

**CAMA INTERMARKER GROUP TRUNK CIRCUITS**  
**TESTS USING TRUNK TEST CIRCUIT SD-25918-01**  
**NO. 5 CROSSBAR OFFICES**

**1. GENERAL**

**PAGE**

**1.01** This section describes a method of testing CAMA intermarker group trunk circuits SD-25105-01, SD-26107-01 in No. 5 crossbar offices by using the master test frame and the trunk test circuit associated with the marker group arranged for CAMA operation. Tests are included in this section that are made by using the master test frame associated with the calling marker group. Also included in this section is a miscellaneous test that is made without the use of a master test frame.

**1.02** The reasons for reissuing this section are listed below. Since this reissue is a general revision, no revision arrows have been used to denote significant changes. This reissue affects Equipment Tests Lists.

(a) To include test procedures required when the No. 5 crossbar office is arranged with the Electronic Translation System (ETS) and the CAMA feature is provided.

(b) To make minor changes as required.

**1.03** The tests covered are:

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**A. Trunk Seizure:** The following features are checked. (1) Seizure of trunk. (2) Continuity and polarity of tip and ring leads of the originating end of the trunk. (3) Ability to terminate at a CAMA operator position through a CAMA sender. . . . .

**5**

**B. Ringing — Subscriber-to-Subscriber Type Trunk Circuits:** The following features are checked. (1) Application of various ringing combinations.

(2) Polarity of ringing current on tip and ring leads of terminating end of trunk. . . . .

**5**

**C. Pretrip and Trip — Subscriber-to-Subscriber Type Trunk Circuit:** This test checks the operation of the trip relay. . . . .

**6**

**D. Call to Free Line — Subscriber-to-Subscriber Type Trunk Circuits:** This test checks that a noncharge condition is set in the trunk by the ringing selection switch on a call to a free line. . . . .

**7**

**E. Supervision — Originating End Disconnect — Subscriber-to-Subscriber Type Trunk Circuits:** The following features are checked. (1) Charge functions. (2) Timed release of circuit within 13 to 32 seconds. . . . .

**8**

**F. Supervision—Originating and Terminating Ends Disconnect:** The following features are checked. (1) Charge functions. (2) Release of circuit without using timed release. (3) Trunk number assignment in call identity indexer and recorder number. (4) Ability of circuit to hold if extra digits are dialed. . . . .

**9**

**G. Supervision—Terminating End Disconnect:** The following features are checked. (1) Charge functions. (2) Timed release of circuit within 13 to 32 seconds. . . . .

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<b>H. Noncharge Supervision:</b> This test checks that an answer entry is not made when an answered call is held less than 2 seconds. . . . .	12	<b>1.06</b> If the circuit being tested is arranged for intertoll completion, the route selected by the selected A through K digits should provide access to outgoing (not two way) intertoll trunk circuits.
<b>I. Cancel Disconnect Entry (No. 5 ETS CAMA not Provided):</b> This test checks the canceling of request for a disconnect entry if the disconnect entry is not made within 2 to 5 seconds after disconnect. . . . .	13	<b>1.07</b> Local instructions should be followed with reference to recording and reporting any register operations caused by performing these tests.
<b>J. Overflow:</b> This test checks that overflow tone is returned to the calling customer when the second usage marker is unable to establish the terminating connection. . . . .	14	<b>1.08 Lettered Steps:</b> A letter a, b, c, etc, added to a step number in Part 3 or 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.
<b>K. Call to Busy Line:</b> The following features are checked. (1) No charge is made for call to busy line. (2) Transmission of busy tone. . . . .	15	<b>1.09</b> The manner of selecting some circuits and test conditions at the master test frame (MTF) and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.
<b>L. Call to CAMA Operator From Calling Marker Group:</b> The following features are checked. (1) Selection and seizure of trunk. (2) Trunk functions to advance call to connection from customer to CAMA operator selected on a random basis. . . . .	16	<b>1.10</b> The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.
<b>M. Circuit Busy:</b> The following features are checked. (1) Seizure for test call by master test frame when circuit is made busy. (2) Busy condition to service calls when circuit is made busy. . . . .	17	<b>1.11</b> 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.
<b>N. False-Busy and False-Idle Conditions (No. 5 ETS CAMA not Provided):</b> This test checks for continuity and crosses on the F, BT, and FT leads. . . . .	17	<b>1.12</b> When the office is arranged for ETS, the distributors and scanners associated with the marker and trunk used in the test call must be in service or in a <b>maintenance-busy</b> condition—not in an <b>out-of-service</b> condition. To change a scanner or distributor from an <b>out-of-service</b> to a <b>maintenance-busy</b> condition, use the procedure given in the following section for the office arrangement.
<b>1.04</b> Test I requires action and verification at the master test frame and relay rack frame.		
<b>1.05</b> Tests L and M require action and verification at the master test frames in the calling and called CAMA marker groups.		

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 scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST bit is set in the trunk register, scanning will continue to be repeated on the lamp, 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.

**2. APPARATUS**

**Tests A Through K**

- 2.01 Master test control circuit, SD-25800-01, associated with CAMA office.
- 2.02 Trunk test circuit, SD-25918-01, associated with CAMA office.
- 2.03 Incoming register test circuit, SD-25988-01.
- 2.04 Register and CAMA sender test set, J24756B (SD-25676-01).
- 2.05 Patching cord, 20 conductor, 6 feet long, equipped with one KS-13875 plug and one KS-13895 plug (W20C) (for connecting register and

**3. PREPARATION**

<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
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**Before Using Master Test Frame**

- |   |   |                         |
|---|---|-------------------------|
| 1 | At master test frame—<br>Restore all keys and switches. |                         |
| 2 | Operate RL key momentarily.                             | All lamps extinguished. |

**Tests A Through K**

- |   |   |
|---|---|
| 3 | Patch IRT jack to IRT connector of register and CAMA sender test set. |
| 4 | At test set—<br>Operate L switch to OFF position.                     |

CAMA sender test set to incoming register test circuit).

2.06 Patching cord, No. P3F cord, 6 feet long, equipped with one 310 plug and one 309 plug (3P12F cord) (for connecting trunk test circuit to CAMA intermarker group trunk circuit).

2.07 322A (make-busy) plug.

**Test D, E, F, G, and I**

2.08 KS-2008 stopwatch, or equivalent.

**Tests L and M**

2.09 Master test control circuit, SD-25800-01, associated with calling marker group.

2.10 Trunk test circuit, SD-25918-01, associated with calling marker group.

2.11 322A (make-busy) plug.

**Test N**

2.12 1A fault locator test set J94730B (SD-95616-01).

2.13 Testing cord, 893 cord, 6 feet long, equipped with 360A tools (1W13B cord) and one KS-6278 tool and one 624B tool (for connecting high-resistance ground to terminal strip terminal).

2.14 322A (make-busy) plugs, as required.

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<b>STEP</b>	<b>ACTION</b>	<b>VERIFICATION</b>
5	At master test frame— Operate POS switch to 0 position.	
6	Operate MF switch to MIN L position.	
7	Insert make-busy plug into MB jack of circuit being tested.	
8	Connect CAMA/CNTX jack to T jack of circuit being tested.	
9	Operate IMT, IRV, SXS, COMP, TLK keys.	
10	Select incoming class of call and translator.	
11	Select completing marker.	
12	Select trunk number.	
13	Select TLF for associated trunk link frame in CAMA office.	
14a	If No. 5 ETS CAMA is provided— Operate PCAM, PTS keys.	

**Tests L and M**

15	At CAMA office— At master test frame— Insert make-busy plug into MB jack of circuit being tested.	
16	At master test frame associated with calling marker group— Restore all keys.	
17	Operate RL key momentarily.	All lamps extinguished.
18	Operate GPA/GPB key when trunk is in an allotted trunk group.	
19	Select completing marker.	
20	Select trunk under test.	
21	Select route advance.	
22	Operate NTFS, NTTS, KY, MISC, TLK keys.	
23	Select class of service and rate treatment, if required, having access to trunk under test.	

STEP	ACTION	VERIFICATION
24	Select A through K digits required to direct call to circuit under test.	
25a	If No. 5 ETS CAMA is provided— Operate PCAM, PCS, PTS keys.	
<b>4. METHOD</b>		
<b>A. Trunk Seizure</b>		
15	Select A through K digits as required, to select tandem, intertoll, or local terminating route for circuit being tested. (See paragraph 1.06)	
16	Operate keys in accordance with Table A for route selected in Step 15.	
17	Operate ST key momentarily.	High tone heard. OGT-CS lamp lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
19b	If no further tests are to be performed— Restore all keys and switches.	
20b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
21b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
22b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>B. Ringing—Subscriber-to-Subscriber Type Trunk Circuits</b>		
15	Operate CAMO key.	
16	Select A through G digits, as required, to select local terminating test line for any ringing combination. (See Table B.)	

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STEP	ACTION	VERIFICATION
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. TS, IE, T <sub>-</sub> , U <sub>-</sub> , RN <sub>-</sub> lamps lighted. R+, R-, T+ or T- lamp flashes (See (Table B.) Ringing tone heard in unison with R+, R-, T+, or T- lamp flashes. If No. 5 ETS CAMA is provided— IE, T <sub>-</sub> , U <sub>-</sub> , RN <sub>-</sub> lamps <b>not</b> lighted.
19	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
20	Repeat Steps 16 through 19 for each ringing combination provided.	
21b	If no further tests are to be performed— Restore all keys and switches.	
22b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
23b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
24b	Remove patch cord from IRT jack of register and CAMA sender test set.	

**C. Pretrip and Trip — Subscriber-to-Subscriber Type Trunk Circuits**

15	Select A through G digits, as required, to select local charge terminating test line for ringing combination 10.	
16	Operate CAMO key.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF—

STEP	ACTION	VERIFICATION
		If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. TS, IE, T_, U_, RN_ lamps lighted. R- lamp lighted. Ringing tone heard in unison with R- lamp flashes. If No. 5 ETS CAMA is provided— IE, T_, U_, RN lamps <i>not</i> lighted.
19	Hold PTP key operated for 1/2 second during silent interval of ringing.	R- lamp continues to flash at same rate.
20c	If test circuit has 1500-ohm test resistance— Hold TRP key operated for 1/2 second during silent interval of ringing.	R- lamp extinguished. Ringing tone not heard.
21d	If test circuit has other than 1500-ohm test resistance— Hold TRP key operated for 1 second during silent interval of ringing.	R- lamp extinguished. Ringing tone not heard.
22	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
23b	If no further tests are to be performed— Restore all keys and switches.	
24b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
25b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
26b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>D. Call to Free Line — Subscriber-to-Subscriber Type Trunk Circuit</b>		
15	Select A through G digits, as required, to select local free terminating test line.	
16	Operate CAMO key.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted.

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STEP	ACTION	VERIFICATION
		At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. IE, T, U, RN lamps lighted. R-lamp flashes. Ringing tone heard in unison with R-lamp flashes. If No. 5 ETS CAMA is provided— IE, T, U, RN lamps <i>not</i> lighted.
19	Operate ANS key, <i>start timing</i> .	R- lamp extinguished. Ringing tone not heard. High tone heard. In 6 seconds— AE lamp not lighted. If No. 5 ETS CAMA is provided— CS lamp lighted.
20	Restore ANS key.	DE lamp not lighted. If No. 5 ETS CAMA is provided— CS lamp extinguished.
21	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
22b	If no further tests are to be performed— Restore all keys and switches.	
23b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
24b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
25b	Remove patch cord from IRT jack of register and CAMA sender test set.	

**E. Supervision — Originating End Disconnect —  
Subscriber-to-Subscriber Type Trunk Circuits**

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

15 Select A through G digits, as required, to select local charge terminating test line for ringing combination 10.

STEP	ACTION	VERIFICATION
16	Operate CAMO key.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. TS, IE, T_, U_, RN_ lamps lighted. If No. 5 ETS CAMA is provided— IE, T_, U_, RN_ <i>not</i> lighted.
19	Operate ANS key, start timing.	High tone heard. In 2 to 5 seconds— AE lamp lighted. If No. 5 ETS CAMA is provided— CS lamp lighted.
20	Restore TLK key, <i>start timing</i> .	OGT-CS lamp extinguished. For circuits requiring Disconnect Entries— DE lamp lighted. In 13 to 32 seconds— TS lamp extinguished. If No. 5 ETS CAMA is provided— S1 lamp extinguished.
21	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
22b	If no further tests are to be performed— Restore all keys and switches.	
23b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
24b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
25b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>F. Supervision—Originating and Terminating Ends Disconnect</b>		
15	Select A through K digits, as required, to select tandem, intertoll, or local terminating	

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STEP	ACTION	VERIFICATION
	route for circuit being tested. (See paragraph 1.06.)	
16	Operate keys in accordance with Table A for route selected in Step 15.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamp lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. IE, T, U, RN lamps lighted. If E-M key is operated— E lamp lighted. If No. 5 ETS CAMA is provided— IE, T, U, RN lamps <i>not</i> lighted.
19	Operate ANS key, start timing.	High tone heard. In 2 to 5 seconds— AE lamp lighted. If No. 5 ETS CAMA is provided— CS lamp lighted.
20	Dial digit 7.	High tone still heard.
21	Restore ANS, TLK keys.	High tone not heard. OGT-CS, E lamps extinguished. For circuits requiring disconnect entry— DE lamp lighted. If No. 5 ETS CAMA is provided— S1, CS lamps extinguished.
22	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
23b	If no further tests are to be performed— Restore all keys and switches.	
24b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
25b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
26b	Remove patch cord from IRT jack of register and CAMA sender test set.	

STEP	ACTION	VERIFICATION
<b>G. Supervision—Terminating End Disconnect</b>		
	<b>Note:</b> Do not proceed with this test until 2 minutes have elapsed since the thermal time delay relay (RL) in this circuit was last energized.	
15	Select A through K digits, as required, to select tandem, intertoll, or local terminating route for circuit being tested. (See paragraph 1.06.)	
16	Operate keys in accordance with Table A for route selected in Step 15.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— <b>Subscriber-to-trunk Type Trunk Circuits</b> High tone heard. IE, T, U, RN lamps lighted. If E-M key is operated— E lamp lighted. <b>Subscriber-to-subscriber Type Trunk Circuits</b> High tone not heard. TS, IE, T, U, RN lamps lighted. If No. 5 ETS CAMA is provided— IE, T, U, RN lamps <b>not</b> lighted.
19	Operate ANS key; <b>start timing.</b>	High tone heard. In 2 to 5 seconds— AE lamp lighted. If No. 5 ETS CAMA is provided— CS lamp lighted.
20	Restore ANS key; <b>start timing.</b>	<b>Circuits Requiring Disconnect Entry</b> High tone not heard. In 13 to 32 seconds— DE lamp lighted. <b>Circuits not Requiring Disconnect Entry</b> High tone not heard. In 13 to 32 seconds— TS lamp extinguished. DE lamp not lighted.

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STEP	ACTION	VERIFICATION
		If No. 5 ETS CAMA is provided— CS lamp extinguished.
21	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
22b	If no further tests are to be performed— Restore all keys and switches.	
23b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
24b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
25b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>H. Noncharge Supervision</b>		
15	Select A through K digits, as required, to select tandem, intertoll, or local terminating route for circuit being tested. (See paragraph 1.06.)	
16	Operate keys in accordance with Table A for route selected in Step 15.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. IE, T, U, RN lamps lighted. If No. 5 ETS CAMA is provided— IE, T, U, RN lamps <b>not</b> lighted.
19	Operate ANS key for 1-1/2 seconds.	AE lamp not lighted. While ANS key was operated— High tone heard. If No. 5 ETS CAMA is provided— CS lamp lighted while ANS key is operated.
20	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.

STEP	ACTION	VERIFICATION
21b	If no further tests are to be performed— Restore all keys and switches.	
22b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
23b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
24b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>I. Cancel Disconnect Entry (No. 5 ETS CAMA not Provided)</b>		
	<b>Note:</b> Do not proceed with this test until 2 minutes have elapsed since the thermal time delay relay (TR) in the circuit was last energized.	
15	Select A through K digits, as required, to select tandem, intertoll, or local terminating route for circuit being tested. (See paragraph 1.06.)	
16	Operate keys in accordance with Table A for route selected in Step 15.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. IE, T_, U_, RN_ lamps lighted.
19	Operate ANS key.	High tone heard— AE lamp lighted.
20	At relay rack frame— Insulate 7 (break) of relay S2.	
21	At master test frame— Restore TLK, ANS keys; <i>start timing</i> .	At relay rack frame— In 2 to 5 seconds— MA relay released. At master test frame— DE lamp not lighted.
22	At relay rack frame— Remove insulator from S2 relay.	

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STEP	ACTION	VERIFICATION
23	At master test frame— Operate RL key momentarily.	All lamps extinguished.
24b	If no further tests are to be performed— Restore all keys and switches.	
25b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
26b	Remove make-busy plug from MB jack of trunk under test.	
27b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>J. Overflow</b>		
15	Select A through K digits, as required, to select local permanent overflow number.	
16	Operate CAMO key.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamp lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard. Overflow tone heard. IE, T, U, RN lamps lighted. If No. 5 ETS CAMA is provided— IE, T, U, RN lamps <i>not</i> lighted.
19	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
20b	If no further tests are to be performed— Restore all keys and switches.	
21b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
22b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
23b	Remove patch cord from IRT jack of register and CAMA sender test set.	

STEP	ACTION	VERIFICATION
<b>K. Call to Busy Line</b>		
<b>Subscriber-to-trunk Type Trunk Circuits</b>		
15	Select A through K digits, as required, to select tandem or intertoll route (to distant busy line) for circuit being tested. (See paragraph 1.06.)	
16	Operate OP key.	
17	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted. At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
18	At test set— Key calling number.	At MTF— High tone not heard— IE lamp lighted. Busy tone heard. AE lamp not lighted.
19	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
20b	If no further tests are to be performed— Restore all keys and switches.	
21b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
22b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
23b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>Subscriber-to-Subscriber Type Trunk Circuits</b>		
24	Operate A through K keys, as required, to select local busy line.	
25	Operate CAMO key.	
26	Operate ST key momentarily.	High tone heard. MRL, OGT-CS lamps lighted. At test set— P lamp lighted.

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STEP	ACTION	VERIFICATION
		At MTF— If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
27	At test set— Key calling number.	At MTF— High tone not heard. IE lamp lighted. Busy tone heard. AE lamp not lighted.
28	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamps remains lighted.
29b	If no further tests are to be performed— Restore all keys and switches.	
30b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
31b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
32b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>L. Call to CAMA Operator from Calling Marker Group</b>		
26	At master test frame associated with calling marker group— Operate ST key momentarily.	MRL, AS lamps lighted. CAMA operator requests calling number. If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
27	Inform operator that test call is in progress and request that position disconnect key be operated.	After position disconnect key operated, reorder tone heard.
28	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
29b	If no further tests are to be performed— Restore all keys and switches.	
30b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
31b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.

STEP	ACTION	VERIFICATION
32b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>M. Circuit Busy</b>		
26	At master test frame associated with calling marker group— Operate ST key momentarily.	MRL, AS lamps lighted. CAMA operator requests calling number. If No. 5 ETS CAMA is provided— FT, S1 lamps lighted.
27	Inform operator that test call is in progress and request that position disconnect key be operated.	After disconnect key was operated, reorder tone heard.
28	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
29	Operate TS key.	
30	Operate ST key momentarily.	MRL, TB lamps lighted.
31	Operate RL key momentarily.	All lamps extinguished. If No. 5 ETS CAMA is provided— FT lamp remains lighted.
32b	If no further tests are to be performed— Restore all keys and switches.	
33b	Remove patch cord from CAMA/CNTX jack to T jack of trunk under test.	
34b	Remove make-busy plug from MB jack of trunk under test.	If No. 5 ETS CAMA is provided— FT lamp extinguished.
35b	Remove patch cord from IRT jack of register and CAMA sender test set.	
<b>N. False-Busy and False-Idle Conditions (No. 5 ETS CAMA not Provided)</b>		
3	At relay rack frame— Connect power to 1A fault locator and operate W-T switch to W position and HR-LRT switch to HR position.	Whistle heard.
4	Connect WT jack of fault locator to terminal A45 of terminal strip on unit.	Whistle not heard.
5	When circuit being tested is idle— Block S2 relay operated.	

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STEP	ACTION	VERIFICATION
6	At master test frame associated with CAMA office— Insert make-busy plugs into MB jacks of all other circuits using the same route on the same trunk link frame (in calling marker group).	At relay rack frame— Whistle heard.
7	Insulate relay contact as follows: Relay S2 — 7 (break) Relay S1 — 11 (make) Relay MA — 6 (make)	
8	Remove blocking tool from S2 relay momentarily.	Whistle not heard while blocking tool was removed.
9	Block MB relay operated.	
10	Remove blocking tool from S2 relay.	S2 relay released. Whistle still heard.
11	Block MA relay operated.	
12	Remove blocking tool from MB relay.	MB relay released. Whistle still heard.
13	Block S1 relay operated.	
14	Remove blocking tool from MA relay.	MA relay released. Whistle still heard.
15a	If OF relay is provided— Block OF relay operated.	
16b	If OF relay is not provided— Block CH relay operated.	
17	Remove blocking tool from S1 relay.	S1 relay released. Whistle still heard.
18	Connect HRG (high-resistance ground) terminal to terminal A55 of terminal strip on unit.	
19	Disconnect WT jack of fault locator and connect it to terminal A15 of terminal strip on unit.	Whistle still heard.
20	Block S1 relay operated.	
21	Remove blocking tool from OF or CH relay.	OF or CH relay released. Whistle still heard.
22	Block MA relay operated.	

STEP	ACTION	VERIFICATION
23	Remove blocking tool from S1 relay.	S1 relay released. Whistle still heard.
24	Block MB relay operated.	
25	Remove blocking tool from MA relay.	MA relay released. Whistle still heard.
26	Block S2 relay operated.	
27	Remove blocking tool from MB relay.	MB relay released. Whistle still heard.
28	Remove insulators from S1, S2, MA relays.	
29	Remove blocking tool from S2 relay.	S2 relay released. Whistle not heard.
30	Remove test connections from terminal strip.	
31	At master test frame associated with CAMA office— Remove make-busy plugs.	

TABLE A

TYPE OF COMPLETION	OUTGOING TRUNK OUT. SUPERVISION	OPERATE KEYS
Tandem	—	CAM0, COGT, TCB
Intertoll	Rev. Bat.	CAM1, COGT, TCB
Intertoll	E&M Leads	CAM1, E-M, TCB
Local	—	CAM0, TCB

TABLE B — RINGING CODE CHECK CHART

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

\*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.