

INTRAOFFICE TRUNK CIRCUITS
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1. GENERAL

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1.01 This section describes a method of testing intraoffice trunks SD-25684-01, SD-25684-02, SD-26060-01, SD-26061-01, SD-26062-01, SD-26064-01, SD-27540-01, and SD-27915-01. Phase II centrex is covered in 218-331-501 and Phase III centrex is covered in 218-332-501.

C. Pretrip and Trip: This test checks the operation of the trip relay.

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1.02 This section is reissued for the reasons listed below. Revision arrows are used to emphasize the more significant changes.

D. Supervision—Originating and Terminating Ends Disconnect: This test checks the charge functions and release of the trunk without using a timed release.

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- (a) To add provisions for Call Data Transmitter (CDT) testing.
- (b) To add provisions for improved testing of CS relay feature to Test F.
- (c) To add Coin Service Improvements (Dial-Tone First) to Tests D, E, F, G, I, J, L.
- (d) To make minor changes as required.

E. Supervision—Originating End Disconnect: The following features are tested: (1) Charge functions. (2) Ability to hold if extra digits are dialed into trunk. (3) Timed release of trunk in 13 to 32 seconds, where provided.

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This reissue affects Equipment Test Lists.

F. Supervision—Terminating End Disconnect: This test checks the charge functions and, where provided, the timed release in 13 to 32 seconds of the trunk when only the terminating end disconnects. It also checks the improved testing of CS relay feature if provided.

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1.03 The tests covered are:

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A. Trunk Seizure and Release: The following features are tested: (1) Seizure of trunk. (2) Continuity of originating and terminating sleeve leads. (3) Continuity and polarity of originating tip and ring leads.

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G. Noncharge Supervision: This test checks that a charge condition is not established when an answered call is held less than 2 seconds if this feature is provided.

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B. Ringing Features: This test checks the ability of the trunk to apply all ringing codes and to verify that they are applied to the proper side of the line and are of the correct polarity.

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H. Timed Release After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing (LAMA-C or CDT Not Provided):

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	PAGE	PAGE
I. Collection of Initial and Overtime Deposits—Trunks Arranged for Coin Operation With Timing (LAMA-C or CDT Not Provided): The following features are tested: (1) Charge functions. (2) Selection of coin supervisory circuit. (3) Collection of initial deposit. (4) Test for overtime deposit. (5) Collection of overtime deposit.	25	33
J. Return of Overtime Deposit—Disconnect After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing (LAMA-C or CDT Not Provided):	28	
K. Supervision—Trunks Arranged for Message Register Operation With or Without Timing (LAMA-C, CDT or ETS Not Provided): The following features are tested: (1) Test for initial operation of message register at time of answer. (2) Test for operation of message register once at the beginning of each timing interval after time of answer.	30	
L. Call to Free Line—Trunks Arranged for AMA, Coin, Message Register, or Data Message Timing Operation: The following features are tested: (1) No charge made when using message register or data message timing trunks. (2) Return of coin when using coin trunks. (3) No answer or disconnect entries made when using AMA trunks.	31	
M. Cancel Disconnect Entry—AMA Trunks When Disconnect Entry is Provided (ETS, CDT or LAMA-C Not Provided): This test checks cancellation of disconnect entry and release of trunk if disconnect entry is not made within 2 to 6 seconds after disconnect.	32	
N. Universal Pad Control: This test checks the operation of the		
PCA and PCB relays in the trunk circuit.		33
O. Trunk Busy: This test checks that only a test call can complete to an idle made-busy trunk. It also checks that a service call can complete to an idle trunk.		35
P. Tests P through AS Deleted:		36
AT. ETS Verification Test: This test verifies the following conditions: (1) Trunk seizure and release. (2) Trunk supervisory scanning (FT, S1, and CS leads). (3) Make-busy override. (4) Correct trunk register assignment.		
1.04 Tests H, I, and J should be made during periods of light coin traffic to ensure immediate seizure of a coin supervisory circuit.		
1.05 In Tests H, I, and J, the initial and overtime charging intervals used in testing nonwire-spring-relay type trunks are based on a 5-minute timing interval. When testing these trunks in an office that uses a timing interval other than 5 minutes, the timing specified in the office should be used instead of the timing specified in these tests.		
1.06 Tests M and N, require action and verification at the relay rack frame.		
1.07 Lettered Steps: A letter a, b, c, etc, added to a step number in Parts 3 and 4 of this section indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.		
1.08 The manner of selecting some circuits and test conditions at the master test frame (MTF) and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of		

selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

1.09 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

1.10 When the office is arranged for LAMA-C or ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a *maintenance-busy* condition—not in an *out-of-service* condition. To change a scanner or distributor from an *out-of-service* to a *maintenance-busy* condition, use the procedure given in the following sections for the office arrangement.

218-798-308—Taking LAMA-C Equipment Out-of-Service.

218-799-701—Taking ETS Equipment Out-of-Service.

1.11 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk supervisory scanning to be repeated on the FT, CS, and S1 lamps at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, supervision will continue to be repeated on the lamps, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk,

or (2) the command *STOP:TRK TST* is entered at the maintenance TTY.

1.12 When CDT (calling data transmitter) billing system is provided in the office, this trunk may or may not handle billable calls. When it is arranged for billable calls, supervisory scan points will be assigned and supervision will be repeated from the scan points on test calls to the MTF by CS and S1 lamps.

1.13 When CDT is provided, there may be several configurations in the office - single controller, dual controller with the trunk assigned to one controller, or dual controller and the trunk is assigned to both controllers. When assigned to both controllers in a dual controller configuration, one test must be made to each controller to verify scan points for each controller.

2. APPARATUS

All Tests

2.01 Master test control circuit, SD-25800-01.

2.02 Trunk test circuit, SD-25918-01.

Tests A, D Through M

2.03 KS-3008 stopwatch or equivalent.

Test M

2.04 Blocking and insulating tools as required. Use tools and apply as covered in Section 069-020-801.

3. PREPARATION

All Tests

STEP	ACTION	VERIFICATION
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Refer to paragraph 1.07 through 1.13

- | | | |
|---|--|-------------------------|
| 1 | At MTF—
Restore all keys and switches. | |
| 2 | Momentarily operate RL key. | All lamps extinguished. |
| 3 | Select digits required to direct call to type of trunk under test. | |

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STEP	ACTION	VERIFICATION
4a	If trunk under test is arranged for flat rate, message register, AMA, or coin operation— Operate TTL key.	
5b	If KAMA key is provided and AMA features are not being tested— Operate KAMA key.	
6c	If trunk under test is arranged for data service, message timing, or data flat rate operation— Select numerical digits assigned to data terminating test line.	
7d	If coin service improvements (dial-tone-first) are provided— Operate DTNF key for initial charge or OTCN key for overtime charge.	
8e	If trunk under test is coin operation— Operate CN key.	
9f	If ETS provided— Operate PCS and PTS keys.	
10	Select marker.	
11	Select route advance.	
12	Select A appearance of trunk under test.	
13	Operate FS, TS, and KRC keys.	
14	Select a class of service and rate treatment, if required, having access to trunk under test.	
15	Select IAO class of test.	
16	Select ringing combination as required.	
17	Select originating class of call and associated translator indication.	
18	Operate GPA/GPB key when trunk is in an allotted trunk group.	

Tests A Through O

- 19g If tens block screening is provided—
Set TERT switch as required.

STEP	ACTION	VERIFICATION
All Tests Except H, I, J, M, and AT		
20h	◆If trunk is to be tested for CDT— Operate CDTT key.	
21h	When trunk is assigned to CDT dual controllers, select controller— Operate CDC 0/1 key.	
22h	When a trouble record is to be taken from the CDT translator access (TA) circuit— Operate TREC key.	
23h	When the CDT controller operates with both shared and dedicated translator circuits and a particular translator circuit is to be used for the test— Operate TAD key to select dedicated TA circuit or operate TAS key to select shared TA circuit.	
	Note: When a TA circuit is not selected, the controller will select the next available TA circuit.◆	

4. METHOD

STEP	ACTION	VERIFICATION
A. Trunk Seizure and Release		
24	Operate TLK key.	
25	Momentarily operate ST key.	AS, TS lamps lighted. Ringing tone heard. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. ◆If CDTT key is operated— S1 lamp lighted.◆
26	Operate ANS key; <i>start timing</i> .	If ETS or LAMA-C provided— CS lamp lighted. ◆If CDTT key is operated— CS lamp lighted.◆ High tone heard. If answer and disconnect supervision is provided—

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STEP	ACTION	VERIFICATION
		PK lamp extinguished. After 38 seconds— AS, TS lamps remain lighted.
27	Restore TLK, ANS keys.	AS, TS lamps extinguished. High tone silenced. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. ◆If CDTT key is operated— S1, CS lamps extinguished.◆
28	Momentarily operate RL key.	All lamps extinguished.
29	Restore all keys and switches not required in next test.	
B. Ringing Features		
24	Operate TLK key.	
25	Select ringing combination to be applied to terminating test line. (Refer to Table A.)	
26	Momentarily operate ST key.	AS, TS lamps lighted. Ringing detection lamps function as shown in Table A. Ringing tone heard. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. ◆If CDTT key is operated— S1 lamp lighted.◆
27	Momentarily operate RL key.	All lamps extinguished. Ringing tone silenced.
28	Restore TLK key.	
29	Repeat Steps 24 through 27 for each type of ringing provided.	
30	Restore all keys and switches not required in next test.	

TABLE A — RINGING CODE CHECK CHART

RINGING COMB.	RINGING SELECTION SWITCH SELECT MAGNETS OPERATED	RINGING DETECTION LAMP LIGHTED	RINGING TEST LINE NO.	RINGING CODES	RINGING INTERVAL IN SECONDS							REMARKS	
					0	1	2	3	4	5	6		
1*†	0,6	R-		Code 1 Gen	█	█							
2	0,2	R-		Code 1 Gen	█								
		R-		Code 2 Gen	█	█							
		R-		Continuous	█	█	█	█	█	█	█	█	█
3*	0,3	R+		Code 2+	█								
		R-		Code 1 Gen	█								
		R-		Code 3 Gen	█	█							
4	0,4	R+		Code 3+	█	█							
		R-		Code 4 Gen	█								
		R-		Code 1 HV	█	█							
5*	0,5	R-		Code 2 Gen	█	█							
		R-		Code 2 Gen	█								
		R-		Code 5 Gen	█	█	█						
6	0,7	§¶		-48 Ring, Grd Tip	█	█	█	█	█	█	█	█	Silent Level
		§¶		-48 Ring, Grd Tip	█	█	█	█	█	█	█	█	Silent Level
		R+		Code 1+	█								
7*	1,7	R-		Code 2 Gen	█	█							
		T-§		-48 Tip, Grd Ring	█	█	█	█	█	█	█	█	Silent Level
		T+		Code 1+	█								
8*	0,8	T-		Code 2 Gen	█	█							
		R-		Code 1 Gen	█								Free Line
		R+		Code 2+	█	█							
9	1,8	T-		Code 1 Gen	█	█							Free Line
		T+		Code 2+	█								
10‡	0,6	R-		Code 1 Gen	█	█							
11*†	1,6	T-		Code 1 Gen	█	█							
12*	1,2	T-		Code 1 Gen	█								
		T-		Code 2 Gen	█	█							
		T-		Continuous	█	█	█	█	█	█	█	█	
13	1,3	T+		Code 2+	█								
		T-		Code 1 Gen	█								
		T-		Code 3 Gen	█	█							
		T+		Code 3+	█	█							
14*	1,4	T-		Code 4 Gen	█	█							
		T-		Code 1 HV	█	█							
		T-		Code 2 Gen	█	█							
15	1,5	T+		Code 2+	█								
		T-		Code 2 Gen	█								
		T-		Code 5 Gen	█	█	█						
		T-§		-48 Tip, Grd Ring	█	█	█	█	█	█	█	█	Silent Level

*These ringing combinations check all equipped crosspoints on the ringing selection switch.

†In offices arranged for marker controlled immediate ring, set RMBR switch to position 1.

‡Ringing combination 10 is listed for information purposes only and should not be used for testing the ringing feature.

§If line link pulsing or direct access to No. 101 ESS is provided, operate RTK key to test silent level.

*No indication.

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STEP	ACTION	VERIFICATION
C. Pretrip and Trip		
24	Operate TLK key.	
25	Select code 1 ringing.	
26	Momentarily operate ST key.	AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. ♦If CDTT key is operated— S1 lamp lighted.♦ If answer and disconnect supervision is provided— PK lamp lighted.
27	During silent interval of ringing cycle— Operate PTP key and hold for approximately 1/2 second.	
28	Observe R- lamp.	R- lamp continues to flash.
29	During silent interval of ringing cycle— Operate TRP key and hold for approximately 1/2 second if trunk test circuit has 1500-ohm test resistance, or 1 second if it has a 1622-ohm test resistance.	R- lamp extinguished. Ringing tone silenced. If trunk under test is data message timing— AS, TS lamps extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. ♦If CDTT key is operated— S1 lamp extinguished.♦
30	Momentarily operate RL key.	All lamps extinguished.
31i	If office is equipped with range extension for uniguage cabling— Select ringing cpmbination 4.	
32i	Repeat Steps 26 through 30.	
33	Restore TLK key.	
34	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
D. Supervision—Originating and Terminating Ends Disconnect		
Flat Rate Operation		
24	Operate TLK key.	
25	Momentarily operate ST key.	AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. ♦If CDTT key is operated— S1 lamp lighted.♦
26	Operate ANS key; <i>start timing</i> .	High tone heard. If answer and disconnect supervision is provided— PK lamp extinguished. If ETS or LAMA-C provided— CS lamp lighted. ♦If CDTT key is operated— CS lamp lighted.♦
27	In 7 to 9 seconds— Restore ANS, TLK keys.	AS, TS lamps extinguished. High tone silenced. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, S1, CS lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. ♦If CDTT key is operated— S1, CS lamps extinguished.♦
28	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ♦CDT♦ or LAMA-C Not Provided)		
29	Operate TLK key.	
30	Momentarily operate ST key.	AS, TS lamps lighted. IE, RN-, T2/5, U2/5 lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted.

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STEP	ACTION	VERIFICATION
31	Operate ANS key; <i>start timing</i> .	High tone heard. If answer and disconnect supervision is provided— PK lamp extinguished. In 2 to 6 seconds— AE lamp lighted.
32	Restore ANS, TLK keys.	AS, TS lamps extinguished. High tone silenced. If disconnect entry is provided— DE lamp lighted. If answer and disconnect supervision is provided— PK lamp lighted.
33	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
34	Operate TLK key.	
35	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.
36	Operate ANS key; <i>start timing</i> .	High tone heard. If ETS provided— CS lamp lighted.
37	In 7 to 9 seconds— Restore ANS, TLK keys.	If ETS provided— FT, S1, CS lamps extinguished. CC lamp momentarily lighted. CND lamp lighted. ◆If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.◆ AS, TS lamps extinguished. High tone silenced.
38	Restore CN key.	CND lamp extinguished.
39	Momentarily operate RL key.	All lamps extinguished.
Message Register Operation (LAMA-C or ETS Not Provided)		
40	Operate TLK key.	
41	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp <i>not</i> lighted.

STEP	ACTION	VERIFICATION
		◆If CDTT key is operated— S1 lamp lighted.◆
42	Operate ANS key; <i>start timing</i> .	High tone heard. In 2 to 6 seconds— RP lamp lighted. DR lamp <i>not</i> lighted. ◆If CDTT key is operated— CS lamp lighted.◆
43	Restore ANS, TLK keys.	AS, TS lamps extinguished. High tone silenced. ◆If CDTT key is operated— S1, CS lamps extinguished.◆
44	Momentarily operate RL key.	All lamps extinguished.
45i	If circuit is arranged for 2-party operation— Operate TP, TLK keys.	
46i	Momentarily operate ST key.	AD, TS lamps lighted. ◆If CDTT key is operated— S1 lamp lighted.◆
47i	Operate ANS key; <i>start timing</i> .	High tone heard. In 2 to 6 seconds— TP lamp lighted. DR lamp <i>not</i> lighted. ◆If CDTT key is operated— CS lamp lighted.◆
48i	Restore ANS, TLK keys.	◆If CDTT key is operated— S1, CS lamps extinguished◆ AS, TS lamps extinguished. High tone silenced.
49i	Restore TP key.	
50i	Momentarily operate RL key.	All lamps extinguished.
Data Message Timing and Data Flat Rate Operation		
51	Operate TLK key.	
52	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. RP, PK lamps <i>not</i> lighted.

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STEP	ACTION	VERIFICATION
53	Operate ANS key.	High tone heard. PK lamp lighted. If trunk under test is data message timing— RP lamp lighted. DR lamp <i>not</i> lighted. If ETS or LAMA-C provided— CS lamp lighted. ◆If CDTT key is operated— CS lamp lighted.◆
54	Restore ANS, TLK keys.	AS, TS lamps extinguished. High tone silenced. If ETS provided— FT, S1, CS lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. ◆If CDTT key is operated— S1, CS lamps extinguished.◆
55	Momentarily operate RL key	All lamps extinguished.

All Trunks

56 Restore all keys and switches not required in next test.

E. Supervision—Originating End Disconnect

All Trunks

Note: Do not proceed with this test until assured that the trunk has been idle for 2 minutes where tube-type RL relay is used and for 4 minutes where 235-type RL relay is used.

Flat Rate Operation

24 Operate TLK key.

25 Momentarily operate ST key.

◆If CDTT key is operated—
S1 lamp lighted.◆
If LAMA-C provided—
S1 lamp lighted.
If ETS provided—
FT, S1 lamps lighted.
AS, TS lamps lighted.
If answer and disconnect supervision is provided—
PK lamp lighted.

STEP	ACTION	VERIFICATION
26	Using dial of MTF telephone circuit— Dial digit 7.	AS, TS lamps remain lighted.
27	Operate ANS key; <i>start timing</i> .	High tone heard. If answer and disconnect supervision is provided— PK lamp extinguished. If ETS or LAMA-C provided— CS lamp lighted. ◆If CDTT key is operated— CS lamp lighted.◆
28	In 7 to 9 seconds— Restore TLK key; <i>start timing</i> .	If LAMA-C provided— S1 lamp extinguished. If ETS provided— FT, S1 lamps extinguished. ◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS lamp extinguished. In 13 to 32 seconds— TS lamp extinguished. High tone silenced. If answer and disconnect supervision is provided— PK lamp lighted. If ETS or LAMA-C provided— CS lamp extinguished.
29	Restore ANS key.	
30	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ◆CDT◆ or LAMA-C Not Provided)		
31	Operate TLK key.	
32	Momentarily operate ST key.	AS, TS lamps lighted. IE, RN-, T2/5, U2/5 lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted.
33	Using dial of MTF telephone circuit— Dial digit 7.	AS, TS lamps remain lighted.
34	Operate ANS key; <i>start timing</i> .	High tone heard. In 2 to 6 seconds— AE lamp lighted. If answer and disconnect supervision is provided— PK lamp extinguished.

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STEP	ACTION	VERIFICATION
35	Restore TLK key; <i>start timing.</i>	AS lamp extinguished. High tone silenced. S1 lamp extinguished. In 13 to 32 seconds— TS lamp extinguished. If disconnect entry is provided— DE lamp lighted. If answer and disconnect supervision is provided— PK lamp lighted.
36	Restore ANS key.	
37	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
38	Operate TLK key.	
39	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.
40	Using dial of MTF telephone circuit— Dial digit 7.	AS, TS lamps remain lighted.
41	Operate ANS key; <i>start timing.</i>	High tone heard. If ETS provided— CS lamp lighted.
42	In 7 to 9 seconds— Restore TLK key; <i>start timing.</i>	CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ If ETS provided— FT, S1 lamps extinguished. AS lamp extinguished. In 13 to 32 seconds— TS lamp extinguished. High tone silenced. If ETS provided— CS lamp extinguished.
Note: PK lamp may be momentarily lighted during the interval that coin collect potential is applied.		
43	Restore CN, ANS keys.	CND lamp extinguished.
44	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
Message Register Operation (LAMA-C or ETS Not Provided)		
45	Operate TLK key.	
46	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. PK lamp <i>not</i> lighted.
47	Using dial of MTF telephone circuit— Dial digit 7.	AS, TS lamps remain lighted.
48	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ High tone heard. In 2 to 6 seconds— RP lamp lighted. DR lamp <i>not</i> lighted.
49	Restore TLK key; <i>start timing</i> .	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS lamp extinguished. In 13 to 32 seconds— TS lamp extinguished. High tone silenced.
50	Restore ANS key.	
51	Momentarily operate RL key.	All lamps extinguished.
Data Message Timing and Data Flat Rate Operation		
52	Operate TLK key.	
53	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp lighted.
54	Operate ANS key.	◆If CDTT key is operated— CS lamp lighted.◆ If ETS or LAMA-C provided— CS lamp lighted. High tone heard. PK lamp extinguished. If trunk under test is data message timing—

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STEP	ACTION	VERIFICATION
		RP lamp lighted. DR lamp <i>not</i> lighted.
55	Restore TLK key.	♦If CDTT key is operated— S1, CS lamps extinguished.♦ If LAMA-C provided— CS, S1 lamps extinguished. If ETS provided— FT, S1, CS lamps extinguished. AS, TS lamps extinguished. High tone heard.
56	Momentarily operate RL key.	All lamps extinguished.
57	Restore ANS key.	
All Trunks		
58	Restore all keys and switches not required in next test.	
F. Supervision—Terminating End Disconnect		
All Trunks		
<p>Note: For trunks except data message timing and data flat rate, do not proceed with these tests until assured that the trunk has been idle for 2 minutes where tube-type RL relay is used and for 4 minutes where 235-type RL relay is used.</p>		
Flat Rate Operation		
24	Operate TLK key.	
25	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted.
26i	♦If improved testing of CS relay is provided— Momentarily operate SK key.♦	
27	Operater ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦

STEP	ACTION	VERIFICATION
		<p>If ETS or LAMA-C provided— CS lamp lighted. High tone heard. If answer and disconnect supervision is provided— PK lamp extinguished.</p>
28i	<p>◆If improved testing of CS relay is provided— Momentarily operate CSR key.</p>	<p>If CDTT key operated— CS lamp momentarily extinguished. If ETS or LAMA-C provided— CS lamp momentarily extinguished.◆</p>
29	<p>In 7 to 9 seconds— Restore ANS key; <i>start timing</i>.</p>	<p>High tone silenced. ◆If CDTT key is operated— CS lamp extinguished.◆ If ETS or LAMA-C provided— CS lamp extinguished. In 13 to 32 seconds— AS, TS lamps extinguished. If answer and disconnect supervision is provided— PK lamp lighted. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆</p>
30	<p>Restore TLK key.</p>	
31	<p>Momentarily operate RL key.</p>	<p>All lamps extinguished.</p>
AMA Operation (ETS, ◆CDT,◆ or LAMA-C Not Provided)		
32	<p>Operate TLK key.</p>	
33	<p>Momentarily operate ST key.</p>	<p>AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted. IE, RN-, T2/5, U2/5 lamps lighted.</p>
34	<p>Operate ANS key; <i>start timing</i>.</p>	<p>High tone heard. In 2 to 6 seconds— AE lamp lighted. If answer and disconnect supervision is provided— PK lamp extinguished.</p>
35	<p>Restore ANS key; <i>start timing</i>.</p>	<p>High tone silenced. In 13 to 32 seconds—</p>

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STEP	ACTION	VERIFICATION
		AS, TS lamps extinguished. If answer and disconnect supervision is provided— PK lamp lighted. If disconnect entry is provided— DE lamp lighted.
36	Restore TLK key.	
37	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
38	Operate TLK key.	
39	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.
40i	◆If improved testing of CS relay is provided— Momentarily operate SK key.◆	
41	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. High tone heard.
42i	◆If improved testing of CS relay is provided— Momentarily operate CSR key.◆	◆If ETS or LAMA-C provided— CS lamp momentarily extinguished.◆
43	In 7 to 9 seconds— Restore ANS key; <i>start timing</i> .	If ETS provided— CS lamp extinguished. High tone silenced. In 13 to 32 seconds— AS, TS lamps extinguished. CC lamp momentarily lighted. CND lamp lighted. ◆If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.◆ If ETS provided— FT, S1 lamps extinguished.
		Note: PK lamp may be momentarily lighted during the interval that coin collect potential is applied.
44	Restore CN key.	CND lamp extinguished.
45	Restore TLK key.	
46	Momentarily operate RL key.	All lamps extinguished.

STEP	ACTION	VERIFICATION
Message Register Operation (LAMA-C or ETS Not Provided)		
47	Operate TLK key.	
48	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. PK lamp <i>not</i> lighted.
49i	◆If improved testing of CS relay is provided— Momentarily operate SK key.◆	
50	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ High tone heard. In 2 to 6 seconds— RP lamp lighted. DR lamp <i>not</i> lighted.
51i	◆If improved testing of CS relay is provided— Momentarily operate CSR key.	If CDTT key operated— CS lamp momentarily extinguished.◆
52	Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ In 13 to 32 seconds— AS, TS lamps extinguished. High tone silenced. ◆If CDTT key is operated— S1 lamp extinguished.◆
53	Restore TLK key.	
54	Momentarily operate RL key.	All lamps extinguished.
Data Message Timing and Data Flat Rate Operation		
55	Operate TLK key.	
56	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. RP, PK lamps <i>not</i> lighted.
57i	◆If improved testing of CS relay is provided— Momentarily operate SK key.◆	

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STEP	ACTION	VERIFICATION
58	Operate ANS key.	♦If CDTT key is operated— CS lamp lighted.♦ If ETS or LAMA-C provided— CS lamp lighted. High tone heard. PK lamp lighted. If trunk under test is data message timing— RP lamp lighted. DR lamp <i>not</i> lighted.
59i	♦If improved testing of CS relay is provided— Momentarily operate CSR key.	If ETS or LAMA-C provided— CS lamp momentarily extinguished. If CDTT key operated— CS lamp momentarily extinguished.♦
60	Restore ANS key.	♦If CDTT key is operated— CS lamp extinguished.♦ If LAMA-C provided— CS, S1 lamps extinguished. If ETS provided— FT, S1, CS lamps lighted. AS, TS lamps extinguished. High tone silenced.
61	Restore TLK key.	♦If CDTT key is operated— S1 lamp extinguished.♦
62	Momentarily operate RL key.	All lamps extinguished.
All Trunks		
63	Restore all keys and switches not required in next test.	

G. Noncharge Supervision

Flat Rate Operation

24	Operate TLK key.	
25	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted.

STEP	ACTION	VERIFICATION
26	Operate ANS key for 1 to 1-1/2 seconds.	◆If CDTT key is operated— CS lamp lighted while ANS key is operated.◆ If ETS or LAMA-C provided— CS lamp lighted while ANS key is operated. High tone heard while ANS key is operated. If answer and disconnect supervision is provided— PK lamp extinguished.
27	Operate ANS key and restore TLK key simultaneously.	◆If CDTT key is operated— S1 lamp extinguished.◆ If LAMA-C provided— S1 lamp extinguished. If ETS provided— FT, S1 lamps extinguished. PK lamp remains extinguished. AS, TS lamps extinguished.
28	Restore ANS key.	
29	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ◆CDT,◆ or LAMA-C Not Provided)		
30	Operate TLK key.	
31	Momentarily operate ST key.	AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted. IE, RN, T2/5, U2/5 lamps lighted.
32	Operate ANS key for 1 to 1-1/2 seconds; <i>start timing.</i>	High tone heard while ANS key is operated. If answer and disconnect supervision is provided— PK lamp extinguished. AE lamp not lighted.
33	In 7 to 9 seconds— Restore TLK key.	AS, TS lamps extinguished.
34	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
35	Operate TLK key.	
36	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.

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STEP	ACTION	VERIFICATION
37	Operate ANS key for 1 to 1-1/2 seconds.	High tone heard while ANS key is operated. If ETS provided— CS lamp lighted while ANS key is operated.
38	Restore TLK key.	TS lamp extinguished. CR lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished. <i>Note:</i> PK lamp may be momentarily lighted during the interval that coin return potential is applied.
39	Restore CN key.	CND lamp extinguished.
40	Momentarily operate RL key.	All lamps extinguished.

Message Register Operation (LAMA-C or ETS Not Provided)

41	Operate TLK key.	
42	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS, TS lamps lighted. PK lamp <i>not</i> lighted.
43	Operate ANS key for 1 to 1-1/2 seconds.	♦If CDTT key is operated— CS lamp lighted while ANS key operated.♦ High tone heard while ANS key is operated. RP lamp <i>not</i> lighted.
44	Momentarily operate RL key.	All lamps extinguished.
45	Restore TLK key.	

All Trunks

46	Restore all keys and switches not required in next test.	
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STEP	ACTION	VERIFICATION
H. Timed Release After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing (LAMA-C or CDT Not Provided)		
Nonwire-Spring-Relay Type Trunks		
20	Operate TLK key.	
21	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted.
22	Operate ANS key; <i>start timing</i> .	High tone heard. If ETS provided— CS lamp lighted.
23	In 4 minutes 33 seconds— Restore ANS key.	If ETS provided— CS lamp extinguished. High tone silenced. In 4 minutes 46 seconds to 5 minutes 5 seconds— TS, AS lamps extinguished. If ETS provided— FT, S1 lamps extinguished.
24	Restore TLK key.	
25	Momentarily operate RL key.	All lamps extinguished.
Wire-Spring-Relay Type Trunks		
26	Determine from office records the initial timing interval of trunk being tested.	
27	Operate TLK key.	
28	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted.
29	Operate ANS key; <i>start timing</i> .	High tone heard. If ETS provided— CS lamp lighted. After 38 seconds— AS, TS lamps remain lighted.
30	Restore TLK key; <i>start timing</i> .	If ETS provided— FT, S1 lamps extinguished. AS lamp extinguished.

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STEP	ACTION	VERIFICATION
		In 13 to 32 seconds— TS lamp extinguished. High tone silenced. If ETS provided— CS lamp extinguished.
		Note: The time interval between the restoring of TLK key and the extinguishing of TS lamp is the timed release interval and should be noted for use in Step 37.
31	Restore CN key.	
32	Momentarily operate RL key.	All lamps extinguished.
33	Operate TLK, CN keys.	
34	Restore ANS key.	
35	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted.
36	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted.
37	Depending upon the initial timing interval and the timed release interval, restore ANS key as indicated in Table B.	If ETS provided— CS lamp extinguished. TS lamp extinguished in time indicated in Table B in TS LAMP TIME LIMITS column. If ETS provided— FT, S1 lamps extinguished.

STEP

ACTION

VERIFICATION

TABLE B			
INITIAL TIMING INTERVAL IN MINUTES	TIMED RELEASE INTERVAL IN SECONDS	RESTORE ANS KEY IN	TS LAMP TIME LIMITS
1	13-19	0 min 40 sec	0 min 53 sec to 0 min 59 sec
	19-25	0 min 34 sec	0 min 53 sec to 0 min 59 sec
	25-32	0 min 28 sec	0 min 53 sec to 1 min 0 sec
2	13-19	1 min 40 sec	1 min 53 sec to 1 min 59 sec
	19-25	1 min 34 sec	1 min 53 sec to 1 min 59 sec
	25-32	1 min 28 sec	1 min 53 sec to 2 min 0 sec
3	13-19	2 min 40 sec	2 min 53 sec to 2 min 59 sec
	19-25	2 min 34 sec	2 min 53 sec to 2 min 59 sec
	25-32	2 min 28 sec	2 min 53 sec to 3 min 0 sec
4	13-19	3 min 40 sec	3 min 53 sec to 3 min 59 sec
	19-25	3 min 34 sec	3 min 53 sec to 3 min 59 sec
	25-32	3 min 28 sec	3 min 53 sec to 4 min 0 sec
5	13-19	4 min 40 sec	4 min 53 sec to 4 min 59 sec
	19-25	4 min 34 sec	4 min 53 sec to 4 min 59 sec
	25-32	4 min 28 sec	4 min 53 sec to 5 min 0 sec

38 Restore CN, TLK keys.

39 Momentarily operate RL key.

All lamps extinguished.

All Trunks

40 Restore all keys and switches not required in next test.

I. Collection of Initial and Overtime Deposits—Trunks Arranged for Coin Operation With Timing (LAMA-C or CDT Not Provided)

Nonwire-Spring-Relay Type Trunks

20 Operate TLK key.

21 Momentarily operate ST key.

If ETS provided—
 FT, S1 lamps lighted.
 AS, TS lamps lighted.
 PK lamp *not* lighted.

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STEP	ACTION	VERIFICATION
22	Operate ANS key; start timing.	If ETS provided— CS lamp lighted. High tone heard. In 4 minutes 26 seconds to 4 minutes 44 seconds— CC lamp momentarily lighted. Low tone heard while CC lamp is lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦
23	Momentarily restore CN key immediately after CND lamp lights.	CND lamp extinguished. In 5 minutes 5 seconds to 5 minutes 15 seconds— Momentary break in high tone.
24	In 5 minutes 25 seconds to 5 minutes 35 seconds— Restore TLK key.	If ETS provided— FT, S1 lamps extinguished. CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ AS lamp extinguished.
25	Restore ANS key.	If ETS provided— CS lamp extinguished. TS, CND lamps extinguished. High tone silenced.
26	Momentarily operate RL key.	All lamps extinguished.
Wire-Spring-Relay Type Trunks		
27	Determine from office records the initial and overtime timing intervals of trunk being tested.	
28	Operate TLK key.	
29	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.
30	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. High tone heard. Depending upon the duration of the initial timing interval, CC lamp momentarily lighted in:

STEP

ACTION

VERIFICATION

INITIAL
TIMING
INTERVAL

CC LAMP TIME LIMITS

1 min	0 min 32 sec to 0 min 50 sec
2 min	1 min 32 sec to 1 min 50 sec
3 min	2 min 32 sec to 2 min 50 sec
4 min	3 min 32 sec to 3 min 50 sec
5 min	4 min 32 sec to 4 min 50 sec

Low tone heard while CC lamp lighted.
CND lamp lighted.

◆If trunk is arranged for coin service improvements (dial-tone-first)—
OLF lamp **does not** light.◆

31 Momentarily restore CN key immediately after CND lamp lights.

CND lamp extinguished.
In 30 seconds after CC lamp lighted in Step 30—
Momentary break in high tone.

32 Immediately after momentary break in high tone, **stop and restart timing.**

Depending upon the duration of the overtime timing interval, CC lamp lighted in:

OVERTIME
TIMING
INTERVAL

CC LAMP TIME LIMITS

1 min	0 min 30 sec to 0 min 45 sec
1-1/2 min	1 min 0 sec to 1 min 15 sec
2 min	1 min 30 sec to 1 min 45 sec
2-1/2 min	2 min 0 sec to 2 min 15 sec
3 min	2 min 30 sec to 2 min 45 sec
3-1/2 min	3 min 0 sec to 3 min 15 sec
4 min	3 min 30 sec to 3 min 45 sec
4-1/2 min	4 min 0 sec to 4 min 15 sec
5 min	4 min 30 sec to 4 min 45 sec

Low tone heard while CC lamp lighted.
CND lamp lighted.

◆If trunk is arranged for coin service improvements (dial-tone-first)—
OLF lamp **does not** light.◆

33 Momentarily restore CN key immediately after CND lamp lights.

CND lamp extinguished.
In 30 seconds after CC lamp lighted in Step

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STEP	ACTION	VERIFICATION
		32— Momentary break in high tone.
34	In 50 seconds after CC lamp lighted in Step 32— Restore TLK key.	If ETS provided— FT, S1 lamps extinguished. CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ AS lamp extinguished.
35	Restore CN, ANS keys.	If ETS provided— CS lamp extinguished. TS, CND lamps extinguished. High tone silenced.
36	Momentarily operate RL key.	All lamps extinguished.
All Trunks		
37	Restore all keys and switches not required in next test.	
J. Return of Overtime Deposit—Disconnect After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing (LAMA-C ♦or CDT♦ Not Provided)		
Nonwire-Spring-Relay Type Trunks		
20	Operate TLK key.	
21	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp <i>not</i> lighted.
22	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. High tone heard. In 4 minutes 26 seconds to 4 minutes 44 seconds— CC lamp momentarily lighted. Low tone heard while CC lamp lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦
23	Momentarily restore CN key immediately after CND lamp lights.	CND lamp extinguished.

STEP	ACTION	VERIFICATION
24	In 5 minutes— Restore ANS, TLK keys.	If ETS provided— FT, S1, CS lamps extinguished. CR lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦ AS, TS lamps extinguished. High tone silenced.
25	Restore CN key.	CND lamp extinguished.
26	Momentarily operate RL key.	All lamps extinguished.

Wire-Spring-Relay Type Trunks

27	Determine from office records the initial timing interval of trunk being tested.	
28	Operate CN, TLK keys.	
29	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted.
30	Operate ANS key; start timing.	If ETS provided— CS lamp lighted. High tone heard. Depending upon the duration of the initial timing interval, CC lamp momentarily lighted in:

INITIAL TIMING INTERVAL	CC LAMP TIME LIMITS
1 min	0 min 32 sec to 0 min 50 sec
2 min	1 min 32 sec to 1 min 50 sec.
3 min	2 min 32 sec to 2 min 50 sec
4 min	3 min 32 sec to 3 min 50 sec
5 min	4 min 32 sec to 4 min 50 sec

31	Momentarily restore CN key immediately after CND lamp lights.	Low tone heard while CC lamp lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦ CND lamp extinguished.
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STEP	ACTION	VERIFICATION
32	Depending upon the duration of the initial timing interval, restore ANS, TLK keys in:	If ETS provided— FT, S1, CS lamps extinguished.

INITIAL TIMING INTERVAL	RESTORE ANS, TLK KEYS
1 min	1 min 0 sec
2 min	2 min 0 sec
3 min	3 min 0 sec
4 min	4 min 0 sec
5 min	5 min 0 sec

CR lamp momentarily lighted.
 CND lamp lighted.
 ♦If trunk is arranged for coin service improvements (dial-tone-first)—
 OLF lamp **does not** light.♦
 AS, TS lamps extinguished.
 High tone silenced.

33	Restore CN key.	CND lamp extinguished.
34	Momentarily operate RL key.	All lamps extinguished.
35	Restore TLK key.	

All Trunks

36 Restore all keys and switches not required in next test.

K. Supervision—Trunks Arranged for Message Rate Operation With or Without Timing (LAMA-C, ♦CDT♦ or ETS Not Provided)

24	Operate TLK key.	
25	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS, TS lamps lighted. PK lamp not lighted.
26	Operate ANS key; start timing.	♦If CDTT key is operated— CS lamp lighted.♦

Trunks Not Arranged for Timing
 High tone heard.
 In 2 to 5 seconds—
 RP lamp lighted.

STEP	ACTION	VERIFICATION
		<p><i>Nonwire-Spring-Relay Type Trunks Arranged for Timing</i> High tone heard. In 2 to 6 seconds— RP lamp lighted. In 5 minutes 5 seconds to 5 minutes 20 seconds— DR lamp lighted.</p> <p><i>Wire-Spring-Relay Type Trunks Arranged for Timing</i> High tone heard. In 2 to 6 seconds— RP lamp lighted. Depending upon the duration of the timing interval, DR lamp lighted in:</p>

TIMING INTERVAL	DR LAMP TIME LIMITS
1 min	1 min 2 sec to 1 min 20 sec
2 min	2 min 2 sec to 2 min 20 sec
3 min	3 min 2 sec to 3 min 20 sec
4 min	4 min 2 sec to 4 min 20 sec
5 min	5 min 2 sec to 5 min 20 sec

27	Restore ANS, TLK keys.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ High tone silenced.
28	Momentarily operate RL key.	All lamps extinguished.
29	Restore all keys and switches not required in next test.	
L. Call to Free Line—Trunks Arranged for AMA, Coin, Message Register, or Data Message Timing Operation		
24	Select D through G digits for number of a regular or data free test line.	
25i	If trunk under test is not data message timing— Restore TTL key and operate KRC key.	
26	Operate TLK key.	
27	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided—

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STEP	ACTION	VERIFICATION
28	Operate ANS key; <i>start timing</i> .	FT, S1 lamps lighted. AS, TS lamps lighted. If LAMA-C provided— S1 lamp lighted. IE, RP lamps <i>not</i> lighted. If answer and disconnect supervision is provided— PK lamp lighted.
29	In 7 to 9 seconds— Restore ANS, TLK keys.	♦If CDTT key is operated— CS lamp lighted.♦ If ETS or LAMA-C provided— CS lamp lighted. High tone heard. AE, DE, RP lamps <i>not</i> lighted. If answer and disconnect supervision is provided— PK lamp extinguished. If trunk under test is data message timing— PK lamp lighted.
30	If trunk under test is coin operation— Restore CN key.	♦If CDTT key is operated— S1, CS lamps extinguished.♦ If ETS provided— FT, S1, CS lamps extinguished. AS, TS lamps extinguished. High tone silenced. If answer and disconnect supervision is provided— PK lamp lighted. If trunk under test is coin operation— CR lamp momentarily lighted. CND lamp lighted.
31	Momentarily operate RL key.	♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ If LAMA-C provided— S1, CS lamps extinguished.
32	Restore all keys and switches not required in next test.	CND lamp extinguished.
M.	Cancel Disconnect Entry—AMA Trunks When Disconnect Entry is Provided (ETS, ♦CDT,♦ or LAMA-C Not Provided)	All lamps extinguished.

Note: Do not proceed with this test until assured that the trunk has been idle for 3

STEP	ACTION	VERIFICATION
	minutes where tube-type TR relay is used and for 2 minutes where 235-type TR relay is used.	
20	Operate TLK key.	
21	Momentarily operate ST key.	AS, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted. IE, RN, T2/5, U2/5 lamps lighted.
22	Operate ANS key; <i>start timing</i> .	High tone heard. If answer and disconnect supervision is provided— In 2 to 6 seconds— PK lamp extinguished. AE lamp lighted.
23	At relay rack frame— Insulate contact of S2 relay as follows: Nonwire-spring-relay type trunk—1T Wire-spring-relay type trunk—7.	
24	At MTF— Restore TLK, ANS keys simultaneously; <i>start timing</i> .	AS, TS lamps extinguished. High tone silenced. DE lamp <i>not</i> lighted. At relay rack frame— In 2 to 6 seconds— MA relay released.
25	At relay rack frame— Remove insulator from S2 relay.	
26	At MTF— Momentarily operate RL key.	All lamps extinguished.
27	Restore all keys and switches not required in next test.	
N. Universal Pad Control		
24	Operate 2WD, 2WCB keys.	
25	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. TS, AS, ES lamps lighted. R- lamp flashes.

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STEP	ACTION	VERIFICATION
		Ringing tone heard in unison with R- lamp flashes. At relay rack frame— PCA, PCB relays operated.
26	At MTF— Momentarily operate RL key.	All lamps extinguished. Ringing tone silenced.
27	Restore 2WD, 2WCB keys.	
28	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. TS, AS, ES lamps lighted. R- lamp flashes. Ringing tone heard in unison with R_ lamp flashes. At relay rack frame— PCA, PCB relays <i>not</i> operated.
29	At MTF— Momentarily operate RL key.	All lamps extinguished. Ringing tone silenced.
30	Operate 2WD key.	
31	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. TS, AS, ES lamps lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes. At relay rack frame— PCB relay operated. PCA relay <i>not</i> operated.
32	At MTF— Momentarily operate RL key.	All lamps extinguished. Ringing tone silenced.
33	Restore 2WD key.	
34	Operate 2WCB key.	
35	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If LAMA-C provided—

STEP	ACTION	VERIFICATION
		S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. TS, AS, ES lamps lighted. R- lamp flashes. Ringing tone heard in unison with R- lamp flashes. At relay rack frame— PCB relay operated. PCA relay <i>not</i> operated.
36	At MTF— Momentarily operate RL key.	All lamps extinguished. Ringing tone silenced.
37	Restore 2WCB key.	
38	Restore all keys and switches not required in next test.	

O. Trunk Busy

24	At relay rack frame— Set MB switch to MB on all intraoffice trunks of same route on same trunk link frame as trunk under test.	
25	At MTF— Operate TLK key.	
26	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If LAMA-C provided— S1 lamp lighted. If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted.
27	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ If ETS provided— FT, S1 lamps extinguished. AS, TS lamps extinguished. If LAMA-C provided— S1 lamp extinguished.
28	Momentarily operate RL key.	All lamps extinguished.
29	At relay rack frame— Set MB switch associated with trunk under test to MB.	If ETS provided— FT lamp lighted.

STEP	ACTION	VERIFICATION
30	At MTF— Operate TLK key.	
31	Momentarily operate ST key.	TB lamp lighted.
32	Momentarily operate RL key.	TB lamp extinguished.
33	Restore FS, TS keys.	
34	Operate NTFS, NTTS keys.	
35	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— S1 lamp lighted. AS, TS lamps lighted. If LAMA-C provided— S1 lamp lighted.
36	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ If ETS or LAMA-C provided— S1 lamp extinguished. AS, TS lamps extinguished.
37	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
38	At relay rack frame— Restore MB switches associated with trunks made busy.	If ETS provided— FT lamp extinguished.
39	At MTF— Restore all keys and switches not required in next test.	

Tests P Through AS Deleted

AT. ETS Verification Test

20	Operate TLK key.	
21	Momentarily operate ST key.	AS, FT, S1, TS lamps lighted. If answer and disconnect supervision is provided— PK lamp lighted.
22	Operate ANS key; <i>start timing</i> .	CS lamp lighted. High tone heard. If answer and disconnect supervision is

STEP	ACTION	VERIFICATION
		provided— PK lamp extinguished.
23	Restore TLK key after ANS key has been operated for 8 seconds.	AS, CS, FT, S1, TS lamps extinguished. High tone silenced. If coin class of service— CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦
24	Momentarily operate RL key.	All lamps extinguished.
25	Release ANS key.	
26	Operate TLK key.	
27	At relay rack location of trunk under test— Operate make-busy switch of trunk under test to MB.	
28	At MTF— Momentarily operate ST key.	TB lamp lighted.
29	Momentarily operate RL key.	All lamps extinguished.
30	Operate NTFS, NTTS keys.	
31	Repeat Steps 21, 22.	
32	Restore ANS key after 8 seconds.	CS lamp extinguished. High tone silenced. In 13 to 32 seconds— AS, S1, TS lamps extinguished. If answer and disconnect supervision is provided— PK lamp lighted. If coin class of service— CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦
33	Momentarily operate RL key.	All lamps extinguished. FT lamp remains lighted.
34	Restore all keys and switches not required in next test.	

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STEP	ACTION	VERIFICATION
35	At relay rack location of trunk under test— Restore make-busy switch to normal.	FT lamp extinguished.