

INTERMARKER GROUP TRUNKS
SUBSCRIBER TO TRUNK
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1. GENERAL

PAGE

1.01 This section describes a method of testing SD-25822-01, SD-25822-02, SD-25836-01, SD-25840-01, SD-26145-01 and SD-26147-01 in No. 5 crossbar offices by using the trunk test circuit SD-25918-01 and the master test control circuit SD-25800-01.

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

- (a) To revise tests A through E and I through M for Call Data Transmitter (CDT) features
- (b) To revise tests A through G, I and J for coin service improvements (dial-tone-first)
- (c) To make minor changes as required.

1.03 The tests covered are:

PAGE

A. Trunk Seizure and Release:

The following features are checked:
(1) Seizure of trunk (2) Continuity and polarity of originating tip and ring leads.

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B. Supervision—Originating End

Disconnect: The following features are checked: (1) Charge functions (2) Release of trunk without timed release (3) Trunk number assignment in call identity indexer and recorder number on AMA operation.

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C. Supervision—Terminating End

Disconnect: The following features are checked: (1) Charge functions (2) Ability to hold if extra digits are dialed into trunk (3) Timed release of trunk within 13 to 32 seconds.

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D. Noncharge Supervision:

This test checks that a charge condition is not established when an answered call is held less than 2 seconds.

13

E. Initial and Overtime Charges—

Trunks Arranged for Timing:

The following features are checked for message register operation: (1) Charge functions (2) Initial charge within 2 to 5 seconds (3) Overtime charge functions. The features tested for coin operation are: (1) Charge functions (2) Selection of coin supervisory circuit (3) Collection of initial deposit (4) Test for overtime deposit (5) Collection of overtime deposit.

15

F. Timed Release After Coin

Collect But Before Overtime

Monitoring—Trunks Arranged for

Coin Operation With Timing:

This test checks that the timed release feature operates when disconnect occurs after coin collect but before overtime monitoring.

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G. Return of Overtime Deposit—

Disconnect After Coin Collect

but Before Overtime Monitoring—

Trunks Arranged for Coin Operation

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	PAGE
With Timing: This test checks that overtime deposit is returned when disconnect occurs after coin collect but before overtime monitoring.	23
H. Cancel Disconnect Entry— Trunks Arranged for AMA Operation †(ETS, CDT, or LAMA-C Not Provided): † This test checks the canceling of disconnect entry and release of trunk if disconnect entry is not made within 2 to 5 seconds after disconnect.	26
I. Call to Busy Line: This test checks the continuity of talking path and that a charge is not established on a call to busy line.	27
J. Overflow: This test checks that the trunk is set for overflow when a connection to an outgoing trunk cannot be established.	28
K. Call to Incoming Trunk Test Line: The test checks supervision when supervisory signals are transmitted from a distant office.	29
L. Call to Charge Line: This test checks the talking path and supervision when the call is directed to charge line in a distant office.	30
M. Trunk Busy: The following features are checked. (1) Seizure by test frame when trunk is made busy (2) Busy condition to service call when trunk is made busy.	31
N. False-Busy and False-Idle Conditions †(ETS, CDT, and LAMA-C Not Provided) † This test checks for continuity and crosses on the F, BT, and FT leads.	31

1.04 Tests C, E, F, and G should preferably be made during periods of light coin traffic to insure immediate seizure of coin supervisory circuit when making timing tests.

1.05 In Tests E, F, and G, the initial and overtime charging intervals used for 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 Test H requires the service of an assistant at the relay rack frame.

1.07 Test N should preferably be made during periods of light traffic.

1.08 An assistant located at relay rack frame will facilitate performing Test N.

1.09 **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.

1.10 The manner of selecting some circuits and test conditions at the 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.

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

1.12 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.

1.13 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.

1.14 On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.15 When CDT (calling data transmitter) billing system is provided in an 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.

1.16 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

Tests A Through M

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

2.02 Trunk test circuit, SD-25918-01.

2.03 Head telephone set.

Tests A Through N

2.04 322A (make-busy) plugs, as required.

Tests B Through H

2.05 KS-3008 stopwatch or equivalent.

Test H

2.06 349A (make-busy) plug.

Test N

2.07 Test Cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 419A tool or one 624B tool, as required (for connecting high-resistance ground to terminal strip terminals).

2.08 Oscillator, J94730B (SD-95616-01), part of 1A fault locator test set, J94730A.

3. PREPARATION

STEP

ACTION

VERIFICATION

Refer to paragraphs 1.04 through 1.16.

All Tests Except N

- | | | |
|---|------------------------------|------------------------|
| 1 | At MTF—
Restore all keys. | |
| 2 | Momentarily operate RL key. | All lamps extinguished |

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STEP	ACTION	VERIFICATION
3	Insert plug of head telephone set into TEL jack.	
4	Select class of service for flat rate, message register, AMA, or coin operation as required.	
5	Select A through C digits as required for office code associated with trunk under test.	
6	Select marker.	
7	Select route advance 0.	
8	Operate FS, TS keys.	
9	Operate TLK key.	
10	Select trunk under test.	
11	Operate GPA/GPB key as required when trunk under test is in an allotted group.	
12a	If ETS provided— Operate PTS, PCS keys.	
Tests A Through D, H and I		
13b	If AMA features are not being tested— Operate KAMA key to cancel AMA record.	
Tests A Through H and M		
14	Select OGT class of test.	
15	Operate TTL key.	
Tests A Through G, I and J		
16c	If coin service improvements (dial-tone-first) provided— Operate DTNF key for initial charge or OTCN key for overtime charge.	
Tests A through E, I, J, K, L and M		
17d	If trunk is to be tested for CDT— Operate CDTT key.	
18d	When trunk is assigned to CDT dual controllers, select controller— Operate CDC 0/1 key.	

STEP	ACTION	VERIFICATION
19d	When a trouble record is to be taken from the CDT translator access (TA) circuit— Operate TREC key.	
20d	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

A. Trunk Seizure and Release

Flat-Rate

21	Momentarily operate ST key.	AS lamp lighted PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. ◆If CDTT key is operated— S1 lamp lighted.◆
22	Restore TLK key.	AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
23	Momentarily operate RL key.	All lamps extinguished.

Message Register (LAMA-C or ETS not Provided)

24	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted.
25	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ AS lamp extinguished.

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STEP	ACTION	VERIFICATION
26	Momentarily operate RL key.	All lamps extinguished.
AMA (ETS, CDT or LAMA-C not Provided)		
27	Momentarily operate ST key.	AS lamp lighted. If KAMA key not operated— IE, T, U, RN lamps lighted. PK lamp not lighted.
28	Restore TLK key.	AS lamp extinguished.
29	Momentarily operate RL key.	All lamps extinguished.
Coin		
30	Operate CN key.	
31	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
32	Restore TLK key.	CR lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (Dial-tone-first)— OLF lamp does not light.♦ AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished.
33	Restore CN key.	CND lamp extinguished.
34	Momentarily operate RL key.	All lamps extinguished.
Flat-Rate, Message Register, AMA, Coin		
35	Restore all keys and switches not required for next test.	
B. Supervision—Originating End Disconnect		
Flat-Rate		
21	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted.

STEP	ACTION	VERIFICATION
22e	If improved testing of CS relay is provided— Momentarily operate SK key.	
23	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. If ETS or LAMA-C provided— CS lamp lighted.
24e	If improved testing of CS relay is provided— Momentarily operate CSR key.	OGT-CS lamp momentarily extinguished. If ETS or LAMA-C provided— CS lamp momentarily extinguished. ◆If CDTT key operated— CS lamp momentarily extinguished.◆
25	After 5 seconds— Restore TLK key.	AS, OGT,-CS lamps extinguished. 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.◆
26	Momentarily operate RL key.	All lamps extinguished.
AMA (ETS, ◆CDT◆ or LAMA-C not Provided)		
27	Momentarily operate ST key.	AS lamp lighted If KAMA key not operated— IE, T, U, RN, lamps lighted. PK lamp not lighted.
28e	If improved testing of CS relay is provided— Momentarily operate SK key.	
29	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard. If KAMA key not operated— In 2 to 5 seconds— AE lamp lighted.
30e	If improved testing of CS relay is provided— Momentarily operate CSR key.	OGT-CS lamp momentarily extinguished.
31	Restore TLK key.	AS, OGT-CS lamps extinguished. If KAMA key not operated— DE lamp lighted.
32	Momentarily operate RL key.	All lamps extinguished.

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STEP	ACTION	VERIFICATION
Coin		
33	Operate CN key.	
34	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
35e	If improved testing of CS relay is provided— Momentarily operate SK key.	
36	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard. If ETS provided— CS lamp lighted.
37e	If improved testing of CS relay is provided— Momentarily operate CSR key.	OGT-CS lamp momentarily extinguished. If ETS provided— CS lamp momentarily extinguished.
38	After 5 seconds— Restore TLK key.	AS, OGT-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.♦ If ETS provided— FT, CS, S1 lamps extinguished.
39	Restore CN key.	CND lamp extinguished.
40	Momentarily operate RL key.	All lamps extinguished.
Message Register (ETS or LAMA-C not Provided)		
41	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted.
42e	If improved testing of CS relay is provided— Momentarily operate SK key.	
43	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— RP lamp lighted. DR lamp not lighted.

STEP	ACTION	VERIFICATION
44e	If improved testing of CS relay is provided— Momentarily operate CSR key.	OGT-CS lamp momentarily extinguished. ◆If CDTT key operated— CS lamp momentarily extinguished.◆
45	Restore TLK key.	AS, OGT-CS lamps extinguished. ◆If CDTT key is operated— S1, CS lamp extinguished.◆
46	Restore ANS key.	
47	Momentarily operate RL key.	All lamps extinguished.
48f	If trunk is arranged for 2-party Operate TP, TLK keys.	
49b	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted.
50b	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— TP lamp lighted. DR lamp not lighted.
51b	Restore TLK key.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, OGT-CS lamps extinguished.
52b	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Message Register, Coin

- 53 Restore all keys and switches not required in next test.

C. Supervision—Terminating End Disconnect

Note: Do not proceed with this test until assured that the time (4 minutes where tube-type RL relay is used, and 2 minutes where 235-type RL relay is used) has elapsed since the thermal time delay relay RL in trunk circuit was last energized.

Flat-Rate

- 21 Momentarily operate ST key.
- ◆If CDTT key is operated—
S1 lamp lighted.◆

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STEP	ACTION	VERIFICATION
		AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted.
22	Dial digit 7.	AS lamp remains lighted. If ETS or LAMA-C provided— S1 lamp remains lighted.
23	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. If ETS or LAMA-C provided— CS lamp lighted.
24	After 5 seconds— Restore ANS key.	◆If CDTT key is operated— CS lamp extinguished.◆ OGT-CS lamp extinguished. If ETS or LAMA-C provided— CS lamp extinguished. In 13 to 32 seconds— AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
25	Momentarily operate RL key.	All lamps extinguished.
AMA (ETS, ◆CDT◆ or LAMA-C not Provided)		
26	Momentarily operate ST key.	AS lamp lighted. If KAMA key not operated— IE, T_, U_, RN_ lamps lighted. PK lamp not lighted.
27	Dial digit 7.	AS lamp remains lighted.
28	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard. If KAMA key not operated— In 2 to 5 seconds— AE lamp lighted.
29	Restore ANS key; <i>start timing</i> .	High tone silenced. OGT-CS lamp extinguished. In 13 to 32 seconds—

STEP	ACTION	VERIFICATION
		AS lamp extinguished. If KAMA key not operated— DE lamp lighted.
30	Momentarily operate RL key.	All lamps extinguished.
<i>Coin</i>		
31	Operate CN key.	
32	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
33	Dial digit 7.	AS lamp remains lighted. If ETS provided— S1 lamp remains lighted.
34	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard If ETS provided— CS lamp lighted.
35	After 5 seconds— Restore ANS key; <i>start timing</i> .	High tone silenced. OGT-CS lamp extinguished. If ETS provided— CS lamp extinguished. In 13 to 32 seconds— 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. If ETS provided— FT, S1 lamps extinguished.
36	Restore CN key.	CND lamp extinguished.
37	Momentarily operate RL key.	All lamps extinguished.
<i>Message Register (ETS or LAMA-C not Provided)</i>		
38	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. AS lamp lighted. PK lamp not lighted.

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STEP	ACTION	VERIFICATION
39	Dial digit 7.	AS lamp remains lighted.
40	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard. ◆If CDTT key is operated— CS lamp lighted.◆ In 2 to 5 seconds— RP lamp lighted. DR lamp not lighted.
41	Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp extinguished.◆ OGT-CS lamp extinguished. Steady high tone silenced. In 13 to 32 seconds— AS lamp extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
42	Momentarily operate RL key.	All lamps extinguished.
43e	If trunk arranged for 2-party operation— Operate TP key.	
44e	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted.
45e	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— TP lamp lighted. DR lamp not lighted.
46e	Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp extinguished.◆ OGT-CS lamp extinguished. Steady high tone silenced. In 13 to 32 seconds— AS lamp extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
47e	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Coin, Message Register

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

STEP	ACTION	VERIFICATION
D. Noncharge Supervision		
<i>Flat-Rate</i>		
21	Momentarily operate ST key.	<p>◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted.</p>
22	Operate ANS key; <i>start timing.</i>	<p>◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. If ETS or LAMA-C provided— CS lamp lighted.</p>
23	In 2 seconds— Restore ANS key; <i>start timing.</i>	<p>◆If CDTT key is operated— CS lamp extinguished.◆ OGT-CS lamp extinguished. Steady high tone silenced. If ETS or LAMA-C provided— CS lamp extinguished.</p>
24	After 35 seconds— Restore TLK key.	<p>◆If CDTT key is operated— S1 lamp extinguished.◆ AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished.</p>
25	Momentarily operate RL key.	All lamps extinguished.
<i>AMA (ETS, ◆CDT◆ or LAMA-C Not Provided)</i>		
26	Momentarily operate ST key.	<p>AS lamp lighted. If KAMA key not operated— IE, T, U, RN lamps lighted. PK lamp not lighted.</p>
27	Operate ANS key; <i>start timing.</i>	<p>OGT-CS lamp lighted. Steady high tone heard.</p>
28	In 2 seconds— Restore ANS key; <i>start timing.</i>	<p>OGT-CS lamp extinguished. Steady high tone silenced. If KAMA key not operated— AE lamp <i>not</i> lighted.</p>

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STEP	ACTION	VERIFICATION
29	After 35 seconds— Restore TLK key.	AS lamp extinguished.
30	Momentarily operate RL key.	All lamps extinguished.
Coin		
31	Operate CN key.	
32	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
33	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone heard. If ETS provided— CS lamp lighted.
34	In 2 seconds— Restore ANS key; <i>start timing</i> .	OGT-CS lamp extinguished. Steady high tone silenced. If ETS provided— CS lamp extinguished.
35	After 35 seconds— Restore TLK key.	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.
36	Restore CN key.	CND lamp extinguished.
37	Momentarily operate RL key.	All lamps extinguished.
Message Register (ETS or LAMA-C not Provided)		
38	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted.
39	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard.
40	After 2 seconds— Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp extinguished.◆

STEP	ACTION	VERIFICATION
		OGT-CS lamp extinguished. Steady high tone silenced. RP lamp <i>not</i> lighted.
41	After 35 seconds— Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ AS lamp extinguished.
42	Momentarily operate RL key.	All lamps extinguished.
<i>Flat-Rate, AMA, Coin, Message Register</i>		
43	Restore all keys and switches not required in next test.	
E. Initial and Overtime Charges—Trunks Arranged for Timing		
<i>Coin—NWS Relay Type</i>		
21	Operate CN key.	
22	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
23	Operate ANS key; <i>start timing.</i>	OGT-CS lamp lighted. Steady high tone heard. If ETS provided— CS lamp lighted. In 4 minutes 26 seconds to 4 minutes 44 seconds— 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	When CND lamp lights— Momentarily restore CN key.	CND lamp extinguished. In 5 minutes 5 seconds to 5 minutes 15 seconds— Momentary break in high tone indicating coin supervisory circuit tested for overtime deposit.
25	In 5 minutes 25 seconds to 5 minutes 35 seconds— Restore TLK key.	OGT-CS lamp extinguished. Steady high tone silenced. 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.◆

STEP	ACTION	VERIFICATION												
		AS lamp extinguished. If ETS provided— FT, CS, S1 lamps extinguished.												
26	Restore CN key.	CND lamp extinguished.												
27	Momentarily operate RL key.	All lamps extinguished.												
Coin—WS Relay Type														
28	From office records, determine the initial and overtime timing intervals of trunk being tested.													
29	Operate CN key.													
30	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.												
31	Operate ANS key; <i>start timing</i> . Note: Steps 31 through 35 should be carefully synchronized for timing, action, and verification.	OGT-CS lamp lighted. Steady high tone heard. If ETS provided— CS lamp lighted. Depending upon the duration of the initial timing interval (Step 28)— CC lamp momentarily lighted in:												
		<table border="1"> <thead> <tr> <th data-bbox="894 1150 964 1234">Initial Timing Interval</th> <th data-bbox="1057 1209 1268 1234">CC Lamp Time Limits</th> </tr> </thead> <tbody> <tr> <td>1 min</td> <td>0 min 32 sec to 0 min 50 sec</td> </tr> <tr> <td>2 min</td> <td>1 min 32 sec to 1 min 50 sec</td> </tr> <tr> <td>3 min</td> <td>2 min 32 sec to 2 min 50 sec</td> </tr> <tr> <td>4 min</td> <td>3 min 32 sec to 3 min 50 sec</td> </tr> <tr> <td>5 min</td> <td>4 min 32 sec to 4 min 50 sec</td> </tr> </tbody> </table>	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
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													
		CND lamp lighted. ◆If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.◆												
32	When CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished. 30 seconds after CC lamp lighted— Momentary break in high tone indicating coin supervisory circuit tested for overtime deposit.												

STEP	ACTION	VERIFICATION
33	When momentary break in high tone heard (Step 32)— Stop and <i>restart timing</i> .	Depending upon duration of overtime timing interval (Step 28)— 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

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

34	When CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished. In 30 seconds after CC lamp lighted (Step 33)— Momentary break in high tone.
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35	In 50 seconds after CC lamp momentarily lighted (Step 33)— Restore TLK key.	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. OGT-CS lamp extinguished. Steady high tone silenced. If ETS provided— FT, CS, S1 lamps extinguished.
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36	Restore CN key.	CND lamp extinguished.
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37	Momentarily operate RL key.	All lamps extinguished.
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Message Register NWS Relay Type (ETS or LAMA-C not Provided)

38	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.
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STEP	ACTION	VERIFICATION
		AS lamp lighted. PK lamp not lighted.
39	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— RP lamp lighted. In 5 minutes 5 seconds to 5 minutes 20 seconds— DR lamp lighted.
40	After DR lamp lighted— Restore ANS key.	♦If CDTT key is operated— CS lamp extinguished.♦ AS, OGT-CS lamps extinguished. Steady high tone silenced.
41	Momentarily operate RL key.	All lamps extinguished.
42e	If trunk is arranged for 2-party operation— Operate TP key.	
43e	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted.
44e	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— TP lamp lighted. In 5 minutes 5 seconds to 5 minutes 20 seconds— DR lamp lighted.
45e	After DR lamp lighted— Restore ANS key.	♦If CDTT key is operated— CS lamp extinguished.♦ AS, OGT-CS lamps extinguished. Steady high tone silenced.
46e	Momentarily operate RL key.	All lamps extinguished.
Message Register WS Relay Type (ETS or LAMA-C not Provided)		
47	From office records, determine the timing interval for trunk under test.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted.

STEP	ACTION	VERIFICATION												
49	Operate ANS key; <i>start timing</i> .	<p>◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— RP lamp lighted. Depending on the durations of timing interval (Step 42)— DR lamp lighted in:</p>												
		<table border="0" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Timing Interval</th> <th style="text-align: left;">DR Lamp Time Limits</th> </tr> </thead> <tbody> <tr> <td>1 min</td> <td>1 min 2 sec to 1 min 20 sec</td> </tr> <tr> <td>2 min</td> <td>2 min 2 sec to 2 min 20 sec</td> </tr> <tr> <td>3 min</td> <td>3 min 2 sec to 3 min 20 sec</td> </tr> <tr> <td>4 min</td> <td>4 min 2 sec to 4 min 20 sec</td> </tr> <tr> <td>5 min</td> <td>5 min 2 sec to 5 min 20 sec</td> </tr> </tbody> </table>	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
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													
50	After DR lamp lighted— Restore ANS key.	<p>◆If CDTT key is operated— CS lamp extinguished.◆ AS, OGT-CS lamps extinguished. Steady high tone silenced.</p>												
51	Momentarily operate RL key.	All lamps extinguished.												
52e	If trunk is arranged for 2-party operation— Operate TP key.													
53e	Momentarily operate ST key.	<p>◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted.</p>												
54e	Operate ANS key; <i>start timing</i> .	<p>◆If CDTT key is operated— CS lamp lighted.◆ OGT-CS lamp lighted. Steady high tone heard. In 2 to 5 seconds— TP lamp lighted. Depending on the duration of the timing interval (Step 42)— DR lamp lighted in:</p>												

STEP	ACTION	VERIFICATION
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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

55e After DR lamp lighted—
Restore ANS key.

◆If CDTT key is operated—
CS lamp extinguished.◆
AS, OGT-CS lamps extinguished.
Steady high tone silenced.

56e Momentarily operate RL key.

All lamps extinguished.

Coin or Message Register.

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

F. Timed Release After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing

NWS Relay Type Trunks

17 Operate CN key.

18 Momentarily operate ST key.

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

19 Operate ANS key; ***start timing.***

OGT-CS lamp lighted.
Steady high tone heard.
If ETS provided—
CS lamp lighted.
In 4 minutes 26 seconds to 4 minutes 44 seconds—
CC lamp momentarily lighted.
CND lamp lighted.
◆If trunk is arranged for coin service improvements (dial-tone-first)—
OLF lamp ***does not*** light.◆

STEP	ACTION	VERIFICATION
20	After 4 minutes, 45 seconds— Restore ANS key.	OGT-CS lamp extinguished. Steady high tone silenced. If ETS provided— CS lamp extinguished. In 13 to 32 seconds— AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished.
21	Restore CN key.	CND lamp extinguished.
22	Momentarily operate RL key.	All lamps extinguished.

WS Relay Type Trunks

23 From office records, determine the initial timing interval of trunk under test.

24 Operate CN key.

Note: Do not proceed with this test until 2 minutes have elapsed since the thermal time delay relay RL in circuit was last energized.

25 Momentarily operate ST key.

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

26 Operate ANS key; **start timing.**

OGT-CS lamp lighted.
Steady high tone heard.
If ETS provided—
 CS lamp lighted.

27 After 38 seconds—
Restore ANS key; **start timing.**

OGT-CS lamp extinguished.
Steady high tone silenced.
If ETS provided—
 CS lamp extinguished.
In 13 to 32 seconds—
 AS lamp extinguished
 If ETS provided—
 FT, S1 lamps extinguished.

Note: The time interval between restoring ANS key and extinguishing AS lamp is the timed release interval and should be noted for use in Step 31.

CC lamp momentarily lighted.
CND lamp lighted.
♦If trunk is arranged for coin service

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STEP	ACTION	VERIFICATION
		improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦
28	Momentarily restore CN key.	CND lamp extinguished.
29	Momentarily operate RL key.	All lamps extinguished.
	<i>Note 1:</i> If the initial timing interval is 1 or 2 minutes, wait 1-1/2 or 1/2 minutes, respectively, before proceeding with this test.	
	<i>Note 2:</i> If the initial timing interval is 3, 4, or 5 minutes, proceed with this test without waiting.	
30	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
31	Operate ANS key; <i>start timing</i> .	OGT-CS lamp lighted. Steady high tone head. If ETS provided— CS lamp lighted.
32	Depending upon the initial timing interval (Step 23) and the timed release interval (Step 27)— Restore ANS key, as indicated in table A.	OGT-CS lamp extinguished. Steady high tone silenced. If ETS provided— CS lamp extinguished. AS lamp extinguished in time indicated in table A under AS lamp time limits. If ETS provided— FT, S1 lamps extinguished with AS lamp. 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.♦

STEP	ACTION	VERIFICATION
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TABLE A

Initial Timing Interval in Minutes	Timed Release Interval in Seconds	Restore ANS Key in	AS 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

- | | | |
|----|-----------------------------|-------------------------|
| 33 | Restore CN key. | CND lamp extinguished. |
| 34 | Momentarily operate RL key. | All lamps extinguished. |

WS and NWS Relay Trunks

- 35 Restore all keys and switches not required in next test.

G. Return of Overtime Deposit—Disconnect After Coin Collect but Before Overtime Monitoring—Trunks Arranged for Coin Operation With Timing**NWS Relay Type Trunks**

- | | | |
|----|---------------------------------------|---|
| 17 | Operate CN key. | |
| 18 | Momentarily operate ST key. | AS lamp lighted.
PK lamp not lighted.
If ETS provided—
FT, S1 lamps lighted. |
| 19 | Operate ANS key; <i>start timing.</i> | OGT-CS lamp lighted.
Steady high tone heard.
If ETS provided—
CS lamp lighted. |

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STEP	ACTION	VERIFICATION
		In 4 minutes 26 seconds to 4 minutes 44 seconds— CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦
20	After CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished.
21	5 minutes after ANS key operated— Restore TLK, ANS keys.	OGT-CS lamp extinguished. Steady high tone silenced. CR lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦ AS lamp extinguished. If ETS provided— FT, CS, S1 lamps extinguished.
22	Restore CN key.	CND lamp extinguished.
23	Momentarily operate RL key.	All lamps extinguished.
WS Relay Type Trunks		
24	From office records, determine the initial timing interval of trunk being tested.	
25	Operate CN key.	
26	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted.
27	Operate ANS key; start timing . Note: The timing, action, and verification of Steps 27, 28, and 29 should be carefully synchronized.	OGT-CS lamp lighted. Steady high tone heard. If ETS provided— CS lamp lighted. Depending on the duration of the initial timing interval (Step 24)— 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

- 28 After CND lamp lighted—
Momentarily restore CN key.
- 29 Depending on the duration of the initial timing
interval (Step 24)—
Restore ANS, TLK keys in:

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

CND lamp extinguished.

AS, OGT-CS lamps extinguished.
 Steady high tone silenced.
 If ETS provided—

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

- 30 Restore CN key.
- 31 Momentarily operate RL key.

FT, CS, S1 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.♦

CND lamp extinguished.

All lamps extinguished.

STEP	ACTION	VERIFICATION
WS and NWS Relay Trunks		
32	Restore all keys and switches not required in next test.	
H. Cancel Disconnect Entry—Trunks Arranged for AMA Operation (ETS, CDT or LAMA-C not Provided)		
<i>Note:</i> Do not proceed with this test until assured that the time (4 minutes where tube-type RL relay is used and 2 minutes where 235-type RL relay is used) has elapsed since the thermal time delay relay RL in trunk circuit was last energized.		
16	At relay rack frame— Insert plug of telephone set into frame line telephone jacks.	
17	At MTF— Momentarily operate ST key.	AS lamp lighted. If KAMA key not operated— IE, T, U, RN lamps lighted. PK lamp not lighted.
18	Operate ANS key.	OGT-CS lamp lighted. Steady high tone heard. If KAMA key not operated— AE lamp lighted.
19	Operate LOC FR L key.	
20	Insert MB plug into TM jack.	Steady high tone silenced.
21	At relay rack location of trunk under test— Insulate contact of S2 relay as follows: NWS Relay Type—1T WS Relay Type—7	
22	At MTF— Remove MB plug from TM jack.	Steady high tone heard.
23	Restore TLK, ANS key; <i>start timing.</i>	At relay rack location of trunk under test— In 2 to 5 seconds— MA relay released. At MTF— AS, OGT-CS lamps extinguished. If KAMA key not operated— DE lamp <i>not</i> lighted.
24	At relay rack location of trunk under test— Remove insulator from S2 relay.	

STEP	ACTION	VERIFICATION
25	At MTF— Momentarily operate RL key.	All lamps extinguished.
26	Restore all keys and switches not required in next test.	
I. Call to Busy Line		
Flat-Rate		
21	Select D through G digits for busy line number in called office.	
22	Operate MISC, KY keys.	
23	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted. Busy tone heard. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted.
24	Momentarily operate RL key.	All lamps extinguished.
Message Register (ETS or LAMA-C not Provided)		
25	Repeat Steps 21, 22.	
26	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. RP, PK lamps <i>not</i> lighted. Busy tone heard.
27	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ♦CDT♦ or LAMA-C not Provided)		
28	Select D through G digits for busy line number in called office.	
29	Operate MISC, KY keys.	
30	Momentarily operate ST key.	AS lamp lighted. If KAMA key not operated— IE, T, U, RN lamps lighted.

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STEP	ACTION	VERIFICATION
		PK lamp not lighted. Busy tone heard.
31	Momentarily operate RL key.	All lamps extinguished.
Coin		
32	Select D through G digits for busy line number in called office.	
33	Operate MISC, KY, CN keys.	
34	Momentarily operate ST key.	AS lamp lighted. PK lamp not lighted. Busy tone heard. If ETS provided— FT, S1 lamps lighted.
35	Restore TLK key.	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.◆ Busy tone silenced. AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished.
36	Restore CN key.	CND lamp extinguished.
37	Momentarily operate RL key.	All lamps extinguished.
Flat-Rate, Message Register, AMA, Coin		
38	Restore all keys and switches not required in next test.	
J. Overflow		
21	Operate MISC, TTL, ROT keys.	
22	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted. Overflow tone (120 ipm) heard. If flat rate or coin trunk under test and if ETS provided— FT, S1 lamps lighted. If flat rate trunk under test and if LAMA-C provided— S1 lamp lighted.

STEP	ACTION	VERIFICATION
23	Restore TLK key.	<p>◆If CDTT key is operated— S1 lamp extinguished.◆</p> <p>If coin trunk— CR lamp momentarily lighted. CND lamp lighted.</p> <p>◆If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp <i>does not</i> light.◆ AS lamp extinguished. Overflow tone (120 ipm) silenced. If flat rate or coin trunk under test and if ETS provided— FT, S1 lamps extinguished. If flat rate trunk under test and LAMA-C provided— S1 lamp extinguished.</p>
24	Momentarily operate RL key.	All lamps extinguished.
25	Restore all keys and switches not required in next test.	

K. Call to Incoming Trunk Test Line

Note: Select flat rate class of service.

21	Select D through G digits for incoming trunk test line number in called office.	
22	Operate ITDO, KY keys.	
23	Momentarily operate ST key.	<p>◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. Ringing tone heard for two ringing intervals. OGT-CS lamp flashes under control of test line. Flashes will vary depending upon type of test line used. If ETS or LAMA-C provided ◆or if CDTT key is operated—◆ CS lamp flashes under control of test line. The signals received on first test will indicate the signals that may be expected on successive tests to same office. A series of clicks is given by synchronizing</p>

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STEP	ACTION	VERIFICATION
		types of test line circuits to indicate that the cycle of tests has been completed.
24	Momentarily operate RL key.	All lamps extinguished.
25	Restore all keys and switches not required in next test.	
L. Call to Charge Line		
21	Select D through G digits for a charge test line in called office.	
22	Operate ITDO, KY keys.	
23	Select flat rate class of service.	
24	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted. Ringing tone heard. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. When charge is set at called office— OGT-CS lamp lighted. If ETS or LAMA-C provided— CS lamp lighted. ♦If CDTT key is operated— CS lamp lighted.♦ Ringing tone silenced. High tone heard.
25	Restore TLK key.	♦If CDTT key is operated— S1, CS lamps extinguished.♦ AS, OGT-CS lamps extinguished. High tone silenced. If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished.
26	Momentarily operate RL key.	All lamps extinguished.
27	Restore all keys and switches not required in next test.	

STEP	ACTION	VERIFICATION
M. Trunk Busy		
<i>Note:</i> Select flat rate class of service.		
21	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted. If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted.
22	Momentarily operate RL key.	All lamps extinguished.
23	At relay rack frame of trunk under test— Operate MB switch to MB position.	MB lamp lighted. If ETS provided— At MTF— FT lamp lighted.
24	Momentarily operate ST key.	TB lamp lighted.
25	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
26	Operate NTFS, NTTS keys.	
27	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS lamp lighted. PK lamp not lighted. If ETS or LAMA-C provided— S1 lamp lighted.
28	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
29	At relay rack frame of trunk under test— Restore MB switch to N position.	MB lamp extinguished. If ETS provided— At MTF— FT lamp extinguished.
30	Restore all keys and switches not required in next test.	
N. False-Busy and False-Idle Conditions ♦(ETS, CDT and LAMA-C Not Provided)♦		
1	At relay rack frame— Connect 110-volt ac supply to 1A fault locator.	Whistle heard.

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STEP	ACTION	VERIFICATION
	Operate W-T switch to W position and HR-LRT switch to HR position.	
2	Connect WT jack of fault locator to terminal of terminal strip on unit as follows: Trunk not equipped with D-type terminal strips - terminal A10. Trunk equipped with D-type terminal strips - terminal 45 to A45, as provided.	
3a	For nonwire-spring-relay type trunks arranged for coin operation— At master test frame jack bay— Insert make-busy plugs into OGT-MB jacks of trunk being tested and of all other trunks in same trunk group on same trunk link frame.	
4b	For all trunks except nonwire-spring-relay type trunks arranged for coin operation— Operate MB switch of trunk being tested and the MB switches of all other trunks in same trunk group on same trunk link frame.	Whistle heard. MB lamp lighted. Note: MB lamp common to all trunks equipped with MB switches on relay rack frame.
5b	When trunk being tested is idle— Momentarily restore MB switch.	Whistle not heard while MB switch restored.
6	At relay rack frame— Block S1 relay operated.	Whistle heard.
7b	For all trunks except nonwire-spring-relay type trunks arranged for coin operation— Restore MB switch of trunk being tested.	Whistle heard.
8b	Restore other MB switches operated in Step 4b.	Whistle not heard.
9a	For nonwire-spring-relay type trunks arranged for coin operation— At master test frame— Remove make-busy plugs inserted in OGT-MB jacks in Step 3a.	Whistle not heard.
10	At relay rack frame— Connect HRG (high-resistance ground) terminal to terminal of terminal strip on unit as follows: Trunk not equipped with D-type terminal strips - terminal A9. Trunk equipped with D-type terminal strips - terminal 55 or A55, as provided.	
11	Disconnect WT jack of fault locator from terminal A10, 45, or A45, as provided, and	Whistle heard.

STEP

ACTION

VERIFICATION

connect as follows:

Trunk not equipped with D-type terminal strips - terminal A11.

Trunk equipped with D-type terminal strips - terminal 15 or A15, as provided.

- | | | |
|----|--|--------------------|
| 12 | Remove blocking tool from S1 relay. | Whistle not heard. |
| 13 | Remove test connections from terminal strip. | |



INTERMARKER GROUP TRUNKS
SUBSCRIBER TO SUBSCRIBER
TESTS USING TRUNK TEST CIRCUIT SD-25918-01
NO. 5 CROSSBAR OFFICES

1.01 This section describes a method of testing SD-25837-01, SD-25837-02, SD-25838-01, SD-25838-02, SD-25839-02, SD-26140-01, SD-26141-01 and SD-26142-01 intermarker group trunks (customer to customer) in No. 5 crossbar offices using the master test frame (MTF).

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

- (a) To revise tests A through G and L through O for call data transmitter (CDT) features.
- (b) To revise tests A, D through J, L and M for coin service improvements (dial-tone-first).
- (c) To make minor changes as required.

This issue affects Equipment Test Lists.

1.03 The tests covered are:

A. Trunk Seizure and Release:

The following features are checked:
(1) Seizure of trunk, (2) Continuity and polarity of originating tip and ring leads, (3) Continuity and polarity of leads through sender link to intermarker group sender. 5

B. Ringing: This test checks the application of various ringing combinations, and the polarity of terminating tip and ring leads. 7

C. Pretrip and Trip: This test checks the proper functioning of trip relay. 9

D. Supervision—Originating and Terminating Ends Disconnect:

The following features are checked: (1) Charge functions, (2) Release of trunk without timed release, (3) Trunk number assignment in call identity indexer and recorder number on AMA operation, if the call identity indexer is provided. 9

E. Supervision—Originating End Disconnect:

The following features are checked: (1) Charge functions, (2) Ability to hold if extra digits are dialed into trunk, (3) Timed release of trunk within 13 to 32 seconds. 12

F. Supervision—Terminating End Disconnect:

This test checks the charge functions, and the timed release of the trunk within 13 to 32 seconds. 15

G. Noncharge Supervision: This test checks that a charge condition is not established when an answered call is held less than the answer timing interval. 18

H. Collection of Initial and Overtime Deposits—Trunks Arranged for Coin Operation With Timing:

The following features are checked: (1) Charge functions (2) Selection of coin supervisory circuit, (3) Collection of initial deposit, (4) Test for overtime deposit, (5) Collection of overtime deposit. 21

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

I. Timed Release After Coin Collect but Before Overtime Monitoring— Trunks arranged for Coin Operation With Timing: This test checks that the timed release feature operates when disconnect occurs after coin collect but before overtime monitoring.

24

J. Return of Overtime Deposit— Disconnect After Coin Collect but Before Overtime Monitoring— Trunks Arranged for Coin Operation With Timing: This test checks that overtime deposit is returned when disconnect occurs after coin collect but before monitoring.

26

K. Cancel Disconnect Entry— Disconnect Entry not Made Within 2 to 5 Seconds After Disconnect—Trunk Arranged for AMA Operation and not Arranged for ETS, CDT, or LAMA-C: This test checks the canceling of disconnect entry, and release of trunk if disconnect entry is not made within 2 to 5 seconds after disconnect.

34

L. Call to Free Line—Trunks Arranged for AMA, Coin, Flat-Rate or Message Register Operation: The following features are checked: (1) No charge made when testing message register trunks, (2) Return of coin when testing coin trunks, (3) No answer or disconnect entries made when testing AMA trunks.

35

M. Call to Busy Line: This test checks that a call to a busy line is not charged and that busy tone will be returned by the trunk.

36

N. Overflow: This test checks the return of overflow tone when a terminating connection cannot be established.

O. Trunk Busy: This test checks that the trunk may be seized from the test frame when made busy. This

test also checks that the trunk is busy to service calls when made busy.

P. False-Busy and False-Idle Conditions (ETS, Not Provided): This test checks for continuity and crosses on the F, BT, and FT leads.

Q. Deleted

1.04 Tests H, I, and J should preferably be made during periods of light coin traffic to insure immediate seizure of a coin supervisory circuit.

1.05 In Tests H, I, and J, the initial and overtime charging intervals used for 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 Test K requires the services of an assistant at the relay rack frame.

1.07 Test P should preferably be made during periods of light traffic.

1.08 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.

1.09 The manner of selecting some circuits and test conditions at the 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.

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

1.11 On Issue 76D of SD-25800-01, a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, such as DT, ORIG, ITDO, ITNP, OGT, etc.

1.12 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.

1.13 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.

1.14 When CDT (calling data transmitter) billing system is provided in an 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.

1.15 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

Tests A Through O

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

2.02 Trunk test circuit, SD-25918-01.

Tests A Through N

2.03 Head telephone set.

Tests D Through L

2.04 KS-3008 stopwatch, or equivalent.

Test K

2.05 349A (make-busy) plug.

Test P

2.06 Test Cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 419A tool or one 624B tool, as required (for connecting high-resistance ground to terminal strip terminals).

2.07 Oscillator, J94730B (SD-95616-01), part of 1A fault locator test set, J94730A.

SECTION 218-249-502

3. PREPARATION

Refer to paragraph 1.04 through 1.15

STEP	ACTION	VERIFICATION
All Tests Except P		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Insert plug of head telephone set into TEL jack.	
4a	If AMA features are <i>not</i> being tested— Operate KAMA key to cancel AMA record.	
5	Operate TLK key	
6	At MTF— Select class of service for flat rate, message register, AMA, or coin operation, as required.	
7	At MTF— Select A through C digits as required for office code of called marker group.	
8	Select marker.	
9	Select route advance 0.	
10	Operate TS, FS keys.	
11	Operate IMG, or IMG A, or IMGB key as required for terminating test line of called marker group.	
12	Select trunk under test.	
13	Operate GPA/GPB key when trunk under test is in an allotted group.	
14	Select originating class of call and associated translator indication.	
15	Select IAO class of test.	
16b	If ETS provided— Operate PCS, PTS keys.	

STEP	ACTION	VERIFICATION
All Tests except B, P		
17	Operate TTL key.	
Test A, D through J, L and M		
18c	if coin service improvements (dial-tone-first) provided— Operate DTNF key for initial charge or OTCN key for overtime charge.	
Tests A through G and L through O		
19d	If trunk is to be tested for CDT— Operate CDTT key.	
20d	When trunk is assigned to CDT dual controllers, select controller— Operate CDC 0/1 key.	
21d	When a trouble record is to be taken from the CDT translator access (TA) circuit— Operate TREC key.	
22d	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		
Message Register Operation (ETS or LAMA-C not Provided)		
23	Momentarily operate ST key.	<p>◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.</p>

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STEP	ACTION	VERIFICATION
24	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ AS, TS, R- lamp extinguished.
25	Momentarily operate RL key.	All lamps extinguished.
<i>Flat-Rate Operation</i>		
26	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
27	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ AS, TS, R- lamps extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished.
28	Momentarily operate RL key.	All lamps extinguished.
<i>Trunks Arranged for AMA Operation (ETS, CDT, or LAMA-C Not Provided)</i>		
29	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, T- , U- , RN- lamps lighted.
30	Restore TLK key.	AS, TS, R- lamps extinguished.
31	Momentarily operate RL key.	All lamps extinguished.
<i>Coin Operation</i>		
32	Operate CN key.	
33	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted.

STEP	ACTION	VERIFICATION
		PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
34	Restore TLK key.	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, TS, R- lamps extinguished. If ETS provided— FT, S1 lamps extinguished.
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.

Message Register, Flat-Rate, AMA, Coin

37 Restore all keys and switches not required for next test.

B. Ringing

23	Select D through G digits for terminating test line number in called marker group assigned to ringing combination to be tested (see Table A).	
24	Operate KY key.	
25	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R-, R+, T-, or T+ lamp flashes every 6 second cycle as shown in Table A. Ringing tone heard in unison with lighting of R-, R+, T-, or T+ lamp.
26	Momentarily operate RL key.	All lamps extinguished.
27	Repeat Steps 17, 19, and 20 for each ringing combination provided in called marker group.	
28	Restore all keys and switches not required for next test.	

TABLE A — RINGING CODE CHECK CHART

RINGING COMB. OTRC, RC- KEYS OR RCT1 KEY & RCU- SWITCH	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	█	█							
		R-		Code 1 Gen			█	█					
2	0,2	R-		Code 2 Gen	█		█						
		R-		Continuous	█	█	█	█	█	█	█	█	
		R+		Code 2+	█		█						
3*	0,3	R-		Code 1 Gen					█	█			
		R-		Code 3 Gen	█		█						
		R+		Code 3+	█		█						
		R-		Code 4 Gen	█		█		█				
4	0,4	R-		Code 1 HV	█		█						
		R-		Code 2 Gen	█		█						
		R+		Code 2+	█		█						
5*	0,5	R-		Code 2 Gen	█		█						
		R-		Code 5 Gen	█		█		█				
		§¶		-48 Ring, Grd Tip	█	█	█	█	█	█	█	█	Silent Level
		§¶		-48 Ring, Grd Tip	█	█	█	█	█	█	█	█	Silent Level
6	0,7	R+		Code 1+					█	█			
		R-		Code 2 Gen	█		█						
7*	1,7	T-§		-48 Tip, Grd Ring	█	█	█	█	█	█	█	█	Silent Level
		T+		Code 1+					█	█			
		T-		Code 2 Gen	█		█						
8*	0,8	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.

STEP	ACTION	VERIFICATION
C. Pretrip and Trip		
23	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
24	During silent interval of ringing cycle— Operate PTP key and hold for approximately 1/2 second.	R- lamp continues to flash at same rate.
25	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.
26	Momentarily operate RL key.	All lamps extinguished.
27	Restore all keys and switches not required in next test.	
D. Supervision—Originating and Terminating Ends Disconnect		
23	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
24	Operate ANS key: <i>start timing.</i>	♦If CDTT key is operated— CS lamp lighted.♦ If ETS or LAMA-C provided— CS lamp lighted. R- lamp extinguished. High tone heard.

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STEP	ACTION	VERIFICATION
25	In 5 to 6 seconds— Restore ANS, TLK keys.	♦If CDTT key is operated— S1, CS lamps extinguished.♦ If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished. AS, TS lamps extinguished.
26	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ♦CDT,♦ or LAMA-C Not Provided)		
27	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes one every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, RN, T, U lamps lighted.
28	Operate ANS key; <i>start timing</i> .	R- lamp extinguished. Steady high tone heard. If KAMA key not operated— In 2 to 5 seconds— AE lamp lighted.
29	Restore ANS, TLK keys.	AS, TS lamps extinguished. If KAMA key not operated and if trunk is arranged to initiate disconnect entry— DE lamp lighted If KAMA key not operated and if trunk is arranged to cancel request for disconnect entry— DE lamp <i>not</i> lighted.
30	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
31	Operate CN key.	
32	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.

STEP	ACTION	VERIFICATION
33	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard.
34	In 5 to 6 seconds— Restore ANS, TLK keys.	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. If ETS provided— FT, S1, CS lamps extinguished.
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.
Message Register Operation (ETS or LAMA-C not Provided)		
37	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
38	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ R-lamp extinguished. High tone heard. In 2 to 5 seconds— RP lamp lighted. DR lamp not lighted.
39	Restore ANS, TLK keys.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, TS lamps extinguished.
40	Momentarily operate RL key.	All lamps extinguished.
41e	If trunk is arranged for 2-party operation— Operate TP, TLK keys.	
42e	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.

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STEP	ACTION	VERIFICATION
43e	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ High tone heard. In 2 to 5 seconds— TP lamp lighted. DR lamp not lighted.
44e	Restore ANS, TLK, TP keys.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, TS lamps extinguished.
45e	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Coin Message Register

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

E. Supervision Originating End Disconnect

Note: Do not proceed with this test until assured that the time (4 minutes where tube-type RL relay is used and 2 minutes where 235-type RL relay is used) has elapsed since the thermal time delay relay RL in trunk circuit was last energized.

Flat-rate Operation

23	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
24	Dial digit 7.	AS, TS lamps remain lighted.
25	Operate AS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ If ETS or LAMA-C provided— CS lamp lighted. R- lamp extinguished. Steady high tone heard.
26	In 5 to 6 seconds— Restore TLK key; <i>start timing</i> .	◆If CDTT key is operated— S1, CS lamps extinguished.◆

STEP	ACTION	VERIFICATION
		If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished. AS lamp extinguished. In 13 to 32 seconds after TLK key restored— TS lamp extinguished. If ETS or LAMA-C provided— CS lamp extinguished.
27	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, CDT, or LAMA-C not Provided)		
28	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, T, U, RN lamps lighted.
29	Dial digit 7.	AS, TS lamps remain lighted.
30	Operate ANS key; <i>start timing</i> .	R- lamp extinguished. High tone heard. If KAMA key not operated— In 2 to 5 seconds— AE lamp lighted.
31	Restore TLK key; <i>start timing</i> .	AS lamp extinguished. If KAMA key is not operated and if trunk is arranged for disconnect entry— DE lamp lighted. If KAMA key is operated and if trunk is arranged to cancel request for disconnect entry— DE lamp <i>not</i> lighted. In 13 to 32 seconds— TS lamp extinguished.
32	Momentarily operate RL key.	All lamps extinguished.
Trunks Arranged for Coin Operation		
33	Operate CN key.	
34	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
		R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
35	Dial digit 7.	AS, TS lamps remain lighted.
36	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard.
37	In 5 to 6 seconds— Restore TLK key.	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. If ETS provided— FT, S1 lamps extinguished. In 13 to 32 seconds after TLK key is restored— TS lamp extinguished. If ETS provided— CS lamp extinguished.
38	Restore CN key.	CND lamp extinguished.
39	Momentarily operate RL key.	All lamps extinguished.
Trunks Arranged for Message Register Operation (ETS or LAMA-C not Provided)		
40	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
41	Dial digit 7.	AS, TS lamps remain lighted.
42	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ R- lamp extinguished. High tone heard. In 2 to 5 seconds— RP lamp lighted. DR lamp not lighted.
43	Restore TLK key; <i>start timing</i> .	♦If CDTT key is operated— S1, CS lamps extinguished.♦ AS lamp extinguished.

STEP	ACTION	VERIFICATION
		In 13 to 32 seconds— TS lamp extinguished.
44	Momentarily operate RL key.	All lamps extinguished
45e	If trunk is arranged for 2-party operation— Operate TP, TLK keys.	
46e	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
47e	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ R- lamp extinguished. High tone heard. In 2 to 5 seconds— TP lamp lighted. DR lamp not lighted.
48e	Restore ANS, TLK, TP keys	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, TS lamps extinguished.
49e	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Coin, Message Register

- 50 Restore all keys and switches not required in next test.

F. Supervision—Terminating End Disconnect

Note: Do not proceed with this test until assured that the time (4 minutes where tube-type RL relay is used and 2 minutes where 235-type RL relay is used) has elapsed since the thermal time delay relay RL in the trunk circuit was last energized.

Trunks Arranged for Flat-rate Operation

- 23 Momentarily operate ST key.
- ◆If CDTT key is operated—
S1 lamp lighted.◆
If ETS provided—
FT, S1 lamps lighted.
If LAMA-C provided—
S1 lamp lighted.
AS, TS lamps lighted.

STEP	ACTION	VERIFICATION
		PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
24	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ If ETS or LAMA-C provided— CS lamp lighted. R- lamp extinguished. High tone heard.
25	In 5 to 6 seconds— Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp extinguished.◆ If ETS or LAMA-C provided— CS lamp extinguished. In 13 to 32 seconds after restoring ANS key— 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.◆
26	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ◆CDT,◆ or LAMA-C not Provided)		
27	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, RN, T, U lamps lighted.
28	Operate ANS key. <i>start timing</i> .	R- lamp extinguished. High tone heard. If KAMA key not operated— AE lamp lighted.
29	Restore ANS key; <i>start timing</i> .	In 13 to 32 seconds— TS, AS lamps extinguished. If KAMA key not operated and if trunk is arranged to initiate disconnect entry— DE lamp lighted. If KAMA key not operated and if trunk is arranged to cancel request for

STEP	ACTION	VERIFICATION
		disconnect entry— DE lamp not lighted.
30	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
31	Operate CN key.	
32	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
33	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard.
34	In 5 to 6 seconds— Restore ANS key; <i>start timing</i> .	If ETS provided— CS lamp extinguished. In 13 to 32 seconds after ANS key restored— • TS lamp 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. If ETS provided— FT, S1 lamps extinguished.
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.
Message Register Operation (ETS or LAMA-C not Provided)		
37	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
38	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ R- lamp extinguished.

STEP	ACTION	VERIFICATION
		High tone heard. In 2 to 5 seconds— RP lamp lighted. DR lamp not lighted.
39	Restore ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp extinguished.◆ In 13 to 32 seconds— AS, TS lamps extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
40	Momentarily operate RL key.	All lamps extinguished.
41e	If trunk is arranged for 2-party operation— Operate TP key.	
42e	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
43e	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ R- lamp extinguished. High tone heard. In 2 to 5 seconds— TP lamp lighted. DR lamp not lighted.
44e	Restore ANS, TP keys.	◆If CDTT key is operated— CS lamp extinguished.◆ In 13 to 32 seconds— AS, TS lamps extinguished. ◆If CDTT key is operated— S1 lamp extinguished.◆
45e	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Coin, Message Register

- 46 Restore all keys and switches not required for next test.

G. Noncharge Supervision**Flat-rate Operation**

- 23 Momentarily operate ST key.
◆If CDTT key is operated—
S1 lamp lighted.◆

STEP	ACTION	VERIFICATION
		If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
24	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ If ETS or LAMA-C provided— CS lamp lighted. R- lamp extinguished. High tone heard.
25	In 1-1/2 to 2 seconds— Restore ANS key.	♦If CDTT key is operated— CS lamp extinguished.♦ If ETS or LAMA-C provided— CS lamp extinguished. AS, TS lamps remain lighted.
26	Operate ANS key.	♦If CDTT key is operated— CS lamp lighted.♦ If ETS or LAMA-C provided— CS lamp lighted.
27	Restore TLK key; <i>start timing</i> .	♦If CDTT key is operated— S1, CS lamps extinguished.♦ AS, TS lamps extinguished within 2 seconds. If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished.
28	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ♦CDT,♦ or LAMA-C not Provided)		
29	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, T, U, RN lamps lighted.
30	Operate ANS key; <i>start timing</i> .	R- lamp extinguished. High tone heard.

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STEP	ACTION	VERIFICATION
31	In 1-1/2 to 2 seconds— Restore ANS key.	AE lamp not lighted.
32	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
33	Operate CN key.	
34	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
35	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard.
36	In 1-1/2 to 2 seconds— Restore ANS key.	If ETS provided— CS lamp extinguished.
37	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.
38	Restore CN key.	CND lamp extinguished.
39	Momentarily operate RL key.	All lamps extinguished.
Message Register Operation (ETS or LAMA-C not Provided)		
40	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
41	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆

STEP	ACTION	VERIFICATION
		R- lamp extinguished. High tone heard.
42	In 1-1/2 to 2 seconds— Restore ANS key.	◆If CDTT key is operated— CS lamp extinguished.◆ RP lamp not lighted.
43	Momentarily operate RL key.	All lamps extinguished.
44e	If trunk is arranged for 2-party operation— Operate TP key.	
45e	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
46e	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ R- lamp extinguished. High tone heard.
47e	In 1-1/2 to 2 seconds— Restore ANS key.	◆If CDTT key is operated— CS lamp extinguished.◆ TP lamp not lighted.
48e	Momentarily operate RL key.	All lamps extinguished.

Flat-Rate, AMA, Coin, Message Register

- 49 Restore all keys and switches not required
for next test.

**H. Collection of Initial and Overtime Deposits—Trunks
Arranged for Coin Operation With Timing**

Nonwire-spring-relay Type Trunks

- | | | |
|----|--|--|
| 19 | Operate CN key. | |
| 20 | Momentarily operate ST key. | If ETS provided—
FT, S1 lamps lighted.
AS, TS lamps lighted.
PK lamp not lighted.
R- lamp flashes once every 6 seconds.
Ringing tone heard in unison with R- lamp
flashes. |
| 21 | Operate ANS key; <i>start timing</i> . | If ETS provided—
CS lamp lighted. |

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STEP	ACTION	VERIFICATION
		R- lamp extinguished. 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.♦
22	Immediate after CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished. In 5 minutes 5 seconds to 5 minutes, 15 seconds after ANS key is operated— Momentary break in high tone heard indicating coin supervisory circuit tested for overtime deposit.
23	In 5 minutes 25 seconds to 5 minutes, 35 seconds after ANS key is operated— Restore TLK key.	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. If ETS provided— FT, S1 lamps extinguished.
24	Restore ANS, CN keys.	TS, CND lamps extinguished. If ETS provided— CS lamp extinguished.
25	Momentarily operate RL key.	All lamps extinguished.
Wire-spring-relay Type Trunks		
26	From office records, determine the initial and overtime timing intervals of trunk being tested.	
27	Operate CN key.	
28	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
29	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. Steady high tone heard.

STEP

ACTION

VERIFICATION

Depending upon the duration of the initial timing interval (Step 26), 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

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

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

30 Momentarily restore CN key immediately after CND lamp lighted.

CND lamp extinguished.
In 30 seconds after CC lamp momentarily lighted in Step 29—
Momentary break in high tone heard.

31 immediately after momentary break in high tone (Step 29) is heard—
Stop and restart timing.

Depending upon the duration of the overtime timing interval (Step 26), CC lamp momentarily 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

STEP	ACTION	VERIFICATION
		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.◆
32	Immediately after CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished. In 30 seconds after CC lamp momentarily lighted (Step 31)— Momentary break in tone heard.
33	In 50 seconds after CC lamp momentarily lighted (Step 31)— Restore TLK key.	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. If ETS provided— FT, S1 lamps extinguished.
34	Restore ANS, CN keys.	TS, CND lamps extinguished. If ETS provided— CS lamp extinguished.
35	Momentarily operate RL key.	All lamps extinguished.

Wire-spring or Nonwire-spring-relay Type Trunks

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

I. Timed Release After Coin Collect but Before Overtime Monitoring—Trunks Arranged For Coin Operation With Timing

Nonwire-spring-relay Type Trunks

19 Operate CN key.

20 Momentarily operate ST key.

If ETS provided—
 FT, S1 lamps lighted.
AS, TS lamps lighted.
PK lamp not lighted.
R- lamp flashes once every 6 seconds.
Ringing tone heard in unison with R- lamp flashes.

21 Operate ANS key, *start timing*.

If ETS provided—
 CS lamp lighted.
R- lamp extinguished.
Steady high tone heard.

STEP	ACTION	VERIFICATION
		In 4 minutes 26 seconds to 4 minutes 44 seconds— CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦
22	In 4 minutes 45 seconds after ANS key operated— Restore ANS key; start timing.	If ETS provided— CS lamp extinguished. In 13 to 32 seconds after ANS key restored— AS, TS lamps extinguished. If ETS provided— FT, S1 lamps extinguished.
23	Momentarily operate RL key.	All lamps extinguished.

Wire-spring-relay Type Trunks

24	From office records, determine the initial timing interval of trunk being tested.	
25	Operate CN key.	
26	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
27	Operate ANS key, start timing.	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard. After 38 seconds— AS, TS lamps remain lighted.
28	Restore TLK key; start timing.	If ETS provided— FT, S1 lamps extinguished. AS lamp extinguished. In 13 to 32 seconds— TS lamp extinguished. If ETS provided— CS lamp extinguished. CC lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service improvements (dial-tone-first)— OLF lamp does not light.♦

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STEP	ACTION	VERIFICATION
		Note: The time interval between the restoring of the TLK key and the extinguishing of the TS lamp is the timed release interval and should be noted for use in Step 34.
29	Momentarily operate RL key.	All lamps extinguished.
30	Restore ANS, CN keys.	CND lamp extinguished.
31	Operate TLK, CN keys.	
32	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted.
33	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted.
34	Depending upon the initial timing interval (Step 24) and the timed release interval (Step 28), restore ANS key, as indicated, in Table B.	If ETS provided— CS lamp extinguished. TS lamp extinguished in time indicated in Table B under TS Lamp Time Limits. 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.♦
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.

Wire-spring and Nonwire-spring-relay Type 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

Nonwire-spring-relay Type Trunk

19	Operate CN key	
20	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.

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

- 21 Operate ANS key; *start timing*.
 If ETS provided—
 CS lamp lighted.
 R- lamp extinguished.
 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 *does not* light.♦
- 22 Momentarily restore CN key immediately after CND lamp lighted.
 CND lamp extinguished.
- 23 In 5 minutes after ANS key is operated—
 Restore ANS, TLK keys.
 CR lamp momentarily lighted.
 CND lamp lighted.
 ♦If trunk is arranged for coin service improvements (dial-tone-first)—
 OLF lamp *does not* light.♦

STEP	ACTION	VERIFICATION
		AS, TS lamps extinguished. If ETS provided— FT, CS, S1 lamps extinguished.
24	Restore CN key.	CND lamp extinguished.
25	Momentarily operate RL key.	All lamps extinguished.

Wire-spring-relay Type Trunks

26	From office records, determine the initial timing interval of trunk being tested.	
27	Operate CN key.	
28	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
29	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished. High tone heard. Depending upon the duration of the initial timing interval (Step 26), 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

Low tone heard while CC lamp was lighted.
CND lamp light.
♦If trunk is arranged for coin service improvements (dial-tone-first)—
OLF lamp *does not* light.♦

30	Immediately after CND lamp lighted— Momentarily restore CN key.	CND lamp extinguished.
----	--	------------------------

STEP	ACTION	VERIFICATION
31	Depending upon the duration of the initial timing interval (Step 26), restore ANS, TLK keys in:	CR lamp momentarily lighted. CND lamp lighted. ♦If trunk is arranged for coin service

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

improvements (dial-tone-first)—
OLF lamp *does not* light.♦
AS, TS lamps extinguished.
If ETS provided—
FT, CS, S1 lamps extinguished.

32 Restore CN key.

CND lamp extinguished.

33 Momentarily operate RL key.

All lamps extinguished.

Wire-Spring and Nonwire-spring-relay type Trunks

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

K. Cancel Discount Entry—Disconnect Entry not Made Within 2 to 5 Seconds After Disconnect—Trunks Arranged for AMA Operation (ETS, ♦CDT,♦ or LAMA-C not Provided.)

Note: Do not proceed with this test until assured that the time (3 minutes where tube-type TR relay is used and 2 minutes where 235-type TR relay is used) has elapsed since the thermal time delay relay TR in the trunk circuit was last energized.

18 At relay rack frame—
Insert plug of telephone set into frame line circuit telephone jacks.

19 At MTF—
Momentarily operate ST key.

AS, TS lamps lighted.
PK lamp not lighted.

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STEP	ACTION	VERIFICATION
		R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
20	Operate ANS key.	R- lamp extinguished. Ringing tone not heard. High tone heard. AE lamp lighted.
21	Operate LOC FR L key to talk over the local frame line circuit.	
22	To remove high tone from local frame line— Insert make-busy plug in TM jack.	High tone silenced.
23	At relay rack frame— Insulate contact of S2 relay in trunk as follows: Wire-spring-type relay—9. Nonwire-spring-type relay—1T.	
24	At MTF— Remove make-busy plug from TM jack.	High tone heard.
25	Restore TLK, ANS keys simultaneously; <i>start timing.</i>	High tone not heard. At relay rack frame— In 2 to 5 seconds— MA relay of trunk released. At master test frame— AS, TS lamps extinguished. DE lamp not lighted.
26	At relay rack frame— Remove insulator from contact of S2 relay.	
27	At MTF— Restore LOC FR L key.	
28	Momentarily operate RL key.	All lamps extinguished.
29	Restore all keys and switches not required for next test.	
30	At relay rack location of trunk under test— Restore MB switch to N position.	MB lamp extinguished.

STEP	ACTION	VERIFICATION
L.	Call to Free Line—Trunks Arranged for AMA, Coin, Message Register, Flat Rate Operation	
	AMA Operation (ETS, CDT, or LAMA-C not Provided)	
23	Select D through G digits for free line number in called marker group.	
24	Operate KY key.	
25	Momentarily operate ST key.	AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes. If KAMA key not operated— IE, RN, T, U lamps lighted.
26	Operate ANS key, <i>start timing</i> .	R- lamp extinguished. High tone heard. AE lamp not lighted.
27	In 6 to 7 seconds after ANS key is operated— Restore ANS, TLK keys.	AS, TS lamps extinguished.
28	Restore KY key.	
29	Momentarily operate RL key.	All lamps extinguished.
	Coin Operation	
30	Select D through G digits for free line number in called marker group.	
31	Operate KY, CN keys.	
32	Momentarily operate ST key.	If ETS provided— FT, S1 lamps lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
33	Operate ANS key; <i>start timing</i> .	If ETS provided— CS lamp lighted. R- lamp extinguished.
34	In 6 to 7 seconds after ANS key is operated— Restore ANS, TLK keys.	CR lamp momentarily lighted. CND lamp lighted. If trunk is arranged for coin service

STEP	ACTION	VERIFICATION
		improvements (dial-tone-first)— OLF lamp <i>does not</i> light.♦ AS, TS lamps extinguished. If ETS provided— FT, CS, S1 lamps extinguished.
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.
Message Register Operation (ETS or LAMA-C not Provided)		
37	Select D through G digits for free line number in called marker group.	
38	Operate KY keys.	
39	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
40	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ R- lamp extinguished. High tone heard.
41	In 6 to 7 seconds after ANS key is operated— Restore ANS, TLK keys.	♦If CDTT key is operated— S1, CS lamps extinguished.♦ AS, TS lamps extinguished. RP lamp not lighted.
42	Momentarily operate RL key.	All lamps extinguished.
43e	If trunk is arranged for 2-party operation— Operate TP, TLK keys.	
44e	Momentarily operate ST key.	♦If CDTT key is operated— S1 lamp lighted.♦ AS, TS lamps lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unison with R- lamp flashes.
45e	Operate ANS key; <i>start timing</i> .	♦If CDTT key is operated— CS lamp lighted.♦ R- lamp extinguished. High tone heard.

STEP	ACTION	VERIFICATION
46e	In 6 to 7 seconds after ANS key is operated— Restore ANS, TLK keys.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, TS lamps extinguished. TP lamp not lighted.
47e	Restore TP key.	
48e	Momentarily operate RL key.	All lamps extinguished.
Flat-Rate		
49	Select D through G digits for free number in called marker group.	
50	Operate KY key.	
51	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted. PK lamp not lighted. R- lamp flashes once every 6 seconds. Ringing tone heard in unision with R- lamp flashes.
52	Operate ANS key; <i>start timing</i> .	◆If CDTT key is operated— CS lamp lighted.◆ If ETS or LAMA-C provided— CS lamp lighted. R- lamp extinguished. High tone heard.
53	In 6 to 7 seconds after ANS key is operated— Restore ANS, TLK keys.	◆If CDTT key is operated— S1, CS lamps extinguished.◆ AS, TS lamps extinguished. If ETS provided— FT, CS, S1 lamps extinguished. If LAMA-C provided— CS, S1 lamps extinguished.
54	Momentarily operate RL key.	All lamps extinguished.

AMA, Coin, Message Register, Flat-Rate

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

STEP	ACTION	VERIFICATION
M. Call to Busy Line		
Message Register Operation (ETS or LAMA-C not Provided)		
23	Select MISC class of test.	
24	Operate BB key.	
25	Momentarily operate ST key.	<p>◆If CDTT key is operated— S1 lamp lighted.◆ AS lamp lighted. PK lamp not lighted. Busy tone heard. For message register operation, RP lamp not lighted.</p>
26	Momentarily operate RL key.	All lamps extinguished.
AMA Operation (ETS, ◆CDT,◆ or LAMA-C not Provided)		
27	Select MISC class of test.	
28	Operate BB key.	
29	Momentarily operate ST key.	<p>AS lamp lighted. PK lamp not lighted. Busy tone heard. AE lamp not lighted.</p>
30	Momentarily operate RL key.	All lamps extinguished.
Coin Operation		
31	Select MISC class of test.	
32	Operate BB, CN keys.	
33	Momentarily operate ST key.	<p>If ETS provided— FT, S1 lamps lighted. AS lamp lighted. PK lamp not lighted. Busy tone heard.</p>
34	Restore TLK key.	<p>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.</p>

STEP	ACTION	VERIFICATION
		If ETS provided— FT, S1 lamps extinguished.
35	Restore CN key.	CND lamp extinguished.
36	Momentarily operate RL key.	All lamps extinguished.
<i>Flat-Rate</i>		
37	Select MISC class of test.	
38	Operate BB key.	
39	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS lamp lighted. PK lamp not lighted. Busy tone heard.
40	Restore TLK key.	◆If CDTT key is operated— S1 lamp extinguished.◆ AS lamp extinguished. If ETS provided— FT, S1 lamps extinguished. If LAMA-C provided— S1 lamp extinguished.
41	Momentarily operate RL key.	All lamps extinguished.
<i>Message Register, AMA, Coin, Flat-Rate</i>		
42	Restore all keys and switches not required for next test.	
<i>N. Overflow</i>		
23	Select MISC class of test.	
24	Operate TTL, ROT keys.	
25	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS lamp lighted.

STEP	ACTION	VERIFICATION
		PK lamp not lighted. Overflow tone heard.
26	Restore TTL, ROT keys.	
27	Momentarily operate RL key.	All lamps extinguished.
28	Restore all keys and switches not required in next test.	
O. Trunk Busy		
23	Momentarily operate ST key.	◆If CDTT key is operated— S1 lamp lighted.◆ If ETS provided— FT, S1 lamps lighted. If LAMA-C provided— S1 lamp lighted. AS, TS lamps lighted.
24	Momentarily operate RL key.	All lamps extinguished.
25	At relay rack location of trunk under test— Operate MB switch to MB position.	MB lamp lighted. If ETS provided— FT lamp lighted.
26	Momentarily operate ST key.	TB lamp lighted.
27	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
28	Restore all keys and switches not required in next test.	
29	At relay rack location of trunk under test— Restore MB switch to N position.	MB lamp extinguished. If ETS provided— At MTF— FT lamp extinguished.
P. False-Busy and False-Idle Conditions ◆(ETS Not Provided)◆		
1	At relay rack frame— With 1A fault locator W-T switch set to W and the HR-LRT switch set to LRT— Connect power to the 1A fault locator.	Whistle heard.
2a	If trunk under test is not equipped with D-type terminal strips— Connect WT jack of fault locator to terminal 10 (FT lead) on terminal strip A.	Whistle not heard.

STEP	ACTION	VERIFICATION
3b	If trunk under test is equipped with D-type terminal strips— Connect WT jack of fault locator to terminal 45 (FT lead) of terminal strip A or terminal strip on unit.	Whistle not heard.
4	Operate MB switches of trunk under test and all other trunks in same trunk group on same trunk link frame.	Whistle heard. MB lamp lighted.
		Note: MB lamp common to all trunks equipped with MB switches on relay rack frame.
5	When trunk being tested is idle— Momentarily restore MB switch.	Whistle not heard while MB switch was restored.
6	Block operated S1 relay.	
7	Restore MB switch of trunk being tested.	
8	Restore other MB switches operated in Step 4.	Whistle not heard.
9a	If trunk under test is not equipped with D-type terminal strips— Connect high resistance ground to terminal 9 (F lead) of terminal strip A.	
10a	Move connection (for WT jack of fault locator) from terminal 10 to terminal 11 (BT lead) on terminal strip A.	Whistle heard.
11b	If trunk under test is equipped with D-type terminal strips— Connect high resistance ground to terminal 55 (F lead) of terminal strip A or terminal strip on unit.	
12b	Move connection (for WT jack of fault locator) from terminal 45 to terminal 15 (BT lead).	Whistle heard.
13	Remove blocking tool from S1 relay.	Whistle not heard.
14	Remove test connections from terminal strip.	
15	Remove power from 1A fault locator.	
Q. Deleted		

