 3)	Relay in OGT frame connects 60-hertz AC to jack.
P3E	±	E	20-Hertz continuous ringing supply.
P3E	TST	T	Trunk being tested.

**Note 1:** In the case of "B" auxiliary trunks it will not be necessary to connect the INT, RTL, AC, and ± jacks of the test set. On these trunks the A and T jacks are located on the relay rack instead of the incoming trunk frame.

**Note 2:** To avoid possible grounding of the battery supply lead, connect the P2J cord to the test set first and, when disconnecting, remove the cord from the test set last.

**Note 3:** In case of frames serving more than one office, more than one set of jacks may be provided. Insert the plug into the proper jack. Return test line can not be used simultaneously with other office or OGT frame.

4. METHOD

The following changes apply to Part 4 of the section.

(a) Test N — added

STEP	ACTION	VERIFICATION
	<b>N. 1000-Hertz Transmission Loss Test</b>	
17	At TMS — Using P3F cord — Connect DIAL jack to TST jack of test set.	
18	Using P3F cord — Connect MEAS jack to T jack of trunk under test at the incoming trunk frame.	
19	Operate DIAL key.	
20	Direct call to 102-type test line and proceed as outlined in Test A, Steps 18 through 33.	1000-Hertz tone heard in receiver.
21	Operate MEAS key.	
22	Record TMS meter reading.	
23	Operate AR key.	
24	Operate DSC key and remove plug from T jack.	
25	Remove all cords and restore all keys.	
26	Remove trunk make-busy plug at originating end.	

INCOMING TRUNKS  
TESTS USING TEST SET SD-25187-01 (J24751A)  
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes the method of testing 2-wire incoming trunks from panel, No. 1 crossbar and crossbar tandem offices and from distant manual and toll switchboards using test set per SD-25187-01. This test set should not be used to test 3-wire incoming trunks from switchboards usually located in the same building.

1.02 This section is reissued to incorporate material from the addendum in its proper location.

1.03 The tests and features tested are:

**A. Calls to Incoming Trunk Test Line—All Trunks Except "B" Auxiliary Trunks:**  
This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) "A" relay operate, release, and sleeve ground.
- (3) J-type ringing relay operate test.
- (4) Ringing signal and ringing relay features using trunk test line.

**B. Calls to Busy Line (IRM Trunks Only)—All Trunks Except "B" Auxiliary Trunks:**  
This test checks:

- (1) Busy line, tone and lamp supervision.
- (2) "A" relay nonoperate (IRM trunks only).
- (3) "A" relay operate, release, and sleeve ground.

**C. Calls to Free Line—All Trunks Except "B" Auxiliary Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Tripping of ringing relay.
- (3) Check for the no charge condition.
- (4) "A" relay operate, release, and sleeve ground.

**D. Calls to Tip Party—All Trunks Except "B" Auxiliary Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Tip party ringing feature.
- (3) Tripping of ringing relay.

**E. Calls to Ring Party—All Trunks Except "B" Auxiliary Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Ring party or individual line ringing feature.
- (3) Tripping of ringing relay.

**F. Test of Overflow—All Trunks Except "B" Auxiliary Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) "A" relay operate, release, and sleeve ground.
- (3) Overflow tone and lamp supervision.

**G. Coin Box Calls—Toll Full Selector "B,"  
Dialing and Multifrequency Key Pulsing,  
Controlled Ringing Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistance.
- (2) Supervision and tone for coins collected or returned by an operator.

**H. "B" Auxiliary Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) "L" relay operate, nonoperate, and release.
- (3) Ringing signal and ringing relay features using trunk test line.

**I. Test of Series Condenser Trunks—Full Selector, "B" and Dialing Trunks:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Tripping of ringing relay.
- (3) Terminating tip and ring series condensers.

**J. Time Measure Release:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Tripping of ringing relay.
- (3) "A" relay operate, release, and sleeve ground.
- (4) Time measure release of trunk if called party does not disconnect.

**K. Reselection Tests:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.

- (2) Tripping of ringing relay.
- (3) Release and reselection of trunk before called party disconnects.

**L. Rering Trunks—Having Bridged Ringing Start Relays Only:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Tripping of ringing relay.
- (3) Rering feature with the subscribers bridge across the line.
- (4) "A" relay operate, release, and sleeve ground.

**M. Ring Start Relay Nonoperate:** This test checks:

- (1) Continuity polarity check of the trunk and test resistances.
- (2) Nonoperate test of the J-type ringing relay.

1.04 **Lettered Steps:** The letters a, b, c, etc, are added to a step number to indicate that the step covers an action which may or may not be required, depending on local conditions. The conditions under which a lettered step or series of steps should be made are given in the ACTION column. Where a condition does not apply, the associated steps should be omitted.

1.05 An assistant will be required for Test (G).

## 2. APPARATUS

2.01 The apparatus required for each test is shown in Table A. The details of each item are covered in the indicated paragraphs.

TABLE A

APPARATUS	NO. REQUIRED FOR TESTS												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Patching Cord (2.02)	1	1	1	1	1	1	1	1	1	1	1	1	1
Patching Cord, 6 Ft. (2.03)	4	4	4	4	4	4	4	-	4	4	4	4	4
Patching Cord, 12 Ft. (2.04)	1	1	1	1	1	1	1	1	1	1	1	1	1
Patching Cord (2.05)	1	1	1	1	1	1	1	1	1	1	1	1	1
No. 32A Test Set (2.06)	1	1	1	1	1	1	1	1	1	1	1	1	1
No. 40B Test Set (2.07)	1	1	1	1	1	1	1	-	1	1	1	1	1
J24751A Test Set (2.08)	1	1	1	1	1	1	1	1	1	1	1	1	1
1011D Handset (2.09)	-	-	-	-	-	-	-	1	-	-	-	-	-
Head Telephone Set	1	1	1	1	1	1	1	2	1	1	1	1	1
No. 322A Plug (make-busy)	1	1	1	1	1	1	1	1	1	1	1	1	1

- 2.02 P2J Cord, 6 feet long, equipped with two No. 310 Plugs (2P9C Cord).
- 2.03 Four P3E Cords, 6 feet long, each equipped with two No. 310 Plugs (3P7A Cords).
- 2.04 P3E Cord, 12 feet long, equipped with two No. 310 Plugs (3P6G Cord).
- 2.05 M15B Cord, equipped with HB Jones Plug per 315-CCT-RST at each end for multifrequency supply.
- 2.06 No. 32A Test Set. Remote control for all trunks except dial pulse.
- 2.07 No. 40B Test Set. Remote control for dial pulse trunks.
- 2.08 Test Set J24751A (SD-25187-01).
- 2.09 1011D Handset (or the replaced D-81762 Dial Hand Test Set).

3. PREPARATION

Tests A through M

STEP	ACTION	VERIFICATION
1	Make busy at the originating office the incoming trunks to be tested.	
2	Restore all test set keys to normal.	
3	At the incoming trunk frame or at relay rack — Patch the test set jacks to the jacks on the incoming trunk frame or relay rack as shown in Table B.	NOR lamp lights.

TABLE B

CORDS	TEST SET JACK	INCOMING TRUNK FRAME MISC. JACK STRIP (SEE NOTE 1)	REMARKS
P2J	BAT (See Note 2)	A	Battery supply.
P3E	INT	INT	Interrupter supply.
P3E	RTL	TST (See Note 3)	Operates transfer relay at OGT frame for return test line.
P3E	AC	RC (See Note 3)	Relay in OGT frame connects 60-cycle AC to jack.
P3E	±	E	20-cycle continuous ringing supply.
P3E	TST	T	Trunk being tested.

**Note 1:** In the case of "B" auxiliary trunks it will not be necessary to connect the INT, RTL, AC, and ± jacks of the test set. On these trunks the A and T jacks are located on the relay rack instead of the incoming trunk frame.

**Note 2:** To avoid possible grounding of the battery supply lead, connect the P2J cord to the test set first and, when disconnecting, remove the cord from the test set last.

**Note 3:** In case of frames serving more than one office, more than one set of jacks may be provided. Insert the plug into the proper jack. Return test line can not be used simultaneously with other office or OGT frame.

STEP	ACTION	VERIFICATION						
4	Insert the plug of the operator telephone set into the TEL jack of the test set.							
5	Select the proper class key in accordance with the following:							
	<table border="1"> <thead> <tr> <th>CLASS KEY</th> <th>TYPE OF TRUNK UNDER TEST</th> </tr> </thead> <tbody> <tr> <td>IRM</td> <td>(Intermediate Ringing Mechanical) - For full selector and full selector toll tandem trunks arranged for immediate ringing.</td> </tr> <tr> <td>IRB</td> <td>(Immediate Ringing "B") - For "B" or dialing trunks arranged for immediate ringing.</td> </tr> </tbody> </table>	CLASS KEY	TYPE OF TRUNK UNDER TEST	IRM	(Intermediate Ringing Mechanical) - For full selector and full selector toll tandem trunks arranged for immediate ringing.	IRB	(Immediate Ringing "B") - For "B" or dialing trunks arranged for immediate ringing.	
CLASS KEY	TYPE OF TRUNK UNDER TEST							
IRM	(Intermediate Ringing Mechanical) - For full selector and full selector toll tandem trunks arranged for immediate ringing.							
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STEP	ACTION	VERIFICATION
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CLASS KEY	TYPE OF TRUNK UNDER TEST
IR-KP	(Immediate Ringing MF Key Pulsing) - For MF key pulsing trunks with immediate ringing or when dial pulsing trunks of the immediate ringing type are to be tested with WINK or STOP-GO type of start dialing signal.
DRM	(Delayed Ringing Mechanical) - For key pulsing trunks from toll with controlled start ringing.
DRB	(Delayed Ringing "B") - For call distributing "B" trunks from toll or for dialing trunks with controlled start ringing.
DR-KP	(Delayed Ringing MF Key Pulsing) - For MF key pulsing trunks with controlled start ringing or when dial pulsing trunks arranged for delayed ringing are to be tested with WINK or STOP-GO type of start dialing signal.
AUX	(Auxiliary) - For auxiliary trunks incoming from manual offices.
W	(Wink Key) is operated when WINK start pulsing signal is required, except when testing auxiliary trunks, and normal when STOP-GO pulsing is required.

6 Operate keys in the test set in accordance with Table C for various types of trunks at start of test.

7a **All Trunks Except Dialing Type:** For remote control, insert the 32A test set plug into the RC jack of the incoming trunk test set. Operate the white and red buttons of the test set in place of the ST and DSC keys, respectively, as called for in the test.

TABLE C

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TYPE OF PULSING	ORIGINATING OFFICE EXPECTS BATTERY ON T OR R WHEN				TYPE OF RINGING ON TRKS.		TYPE OF A RELAY IN TRK.					WHEN TRUNK IS FROM NO. 1 TOLL WITHOUT REPEAT COIL IN THE OGT CIRCUIT	WHEN TRUNK A RELAY WINDING IS NOT SHUNTED
	TRK. NOR	SDR. SEIZED	SDR. READY FOR PULS-ING	CALLED SUBS. ANS.	IMMEDIATE	DELAYED	A, B or C		H or O	O	C, H or O	H or O	
							B	S	B	S	UA OR AJ ←		
KEYS TO BE OPERATED AT START OF TEST													
<b>Dial</b>													
Wink	R	T	R	T	RS, IR-KP, W, Dial	RS, DR-KP, W, Dial	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
	T	R	T	R	IR-KP, W, Dial	DR-KP, W, Dial	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
Delay Dial	R	R	T	R	RS, IR-KP, Dial	RS, DR-KP, Dial	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
	T	T	R	T	IR-KP, Dial	DR-KP, Dial	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
Dial Tone	T	T	T	R	IRB, Dial	DRB, Dial	AOB	AOS	-	AOS	AOUA		
<b>Multifrequency</b>													
Wink	R	T	R	T	RS, IR-KP, W	RS, DR-KP, W	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
	T	R	T	R	IR-KP, W	DR-KP, W	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
Delay Dial	R	R	T	R	RS, IR-KP	RS, DR-KP	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
	T	T	R	T	IR-KP	DR-KP	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
Straightforward	T	T	T	R	IRB	DRB	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
Revertive	T	T	T	R	IRM	DRM	AOB	AOS	-	AOS	AOUA	No. 1 Toll	No A Sh.
<b>Auxiliary</b>													
Straight-forward					AUX								
Multi-frequency					AUX-MF								

STEP	ACTION	VERIFICATION
8b	<b>Dialing Type Trunks Only:</b> For remote control, insert the R, BK, and G plugs of the 40B test set, into the dial, G, and RC jacks, respectively, of the incoming trunk test set. The dial on the 40B test set will be used in place of the dial on the incoming trunk test set. Operate the Nos. 3 and 2 keys on the 40B test set in place of the ST and DSC keys, respectively, on the incoming trunk test set as called for in the test.	
9c	<b>MF Type Trunks Only:</b> Connect multi-frequency supply to the test set by patching the M15B cord from the multifrequency supply or the relay rack to the HB Jones socket in the test set.	
10d	<b>Trunks Arranged to Start Ringing on Ring Side of Trunk Only:</b> Operate the RST (re-selection test) key in advance of the test. Restore the RST key before the TMR key is operated.  <b>Note:</b> Operating this key in advance will prevent false operation of the trunk ringing relay.	
11e	<b>Dialing or MF Key Pulsing Trunks Serving Multioffice Terminating Units:</b> Dial or key the proper office digit associated with office "A" or "B" after the dialing or key pulsing signal has been received.	
12f	<b>Trunks Other Than Dialing or Key Pulsing Type Serving Multioffice Terminating Units:</b> Operate the HF key to simulate a call to the test line in office "B" or leave the key normal to simulate a test call to the test line in office "A" if the trunk is a full selector trunk in a group common to offices "A" or "B".	
13g	If the test set is equipped with a keyset, set up the number of the proper test line on the numerical keys to office "A" or "B".	

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STEP	ACTION	VERIFICATION
14h	When the trunk under test serves "B" only and test set is not equipped with a keyset, operate the RTL5 key. The RTL5 key shall not be operated when the trunk is in a group serving both offices "A" and "B".	
15i	When the trunk is in a manual group common to both offices "A" and "B", pass the designation of the office to the operator.	
16j	<b>Revertive Trunks:</b> Operate key or set up keyset in the test set in accordance with Table D for the various tests.	

4. METHOD

STEP	ACTION	VERIFICATION
	<b>A. Calls to Incoming Trunk Test Line - All Trunks Except "B" Auxiliary Trunks</b>	

17 Direct a call to the incoming trunk test line.

**Revertive Trunks**

18k Momentarily operate the ST key. (See Notes 1 and 2.)

NOR lamp is extinguished.  
SDR lamp lights.  
SDR lamp extinguishes after selections are completed.  
TC lamp lights momentarily.  
SUPV lamp lights.

**Dialing Trunks**

19m Operate the dial key.

20m Operate ST key.

NOR lamp extinguished.  
TC lamp lights momentarily.  
KN (key number) lamp lights.

21m Dial the number of the test line.

22m Operate the AV key. (See Notes 1 and 2.)

SUPV lamp lights.  
KN (key number) lamp extinguished.

**TABLE D - KEYS TO BE OPERATED AT START OF TEST  
TO DIRECT CALL TO PROPER TERMINATION FOR REVERTIVE PULSING TRUNKS**

TEST	A	B	C	D	E	F	G	H	I	J	K	L	M
When test set is not equipped with a key set operate	TL Key	BL Key See Note 1	RTL1 Key	RTL2 or RTL4 Key See Note 2	RTL2 or RTL3 Key See Note 3	OF Key	CN Key See Note 4 or 5	None	RTL2 Key	RTL1 Key	As Outlined in Step D or E	RTL2 Key	RTL2 Key
When test set is equipped with a keyset set up number to	Test Line	Busy Line See Note 1	Free Line Return Test Line	Tip Party Return Test Line	Ring Party or Individual Line Return Test Line	Overflow Test Number	Coin Box Line See Note 4 or 5	None	Tip Party or Individual Line Return Test Line	Return Test Line	As Outlined in Step D or E	Return Test Line	Return Test Line

**Note 1:** Where IRM class key is operated, operate the ANO key, if provided, except when testing trunk ← circuits equipped with AJ-type A relays.

**Note 2:** Operate RTL2 key except when checking 4-party superimposed positive or 2-code ringing on tip of line.

**Note 3:** Operate RTL2 key except when checking 4-party superimposed positive ringing or 2-code ringing on ring of the line.

**Note 4:** When coin is controlled by special operator, establish a connection within reach of coin keys by inserting the plug of 1011D headset into the D jack of the incoming trunk frame.

**Note 5:** When coin is controlled from toll switchboard over a separate wire, establish a connection to toll maintenance or toll operator who has access to the trunk by inserting the plug of the 1011D headset into the D jack of the incoming trunk frame.

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STEP	ACTION	VERIFICATION
<b>MF Key Pulsing Trunks</b>		
	<i>Note:</i> Test set equipped with MF key-set.	
23n	Operate ST key.	NOR lamp extinguished. TC lamp lights momentarily. KN (key number) lamp lights.
24n	Operate the KP key. Hold this key operated for at least 1/4 second.	
25n	Key the test line number on the MF key-set making sure that each key is fully depressed.	
26n	Operate the AV key. (See Notes 1 and 2).	SUPV lamp lights. KN lamp extinguished.
<b>"B" Trunks (Not including Auxiliary Trunks)</b>		
27o	Operate the ST key.	NOR lamp extinguished. SDR lamp lights. TC lamp lights momentarily.
28o	Pass the office name and test line number to the operator. (See Notes 1 and 2.)	Listen for two spurts of order tone.  <i>Note 1:</i> In certain cases where trunks are arranged for reverse battery supervision the SUPV lamp does not light, and it will be necessary to await completion of selections before operating any of the ringing keys in Steps 30 and 31.  <i>Note 2:</i> Where trunks are arranged for automatic ringing, the ringing current will be applied to the trunks without the operation of any ringing keys and the verification is the same as Step 31.
29p	On controlled ringing trunks where ringing current is to be applied to the ring side of the trunks only, operate the RST key to remove ground from the tip side of the trunk at start of test.	
30q	On controlled ringing trunks to test the operation of the J-type relay by applying ringing current through test resistances, momentarily operate the R ± BR key.	J-type relay operates and verification is the same as Step 31.

STEP	ACTION	VERIFICATION
31r	On all trunks with controlled ringing after SUPV lamp lights, momentarily operate the $\pm$ BR key.	SUPV lamp is lighted while ringing current is applied to the trunk. Audible ringing tone is heard in head telephone set receiver. Ringing is tripped when incoming test line is seized. SUPV lamp flashes indicating flashing test of A relay by incoming trunk test line. SUPV lamp relights and tick-tock tone is heard in head telephone set receiver at conclusion of test if satisfactory. Interrupted ringing tone will be heard as an indication of failure if ringing is falsely tripped.
32p	Release the RST key if operated.	
33	Operate the AR (A relay release) key momentarily.	SG lamp lights momentarily.  <i>Note:</i> If lamp remains lighted, it is an indication that ground is not present on sleeve lead.  AR lamp lights momentarily. TST-COMP lamp lights.
34	Momentarily operate DSC key.	TST-COMP lamp extinguished. NOR lamp lights as indication that circuit is normal.
35	Unless other tests are to be made on same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**B. Calls to Busy Line (IRM Trunks Only) - All Trunks  
Except "B" Auxiliary Trunks**

17	Direct a call to busy line test number and proceed as outlined in Steps 18 to 35, inclusive for Test A.	SUPV lamp flashes after attempt is made. Interrupted tone of speed correct for office is heard in receiver of operator telephone set when this feature is provided. If the trunk A relay should operate on its nonoperate test current, circuit will block with ANO lamp lighted.
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STEP	ACTION	VERIFICATION
<b>C. Calls to Free Line - All Trunks Except "B" Auxiliary Trunks</b>		
17	Direct a call to free line return testline number and proceed as outlined in Test A, Steps 18 to 32.	R- lamp lights or test set bell rings after ringing starts.
18	Operate the TMR key to trip ringing.	TMR lamp lights. R-lamp extinguished or test set bell is silenced. SUPV lamp remains lighted if office is arranged for free line service and trunk is properly set. SUPV lamp extinguished if trunk is not arranged for free line service.
19	Restore the TMR key to normal.	TMR lamp remains lighted. SUPV lamp either relights or remains lighted.
20	Operate the AR key momentarily.	SG lamp lights momentarily.  <i>Note:</i> If lamp remains lighted, it is an indication that ground is not present on sleeve head.  AR lamp lights momentarily. TMR lamp extinguished. TST-COMP lamp lights.
21	Momentarily operate the DISC key.	TST-COMP lamp extinguished. SUPV lamp extinguished. NOR lamp lights as indication that circuit is normal.
22	Unless other tests are to be made on same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**D. Calls to Tip Party - All Trunks  
Except "B" Auxiliary Trunks**

17	Direct a call to tip party return testline number and proceed as outlined in Test A, Steps 18 to 31.	After ringing starts either the test set bell rings or the T+ or T- (2-party or 4-party ringing) lamp lights intermittently during the intervals the machine ringing is applied.
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STEP	ACTION	VERIFICATION
18	Operate the TMR key to trip ringing.	TMR lamp lights. Test bell is silenced or T+ or T- lamp is extinguished. SUPV lamp is extinguished.
19	Restore TMR key to normal.	TMR lamp remains lighted.
20	Momentarily operate the DISC key.	TMR lamp is extinguished. NOR lamp lights.
21	Unless other tests are to be made on same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**E. Calls to Ring Party - All Trunks  
Except "B" Auxiliary Trunks**

17	Direct a call to ring party or individual line return test line number and proceed as outlined in Test A, Steps 18 to 32.	After ringing starts either the test set bell or the R+ or R- (2-party or 4-party ringing) lamp lights intermittently during the intervals the machine ringing is applied.
18	Operate the TMR key to trip ringing.	TMR lamp lights. Test bell is silenced or R+ or R- lamp is extinguished. SUPV lamp is extinguished.
19	Restore the TMR key to normal.	TMR lamp remains lighted. SUPV lamp is relighted.
20	Momentarily operate the DISC key.	SUPV and TMR lamps are extinguished. NOR lamp lights as indication that circuit is normal.
21	Unless other tests are to be made on same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**F. Test of Overflow - All Trunks  
Except "B" Auxiliary Trunks**

17	Direct a call to overflow test number and proceed as outlined in Test A, Steps 18 to 33.	SUPV lamp lights in response to overflow interruptions. Check that speed of flashes is correct and that overflow tone is heard, if sounded.
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STEP	ACTION	VERIFICATION
18	Momentarily operate DISC key.	SUPV lamp extinguished. NOR lamp lights as indication that circuit is normal.
19	Unless other tests are to be made on the same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**G. Coin Box Calls - Toll Full Selector "B," Dialing and Multifrequency Key Pulsing, Controlled Ringing Trunks**

17	Direct a call to coin box line number, see Notes 4 and 5, Page 7, and proceed as outlined in Test A, Steps 18 to 32.	
18	When the coin box line bell rings, answer the call, deposit a coin and request special service or toll operator to observe the coin pilot and return the coin.	Coin should be returned and high tone heard. Coin pilot and tone should be satisfactory to operator.
19	Reinsert coin and request special service or toll operator to collect coin again observing the coin pilot.	Coin should be collected and low tone heard. Coin pilot and tone should also be satisfactory to operator.
20	Momentarily operate the DISC key.	SUPV lamp extinguished. NOR lamp lights.
21	Unless other tests are to be made on same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

**H. "B" Auxiliary Trunks**

17	Direct a call to the incoming trunk test line.	
18	Momentarily operate the ST key.	Order tone is heard.
19	Pass the test line number to the operator.	SUPV lamp flashes after ringing is tripped. If ringing is falsely tripped, an interrupted tone is heard.
20	Momentarily operate the AR key. (The release test in this case is applied to the L relay of the auxiliary trunk.)	SG lamp lights momentarily. If SG lamp continues to light it is an indication of failure. TST COMP lamps light.

STEP	ACTION	VERIFICATION
21	Operate the DSC key.	NOR lamp lights. TST COMP lamp extinguished.
<b>I. Test of Series Condenser Trunks - Full Selector, "B" and Dialing Trunks</b>		
17	Direct a call to tip party or individual line return test line number and proceed as outlined in Test A, Steps 18 to 32.	After ringing starts the R- or T- lamp lights.
18	Operate the TMR key to trip ringing.	TMR lamp lights after ringing is tripped. SUPV lamp is extinguished.
19	Restore the TMR key to normal.	SUPV lamp lights.
20	Operate the CTT (condenser test - tip) and then the CTR (condenser test ring) key to check the tip and ring series condensers.	CT (condenser test) lamp lights for each test.
21	Restore the CTT or CTR key.	
22	Momentarily operate the DISC key.	TMR lamp is extinguished. NOR lamp lights as indication that circuit is normal.
23	Unless other tests are to be made on same trunk, remove the plug from T jack of the trunk being tested at the incoming trunk frame or relay rack.	
<b>J. Time Measure Release</b>		
17	Direct a call to return test line number and proceed as outlined in Test A, Steps 18 to 32.	After ringing starts test set bell rings or R- lamp lights.
18	Operate the TMR key to trip ringing.	TMR lamp lights. R- lamp extinguished or test set bell is silent. SUPV lamp is extinguished.
19	Momentarily operate the AR key.	TST COMP lamps light. TMR lamp remains lighted. SUPV lamp lights.
20	Operate the DSC key.	TST COMP lamp is extinguished. TMR lamp remains lighted until after time-out period and is then extinguished and NOR lamp lighted.

STEP	ACTION	VERIFICATION
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**Note:** The trunk may timeout in less than the standard timeout period if some other trunk in the same group of trunks is also timing out in a service call.

21	Restore the TMR key to normal.	
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#### K. Reselection Test

17	Direct a call to return test line number and proceed as outlined in Test A, Steps 18 to 32.	After ringing starts, test set bell rings or T+, T-, R+, R- lamp lights intermittently during the intervals the machine ringing is applied.
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18	Operate the TMR key to trip ringing.	TMR lamp lights. Test bell is silenced or T+, T-, R+, or R- lamp is extinguished. SUPV lamp extinguished.
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19	After ringing is tripped, momentarily operate the DSC key.	
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20	With the TMR key still operated, operate the RST key and then start a new call to the busy line test number as outlined in Test B.	TMR lamp remains lighted until trunk is released from return test line by the operation of the trunk F relay at which time the TMR lamp is extinguished. SUPV lamp flashes after attempt is made to connect to busy line test number and tone is heard.
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21	Restore TMR and RST key.	
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22	Momentarily operate DISC key.	SUPV lamp is extinguished. NOR lamp lights.
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23	Unless other tests are to be made on the same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	
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#### L. Rering Trunks - Having Bridged Ringing Start Relays Only

17	Direct a call to return test line number and proceed as outlined in Test A, Steps 18 to 32.	
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18	Operate TMR key to trip ringing.	
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STEP	ACTION	VERIFICATION
19	After ringing is tripped but before the TMR key is released reoperate either the $\pm$ BR or R $\pm$ BR key depending on which had been previously operated.	Test set bell rings or the R+, R-, T+, or T- lamps light each time ringing key is operated.
20	Repeat Steps 17 and 19 for the unoperated ringing key.	
21	Momentarily operate the AR key.	TST COMP lamp lights.
22	Restore the TMR key to normal.	
23	Momentarily operate DISC key.	SUPV lamp is extinguished. NOR lamp lights.
24	Unless other tests are to be made on the same trunk, remove the plug from the T jack of the trunk being tested at the incoming trunk frame or relay rack.	

#### M. Ring Start Relay Nonoperate

17	Operate the RNO key (ringing relay non-operate).	RNO lamp lights.
18	Direct a call to the return test line number and proceed as outlined in Test A, Steps 18 to 31.	
19	Operate TMR key.	
20	Momentarily operate $\pm$ BR key.	Test set bell does not ring. R+, R-, T+, or T-1 lamps do not light.  <i>Note:</i> If the ringing start relay operates falsely, it may be caused by the winding of the relay being connected incorrectly or because one of the windings is open.
21	Release RNO key.	
22	Release TMR key.	
23	Momentarily operate DISC key.	SUPV and TMR lamps extinguished. NOR lamp lights as indication that circuit is normal.

#### 5. REPORTS

STEP	ACTION	VERIFICATION
	The required record of these tests should be entered on the proper form.	

**TABLE E**  
**PROGRESS AND TROUBLE INDICATING LAMPS**

LAMP	INDICATION
NOR	Indicates that the test circuit is normal.
SDR	Indicates that sender is functioning.
TC	Indicates trunk continuity test is being made.
ANO	Indicates A relay nonoperate test is being made.
SUPV	Indicates pulses from incoming trunk test line. Lights but is extinguished when TMR key is operated on return test line calls except free calls. Reversed on auxiliary incoming trunk circuits.
AR	Indicates that the sleeve of the trunk under test is grounded and when extinguished in the course of a test, it indicates a satisfactory A relay release test.
SG	When it is extinguished, indicates a satisfactory sleeve ground test.
TST ) ) COMP)	Indicates a satisfactory trunk test has been made.
T-) T+) R-) R+)	Indicates polarity of ringing and side of line being tested.
KN	Indicates that MF receiver is ready to receive pulses.
RNO	Indicates a ringing current check.
TMR	Indicates when machine ringing is tripped. Also indicates failure of time measure released if lighted more than 4 minutes after the DISC key has been operated.
TT	Indicates telltale during fundamental selections.
CT	Indicates satisfactory test of series condensers of trunk.
RO	Indicates if the trunk tested is reversed when picked or if battery and ground are reversed on the trunk, after pulsing has been started due to trouble.