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TRAFFIC REGISTERS TESTS

NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes methods of testing the traffic registers used in No. 1 crossbar offices except those associated with information desks, dial tone speed, subscriber line overflow circuits, and TUR circuits.

1.02 This section is reissued to add the following tests and to make minor changes as required.

(1) Test J—All Line Circuits Busy—AIS Without LLP

(2) Test K—Outpulser Seizure Failure—ANI-B

(3) Test CV—AIS Without LLP

(4) Test CW—Translator Circuit PBX AIOD—Requests and Failures

(5) Test CX—No. 1 Trunk Concentrator Seizures

(6) Test CY—Coin Supervisory Circuit—First and Second Trial Failures

(7) Test CZ—BDT—Lines of AMA Data.

This reissue affects the Equipment Test List.

1.03 The tests and features covered are:

OVERFLOW REGISTERS

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A. Office Link Frame: This test checks that the register advances if an originating marker fails to find an idle channel and gives a release signal by way of the district link frame. . 16

B. Outgoing Trunk Group: This test checks that the register advances if an originating marker finds all trunks associated with an operated route relay busy. 16

C. Zone Registration Circuit: This test checks that the register advances if a marker seeks a zone registration circuit when all zone registration circuits are busy. 17

D. Line Link Frame and Incoming Link Frame: This test checks that the registers advance if a terminating marker fails to find an idle channel between the incoming trunk and the line link frame. 17

E. Block Allotter PBX: This test checks that the register advances if the terminating marker attempts to complete a call to the PBX and finds all the trunks busy. 18

F. All Channels Busy: This test checks that the register advances on second trial when there are no channels available between the district link and office link frames. 18

G. MF Outgoing Sender Group Busy—AIS With LLP: This test checks that the register advances if a terminating marker seeks an MF outgoing sender when all MF outgoing senders are busy. 19

H. DP Outgoing Sender Group Busy: This test checks that the register advances if a terminating marker handling a DID call finds all the lines in a customer group busy at a time when the sender group under test is busy. . 19

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I. All Outgoing Senders Busy—AIS Without LLP: This test checks that the register advances if an AIS call is attempted when all outgoing senders are busy. 19

J. ♦All Line Circuits Busy—AIS Without LLP: This test checks that the register advances if an AIS call is attempted when all line circuits are busy. 19

K. Outpulser Seizure Failure—ANI-B Outgoing Trunk: This test checks that the register advances when the trunk fails to connect to an outpulser during an interval of 3 to 6.24 seconds and advances an additional register if the failure is caused by an all outpulsers busy condition.♦ 20

BUSY REGISTERS

AA. Terminating Sender Group: This test checks that the register advances if all terminating senders of a kind in the office or terminating unit become busy. 21

AB. Terminating Sender Subgroup: This test checks that the register advances if all senders of a kind in the subgroup become busy. 22

AC. Number Checking Sender Group: This test checks that the register advances if all number checking senders become busy. 23

AD. Coin Supervisory Circuit Group: This test checks that the register advances if all coin supervisory circuits in the group become busy. . 23

AE. Sender Group: This test checks that the register advances if all originating senders in the group become busy. 24

AF. Subscriber District Junctor Group: This test checks that the register advances if all district junctors of either subgroup of a group of district junctors become busy. 25

AG. Trunk Group: This test checks that the register advances if all trunks in the group become busy. . 25

AH. Keypulsing A and Step-by-Step District Junctor Group: This test checks:

(1) That the keypulsing A district junctor group-busy register advances if all keypulsing A district junctors in the group become busy

(2) That the step-by-step district junctor group-busy register advances if all step-by-step district junctors in the group become busy. 26

AI. 8A Announcement Trunk Group: This test checks registration of an all-trunks-busy condition in one trunk group. 26

AJ. 9A Announcement Trunk Group: This test checks registration of an all-trunks-busy condition in one trunk group. 27

PEG COUNT REGISTERS

BA. Line Link Frame Originating Traffic: This test checks that the register advances when the line link controller is seized on an originating call. 27

BB. District Junctor and District Junctor Test Frame: This test checks:

(1) That the district junctor peg count register advances after office or operator code is dialed and an idle trunk and channel are selected

(2) That the district junctor test frame peg count register advances after code is pulsed and a test line is selected. 28

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transverter fails to connect to a recorder on second trial. 37

BS. Auxiliary Line Circuit: This test checks that the register advances when coin potential is applied to the line by the auxiliary line circuit. . . . 38

BT. Incoming Intercepting Trunk: This test checks the advancement of three registers: one to record calls routed to a machine, one to record calls routed to an operator, and one to record calls routed to a machine and then to an operator. 38

BU. Auxiliary Sender: This test checks that the proper register advances for a 7- or 10-digit call, partial dial, or stuck auxiliary sender condition. 39

BV. ANI Plant Test Calls: This test checks that the register advances for a test call over any trunk for ANI identifier group. 40

BW. Code Compressor: This test checks the number of times the code compressor circuit is used. . 40

BX. ANI Outpulser: This test checks that registers advance for nonoperator and operator identified calls. . . . 40

BY. 3-Digit Translator: This test checks that the register advances when the 3-digit translator is used. . 41

BZ. Individual Code Point Preroute: This test checks that a register advances when a particular code point of several associated with the same route relay is grounded by a test call. . 41

CA. Any Channel Selected: This test checks that the register energizes when the battery supply relay is operated and the terminating marker connects ground to ACS lead. When ground is removed, the register releases and advances. 41

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CB. Sample Channel Selected: This test checks that the register energizes when the battery supply relay is operated and the terminating marker connects ground to the SCS lead. When ground is removed, the register releases and advances. 41

CC. 3-Digit Translator Overload: This test checks that the register advances each time that requests for translators from two or more markers cannot be served within a specified period. 42

CD. Code Compressor Trouble Overflow: This test checks that the register advances each time a code compressor circuit fails to complete its translation. 43

CE. MJ Mobile Radio (Large and/or Small System) Line Circuit: This test checks the operation of the line circuit register upon completion of a call. 43

CF. MJ Mobile Radio (Small System) Call Check: This test checks registration of calls completed by the link circuit to a local area by mobile station roaming out of the home area. This test also checks registration of calls extended to the switchboard of the link circuit. 44

CG. MJ Mobile Radio (Large System) Call Check: This test checks registration upon call completion employing the following conditions:

(1) Manual mobile calls

(2) Calls to an operator

(3) Calls from a switchboard. 44

CH. MJ Mobile Radio (Small System) Register-Sender Circuit: This test checks registration upon completion of a call in the sender

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and register of the register-sender circuit. 44

CI. MJ Mobile Radio (Large and/or Small System) Marker Operation: The tests listed are in regard to marker operation activating the proper register under the following conditions:

(1) End of pulsing land-to-mobile call

(2) Marker ready to establish link on mobile-to-land call

(3) Line-to-link connection established

(4) Land-to-mobile call completed. 45

CJ. 8A Announcement Trunk Peg Count: This test checks the register advance upon release of the trunk when a call is completed. . 46

CK. 9A Announcement Trunk Peg Count: This test checks the register advance upon release of the trunk when a call is completed. . 47

CL. MF Outgoing Sender: This test checks that the register advances for automatic intercept center (AIC) calls. 47

CM. DID Transverter Usage: This test checks that the register advances when the DID translator is used. . 47

CN. DID Translator Route Usage: This test checks that the register advances when the associated route relay in a DID translator is used. . . . 47

CO. AMA Recorder: This test checks that the register advances whenever the recorder and recorder connector off-normal (ON) relay is operated. . 47

CP. Timed Automatic Cutoff Recycle: This test checks that the register advances when the timed automatic cutoff recycle key is operated in the No. 7 (modified) or 12 service observing desk position. 48

CQ. Dynamic Overload Control: This test checks that the register advances when the dynamic overload control RT relay operates in the originating marker. 48

CR. Coin Station Test Line: This test checks that the register advances when the coin station test line disconnects. 49

CS. Subscriber Line Busy: This test checks that the register advances upon a terminating attempt to a busy line. 49

CT. First Failure Terminating Marker: This test checks that the register advances when the terminating marker fails to match an idle channel to a line on first attempt. 50

CU. Terminal Hunting Line Called: This test checks that the register advances when an incoming call is made to a terminal hunting line. . . . 50

CV. ▶AIS Without LLP: This test checks that the register advances when an incoming call is routed to intercept. 50

CW. Translator Circuit—PBX-AIOD—PBX Requests and Failures: This test checks the registers that record the requests and failures to identify or store the PBX number. 50

CX. No. 1 Trunk Concentrator Seizure: This test checks that the register scores each time a trunk seizes the concentrator. 51

CY. Coin Supervisory Circuit—First and Second Trial Failures: This test checks the register that scores when coin supervisory circuits fail to dispose of coin deposits. 51

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CZ. Billing Data Transmitter—Lines of AMA Data: This test checks the register that scores for each line of AMA data transmitted from a recorder. 51

LOAD REGISTERS

DA. Intersender Timing Load Register: This test checks that the intersender timing circuit provides a 5- to 12-second holdover interval and advances associated register when a subscriber sender subgroup becomes idle in a predetermined number of busy subgroups. 52

DB. Terminating Sender: This test checks that the register advances when the group or groups of terminating senders remain busy for the predetermined period of time. 53

DC. Subscriber Sender: This test checks that the register advances when a fixed number of subgroups of subscriber senders are busy. This test also scores the number of seconds the TOUCH-TONE® calling part of a fixed number of subgroups of a common group of senders are busy. 53

DD. Line Link Frame: This test checks that the register advances if a fixed number of line links in any horizontal line group are busy when a call is completed to the line link frame. 54

DE. Horizontal Line Group: This test checks that the register advances if a fixed number of line links in a horizontal line group are busy when a call is completed to the horizontal line group. 55

DURATION AND DELAY REGISTERS

EA. Line Link Controller Delay Register: This test checks that the register advances if dial tone is not received within 1.5 to 2 seconds after the line link controller has been seized by the calling line and if the line link controller has not gained access to a sender link controller. 56

EB. Intertoll Trunk Group Elapsed Time and Group-Busy Time Duration Registers: This test checks:

(1) That the elapsed time register advances every 6 seconds when the start key is operated

(2) That the group-busy time duration register advances every 6 seconds when all the trunks of the associated subgroup or group of trunks are busy. 57

EC. Intertoll Trunk Group Arranged for Relay Chain Circuit (Idle Trunk Indicating): This test checks that the register advances every 6 seconds when all trunks in the group are busy. 60

ED. Delayed Answer Register and Total Calls Register for the Answering Time Recorder: This test checks the advancement of the DA register when the answering time exceeds a predetermined time interval and the TC register when a call is observed. . 60

1.04 Methods of testing plant registers and traffic registers associated with information desks, dial tone speed, and subscriber line overflow circuits are covered in separate sections.

1.05 Tests in this section require verifications at the traffic register rack.

1.06 Tests A through F and AB through BA are made with all trunks that are in the same trunk group made busy.

1.07 Tests in this section should be made during periods of very light traffic. Test CO should not be made between 2:55 and 3:30 A.M. Traffic registers should not be tested on peg count days.

1.08 Before making the tests in this section, the equipment should ordinarily be taken out of service in accordance with approved procedures.

1.09 The traffic department should be notified before starting and after completing a test so that lamps and alarms associated with the subscriber sender load may be disregarded during the test.

1.10 Office records should be consulted for the following tests:

(a) ***Test B:*** To determine which office code has the overflow register in question connected to it.

(b) ***Test D:*** To determine the number of a customer line working on one of the line link frames associated with the overflow register to be tested.

(c) ***Test G:*** To determine an intercepted number.

(d) ***Test H:*** To determine a nonhunt line circuit associated with the sender under test.

(e) ***Test J:*** To determine an intercepted number.

(f) ***Test BS:*** To determine the coin line associated with the auxiliary line circuit.

(g) ***Test CL:*** To determine an intercepted number.

(h) ***Test CM:*** To determine an unused number that appears in the DID translator.

(i) ***Test CN:*** To determine a station number associated with the DID translator route relay under test.

(j) ***Test CQ:*** To determine settings of RTF and RT switches.

(k) ***Test CV:*** To determine an intercepted number.

(l) ***Test DA:*** To determine the number of subscriber sender subgroups required to operate K relay in the traffic register circuit.

1.11 Local instructions should be followed for recording register operations caused by performing these tests.

1.12 When the term "apply ground" is used in Part 4 of this section, it means that ground may be momentarily applied through a test receiver.

1.13 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 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 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. When a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

2.01 The apparatus required for each test is listed in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses.

TABLE A

APPARATUS	TESTS										
	A	B	C	D	E	F	G	H	I	J	K
349A (make-busy) plug	✓		✓	✓		15					
Originating trouble indicator frame (SD-25018-01)	1	1				1					
322A (make-busy) plug		1			1		10	10	✓	✓	✓
893 Cord (2.02)		1									
District junctor test frame (SD-25158-01)			1								
Incoming trunk test set (SD-25187-01)				1							
Terminating trouble indicator frame (SD-25284-01)				1	1			1		1	
Stopwatch (2.03)											1
Terminating sender test frame (SD-25159-01)											
258C (dummy) plug											
Sender test circuit (2.04)											
Handset (dial hand test set) (2.05)											
329A (make-busy) plug											
Outgoing trunk test frame (SD-25177-01)							1		1	1	
Test Receiver (2.06)											
Orginating sender test frame (SD-25221-01)											
Handset (dial hand test set) (2.07)											
893 Cord (2.08)											
Patching cord (2.09)											
Patching cord (2.10)											
Patching cord (2.11)											
Trunk test circuit (2.12)											
Outpulser-identifier trunk test frame											1
Tool (2.13)			✓		✓						
Direct-in-dial test frame (SD-27766-01)								1			
Trouble recorder frame (SD-32215-01)											
1C Type Coin Station (2.14)											
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)											

✓ As required

TABLE A (Contd)

APPARATUS	TESTS										
	BD	BE	BF	BG	BH,BI,BJ	BK	BL	BM	BN	BO	BP
349A (make-busy) plug											
Originating trouble indicator frame (SD-25018-01)		1		1							
322A (make-busy) plug		1		1		2			1		1
893 Cord (2.02)		1		1							
District junctor test frame (SD-25158-01)											
Incoming trunk test set (SD-25187-01)											
Terminating trouble indicator frame (SD-25284-01)					1	1	1				
Stopwatch (2.03)											
Terminating sender test frame (SD-25159-01)											
258C (dummy) plug											
Sender test circuit (2.04)											
Handset (dial hand test set) (2.05)								1			
329A (make-busy) plug						5					
Outgoing trunk test frame (SD-25177-01)						1					
Test Receiver (2.06)									1	1	1
Orginating sender test frame (SD-25221-01)											
Handset (dial hand test set) (2.07)											
893 Cord (2.08)											
Patching cord (2.09)											
Patching cord (2.10)											
Patching cord (2.11)											
Trunk test circuit (2.12)											
Outpulser-identifier trunk test frame											
Tool (2.13)	✓										✓
Direct-in-dial test frame (SD-27766-01)											
Trouble recorder frame (SD-32215-01)											
1C Type Coin Station (2.14)											
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)											

✓ As required

TABLE A (Contd)

APPARATUS	TESTS									
	AA	AB,AC	AD	AE	AF	AG	AH, AI, AJ	BA	BB	BC
349A (make-busy) plug					✓	✓		1		
Originating trouble indicator frame (SD-25018-01)									1	1
322A (make-busy) plug	✓	✓	✓	✓					✓	
893 Cord (2.02)										
District junctor test frame (SD-25158-01)									1	
Incoming trunk test set (SD-25187-01)										
Terminating trouble indicator frame (SD-25284-01)	1									
Stopwatch (2.03)	1									
Terminating sender test frame (SD-25159-01)	1									
258C (dummy) plug			✓	✓		✓				
Sender test circuit (2.04)				1						
Handset (dial hand test set) (2.05)								1		
329A (make-busy) plug										
Outgoing trunk test frame (SD-25177-01)										
Test Receiver (2.06)										
Orginating sender test frame (SD-25221-01)										
Handset (dial hand test set) (2.07)										
893 Cord (2.08)										
Patching cord (2.09)										
Patching cord (2.10)										
Patching cord (2.11)										
Trunk test circuit (2.12)										
Outpulser-identifier trunk test frame										
Tool (2.13)					✓	✓	✓			
Direct-in-dial test frame (SD-27766-01)										
Trouble recorder frame (SD-32215-01)										
1C Type Coin Station (2.14)										
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)										

✓ As required

TABLE A (Contd)

APPARATUS	TESTS								
	BQ	BR	BS	BT	BU	BV	BW	BX	BY,BZ
349A (make-busy) plug									
Originating trouble indicator frame (SD-25018-01)									1
322A (make-busy) plug		2							
893 Cord (2.02)		1						1	
District junctor test frame (SD-25158-01)									
Incoming trunk test set (SD-25187-01)									
Terminating trouble indicator frame (SD-25284-01)									
Stopwatch (2.03)									
Terminating sender test frame (SD-25159-01)									
258C (dummy) plug									
Sender test circuit (2.04)	✓								
Handset (dial hand test set) (2.05)									
329A (make-busy) plug					1				
Outgoing trunk test frame (SD-25177-01)									
Test Receiver (2.06)									
Orginating sender test frame (SD-25221-01)	✓	1			1		1		
Handset (dial hand test set) (2.07)			1						
893 Cord (2.08)			1						
Patching cord (2.09)				2					
Patching cord (2.10)				1					
Patching cord (2.11)				1					
Trunk test circuit (2.12)				1					
Outpulser-identifier trunk test frame						1		1	
Tool (2.13)	✓	✓							
Direct-in-dial test frame (SD-27766-01)									
Trouble recorder frame (SD-32215-01)									
1C Type Coin Station (2.14)									
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)									

✓ As required

TABLE A (Contd)

APPARATUS	TESTS										
	CA	CB	CC	CD	CE,CF CG,CH	CI	CJ, CK	CL	CM CN	CO	CP
349A (make-busy) plug											
Originating trouble indicator frame (SD-25018-01)			1								
322A (make-busy) plug	1	1	2							1	
893 Cord (2.02)											
District junctor test frame (SD-25158-01)											
Incoming trunk test set (SD-25187-01)											
Terminating trouble indicator frame (SD-25284-01)	1	1							1		
Stopwatch (2.03)											
Terminating sender test frame (SD-25159-01)											
258C (dummy) plug											
Sender test circuit (2.04)											
Handset (dial hand test set) (2.05)											
329A (make-busy) plug											
Outgoing trunk test frame (SD-25177-01)								1			
Test Receiver (2.06)											
Orginating sender test frame (SD-25221-01)											
Handset (dial hand test set) (2.07)											
893 Cord (2.08)			1								
Patching cord (2.09)											
Patching cord (2.10)											
Patching cord (2.11)											
Trunk test circuit (2.12)											
Outpulser-identifier trunk test frame											
Tool (2.13)		✓	✓	✓			✓				✓
Direct-in-dial test frame (SD-27766-01)											
Trouble recorder frame (SD-32215-01)										1	
1C Type Coin Station (2.14)											
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)											

✓ As required

TABLE A (Contd)

APPARATUS	TESTS									
	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ
349A (make-busy) plug										
Originating trouble indicator frame (SD-25018-01)	1									
322A (make-busy) plug	1			1					1	1
893 Cord (2.02)										
District junctor test frame (SD-25158-01)										
Incoming trunk test set (SD-25187-01)										
Terminating trouble indicator frame (SD-25284-01)		1	1	1		1				
Stopwatch (2.03)										
Terminating sender test frame (SD-25159-01)										
258C (dummy) plug										
Sender test circuit (2.04)										
Handset (dial hand test set) (2.05)										
329A (make-busy) plug										
Outgoing trunk test frame (SD-25177-01)										
Test Receiver (2.06)							1		1	
Orginating sender test frame (SD-25221-01)										
Handset (dial hand test set) (2.07)										
893 Cord (2.08)										
Patching cord (2.09)										
Patching cord (2.10)										
Patching cord (2.11)										
Trunk test circuit (2.12)										
Outpulser-identifier trunk test frame										
Tool (2.13)			✓	✓						
Direct-in-dial test frame (SD-27766-01)										
Trouble recorder frame (SD-32215-01)										
1C Type Coin Station (2.14)		1								
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)										1

✓ As required

TABLE A (Contd)

APPARATUS	TESTS						
	DA	DB, DC	DD, DE	EA	EB	EC	ED
349A (make-busy) plug				8			
Originating trouble indicator frame (SD-25018-01)		1					
322A (make-busy) plug	✓	✓	1				
893 Cord (2.02)							
District junctor test frame (SD-25158-01)							
Incoming trunk test set (SD-25187-01)							
Terminating trouble indicator frame (SD-25284-01)		1	1				
Stopwatch (2.03)		1		1	1	1	
Terminating sender test frame (SD-25159-01)							
258C (dummy) plug					1		✓
Sender test circuit (2.04)							
Handset (dial hand test set) (2.05)				1			
329A (make-busy) plug							
Outgoing trunk test frame (SD-25177-01)							
Test Receiver (2.06)							
Orginating sender test frame (SD-25221-01)							
Handset (dial hand test set) (2.07)				1			
893 Cord (2.08)							
Patching cord (2.09)							1
Patching cord (2.10)							
Patching cord (2.11)							
Trunk test circuit (2.12)							
Outpulser-identifier trunk test frame							
Tool (2.13)			✓	✓			
Direct-in-dial test frame (SD-27766-01)							
Trouble recorder frame (SD-32215-01)							
1C Type Coin Station (2.14)							
Miscellaneous circuit-transverter trouble indicator (SD-25983-01)							

✓ As required

2.02 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and two 419A tools.

2.03 KS-3008 stopwatch or equivalent.

2.04 Sender test circuit SD-95400-01, SD-90635-01, or SD-90424-01 used for DC keypulsing senders and for MF keypulsing senders.

2.05 1014A handset (dial hand test set), equipped with a 3W8A cord assembly. The 3W8A cord assembly consists of a 471A jack, a 325A plug, a KS-8010 switch, and a W3AA cord.

2.06 716C test receiver attached to a W2AB cord, equipped with two 369A tools (2W21A cord), a 411A tool, and a KS-6278 tool.

2.07 1014A handset (dial hand test set), equipped with a 2W37A cord assembly. The 2W37A cord assembly consists of a 471A jack, two No. 2 test clips (listed in Specification 6928), and a W2DB cord.

2.08 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and two KS-6278 tools.

2.09 Patching cord, P3E cord, 6 feet long, equipped with two 310 plugs (3P7A cord).

2.10 Patching cord, P2J cord, 6 feet long, equipped with two 310 plugs (2P9B cord).

2.11 Patching cord, P2B cord, 6 feet long, equipped with two 310 plugs (2P4C cord).

2.12 Trunk test circuit SD-95535-01 (portable test set J94729A) or SD-96478-01 (frame mounted test unit J94729B).

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

2.14 1C type coin station equipped with 3W9A cord as described in Section 201-833-501.

3. PREPARATION

3.01 A list of the circuits associated with each register should be obtained to ensure an accurate check of the register and connecting circuits.

3.02 The sender monitor position supervisor should be notified before and after performing an all-senders-busy register test. Alternate procedures must be followed when an all-senders-busy condition is indicated.

3.03 All required circuits should be made busy before starting a test. When making peg count tests, an entire group of trunks from other offices should not be made busy at the same time.

Tests With Assistant

3.04 A talking path should be established between the traffic register rack and frame where the test is to be made. An assistant at the register rack should record the reading of the register under test before starting the test and should observe that the register functions properly during the test. The assistant should watch for operation of any register, other than the register under test, to detect crosses or irregular wiring arrangements.

Tests Without Assistant

3.05 The readings of the registers to be tested should be recorded before performing the tests. The number of registers that can be read depends upon the amount of traffic and type of circuit. Service call register operations must not be mistaken for test calls, particularly when peg count registers are concerned.

Insufficient Registrations

3.06 If the register does not score equal to the number of tests applied, a failure of the registers or register relays is indicated.

4. METHOD

STEP	ACTION	VERIFICATION
	OVERFLOW REGISTERS	
	A. Office Link Frame	
1	At subscriber sender link frame— Insert make-busy plugs into MB jacks.	
2	At district link frame— Insert make-busy plugs into secondary switch MB jacks.	
3	At originating trouble indicator frame— Using made-busy district frame and first originating marker, simulate call to trunk appearing on office link frame in question.	Register scored.
4	▶At subscriber sender link frame— Remove make-busy plugs from MB jacks.	
5	At district link frame—◀ Remove make-busy plugs from ▶secondary switch MB jacks.◀	
	B. Outgoing Trunk Group	
1	At originating trouble indicator frame— Insert make-busy plug into DB jack making originating marker busy.	
2	At originating marker— Block operated STX, BE, BO relays.	
3	Using 893 cord, strap 1T, 2T of DMT relay.	
4a	If overflow lamp signals are provided— At originating trouble indicator frame— Establish a talking circuit with operator at local or distant switchboard. *Note:* The outgoing trunk group overflow register associated with the alternate route trunk group for the code used in this test as well as the overflow register, if provided, will also advance when this test is made. Therefore, record the readings of these registers as covered in paragraph 1.11.	
5	At originating trouble indicator frame— Originate call using code associated with register under test.	Register scored.

STEP	ACTION	VERIFICATION
6a	If overflow lamp signals are provided— At originating trouble indicator frame— Request operator to observe lamp signal.	Overflow lamp lighted.
7	At originating marker— Remove blocking tools from BO, BE, STX relays.	
8	Remove strap from 1T, 2T of DMT relay.	
9	At originating trouble indicator frame— Remove make-busy plug from DB jack.	
10a	If overflow lamp signals are provided— Request operator to release lamp signal.	Overflow lamp extinguished.

C. Zone Registration Circuit

Note: Do not hold zone registration circuits busy any longer than necessary as this permits zone calls to be completed as nonzone calls.

1	At zone registration circuits— Insert make-busy plugs into MB jacks of all zone registration circuits to which zone registration connector of a district junctor frame has access.	
2	At district junctor test frame— Make zone test on district junctor of district frame for which zone registration circuits are busy.	Register scored.
3	▶At zone registration circuits—◀ Remove make-busy plugs.	

D. Line Link Frame and Incoming Link Frame

Note: Since any calls which may come in on trunks working into this frame will be routed to reorder, do not keep secondary switches busy any longer than necessary to make this test.

1	At incoming trunk frame— Connect incoming trunk test set to a spare trunk.	
2	Prepare incoming trunk test set to make call to customer number.	

STEP	ACTION	VERIFICATION
3	Insert make-busy plugs into all secondary switch MB jacks.	
4	Originate call using incoming trunk test set.	Incoming link and line link registers scored.
5a	If it is desired to check advancement of line link register from all markers— At terminating trouble indicator frame— Originate call to customer number.	Line link register scored.
6	▶At incoming trunk frame—◀ Remove make-busy plugs ▶from secondary switch MB jacks.◀	
7	Disconnect incoming trunk test set.	
E. Block Allotter PBX		
1	At terminating trouble indicator frame— Insert make-busy plug into DB jack of terminating marker associated with register to be tested.	
2	At PBX block allotter circuit— Block operated BSA, BSB relays.	At terminating trouble indicator frame— ATB lamp lighted.
3	▶At terminating trouble indicator frame—◀ Originating call to directory number of PBX group.	Register scored.
4	At PBX block allotter circuit— Remove blocking tools from BSA, BSB relays.	At terminating trouble indicator frame— ATB lamp extinguished.
5	▶At terminating trouble indicator frame—◀ Remove make-busy plug from DB jack.	
F. All Channels Busy		
1	At subscriber sender link frame— Insert make-busy plugs into MB 0-4 jacks.	
2	At district link frame— Insert make-busy plugs into secondary switch MB 0-9 jacks.	
3	At originating trouble indicator frame— Using made-busy district frame, simulate second trial call to trunk appearing on office link frame.	Register scored with each marker.
4	At district link frame— Remove make-busy plugs from MB 0-9 jacks.	

STEP	ACTION	VERIFICATION
5	At subscriber link frame— Remove make-busy plugs from MB 0-4 jacks.	

G. MF Outgoing Sender Group Busy—AIS With LLP

1	At outgoing trunk test frame— Insert make-busy plugs into sender make-busy (SMB) jacks of ten senders.	Ten SS lamps lighted. Minor alarm sounds.
2	Originate call for any intercepted number.	Register scored.
3	Remove make-busy plugs from SMB jacks.	

H. DP Outgoing Sender Group Busy

1	At DID test frame— Insert make-busy plugs into sender make-busy (SMB) jacks of ten senders in group under test.	Ten SS lamps lighted. Minor alarm sounds.
2	At terminating trouble indicator frame— Originate test call to any DID line circuit associated with senders under test. ***Note:*** The line circuit must not be a hunt line.	Register scored.
3	At DID test frame— Remove make-busy plugs from SMB jacks.	

I. All Outgoing Senders Busy—AIS Without LLP

1	At outgoing trunk test frame— Insert make-busy plugs into SMB jacks of all outgoing senders. ***Caution: Perform Steps 2 and 3 as rapidly as possible to avoid interference with AIS traffic.***	
2	At terminating trouble indicator— Originate a test call to an intercepted number.	Register scored.
3	▶At outgoing trunk test frame—◀ Release all outgoing senders.	

J. ▶All Line Circuits Busy—AIS Without LLP

1	At outgoing trunk test frame— Make busy all line circuits serving office.	

STEP	ACTION	VERIFICATION
2	At terminating trouble indicator— Originate a test call to an intercepted line number.	At traffic register cabinet— Register scored.
3	At outgoing trunk test frame— Remove make-busy plugs from line circuits.	
4a	If terminating marker group serves more than one office— Repeat Steps 1 to 3 for other offices.	

K. Outpulser Seizure Failure—ANI-B Outgoing Trunk

Outpulser Available

1	At outgoing trunk circuit— Connect ground to any idle trunk, (A and ON relays normal) at 28 terminal, B terminal strip. *Note:* Connect ground at terminal 30, B terminal strip if trunk is SD-26209-01 or SD-26210-01.	
2	Insulate 3B of TT1 and 1M of SI relays. If trunk is PCI type (SD-26210-01), insulate 1M of CT1 relay instead of the SI relay.	
3a	If trunk is coin type (SD-27814-01)— At outgoing trunk circuit— Block operated CS2 relay.	
4	Block operated ON and SI relays.	
5	Manually operate CT1 relay.	At traffic register cabinet— In 3 to 6.24 seconds— OSF_ register scored.
6	At outgoing trunk circuit— Release CT1 relay.	
7	Remove blocking tools from ON and SI relays.	
8a	If trunk is coin type (SD-27814-01)— At outgoing trunk circuit— Remove blocking tool from CS2 relay.	
9	Remove insulators from 1M of SI or CT1 relay and 3B of TT1 relay.	
10	Remove ground from B terminal strip.	

STEP	ACTION	VERIFICATION
11	Repeat Steps 1 through 10 for each subgroup of trunks.	

All Outpulsers Busy

12	Repeat Steps 1 through 4.	
13	At trouble ticketer frame— Insert make-busy plugs into OP-B jacks of all outpulsers associated with trunk being tested.	
14	At outgoing trunk circuit— Manually operate CT1 relay.	At traffic register cabinet— In 3 to 6.24 seconds— OSF_ and BSF_ registers scored.
15	At outgoing trunk circuit— Release CT1 relay.	
16	At trouble ticketer frame— Remove make-busy plugs from OP-B jacks of all outpulsers associated with trunk being tested.	
17	Repeat Steps 7 through 10.	
18	Repeat Steps 12 through 17 for each additional identifier group.◀	

BUSY REGISTERS

AA. Terminating Sender Group

1	Inform traffic department that terminating sender-busy lamp indication will be received and these signals should be disregarded.	

Revertive Pulse, Dial Pulse, MF Pulse, or Central "B" Terminating Senders

Caution: Do not hold all subgroups of senders busy any longer than necessary as this interferes with terminating traffic.

2	Determine which subgroups of senders have particular type of senders under consideration.	
3	At terminating trouble indicator frame— Insert make-busy plugs into all except one subgroup MB jack.	

STEP	ACTION	VERIFICATION
4a	If circuits are not arranged for load control timing— Momentarily insert make-busy plug into remaining subgroup MB jack.	Register scored. Minor alarm sounds. At terminating trouble indicator frame— Associated group-busy lamp lighted.
5b	If circuits are arranged for load control timing— Insert make-busy plug into remaining subgroup MB jack for 2 or 3 seconds.	Register scored every 1.3 seconds. Minor alarm sounds. At terminating trouble indicator frame— Associated group-busy lamp lighted.
6	Repeat Steps 3 through 5b until each subgroup of senders has been the last subgroup to be made busy.	
7	Remove all make-busy plugs from MB jacks.	
8	Momentarily operate ASB key.	Associated group-busy lamp extinguished. Minor alarm silenced.
"B" Terminating Senders (Noncentral)		
9c	If PF1 relay has eight upper contacts— Repeat Steps 2 through 8.	
10d	If PF1 relay has ten upper contacts— At terminating trouble indicator frame— Insert make-busy plugs into all except one sender MB jack.	
11d	At terminating sender test frame— Make an order tone and a transmission test using remaining idle "B" sender. *Note:* The terminating sender subgroup busy register will operate when this test is made. Therefore, record the readings of these registers as covered in paragraph 1.11.	When position is connected to "B" sender— Register scored. Minor alarm sounds. At terminating trouble indicator frame— Associated group-busy lamp lighted.
12d	Repeat Steps 10d, 11d until all senders have been tested using the terminating sender test frame.	
13d	Remove all make-busy plugs from MB jacks.	
14d	Momentarily operate ASB key.	Associated group-busy lamp extinguished. Minor alarm silenced.
AB. Terminating Sender Subgroup		
1	At terminating trouble indicator frame— Insert make-busy plugs into all except one sender MB jack of subgroup.	

STEP	ACTION	VERIFICATION
2	Insert make-busy plug into remaining sender MB jack.	Register scored. At terminating trouble indicator frame— Associated subgroup-busy lamp lighted.
3	Repeat Steps 1, 2 until each sender has been selected as remaining sender to be made busy.	
4	Remove all make-busy plugs from MB jacks.	Associated subgroup-busy lamp extinguished.
5	Momentarily insert make-busy plug into sender subgroup MB jack.	Register did not score. At terminating trouble indicator frame— Associated subgroup-busy lamp lighted momentarily.

AC. Number Checking Sender Group

Caution: Do not hold all senders of the group busy any longer than necessary as this interferes with traffic.

1	At terminating trouble indicator frame— Insert make-busy plugs into all except one sender MB jack.	
2	Momentarily insert make-busy plug into remaining sender MB jack.	Register scored.
3	Repeat Steps 1, 2 until each sender has been selected as remaining sender to be made busy.	
4	Remove all make-busy plugs from MB jack.	

AD. Coin Supervisory Circuit Group

Caution: Perform this test as rapidly as possible since no coin calls can be disposed of while all coin supervisory circuits are busy.

1	Inform traffic department that coin supervisory circuit busy lamp will light and should be disregarded.	
2	At sender make-busy frame— Insert make-busy plugs into all except one of the coin supervisory subgroup GB jacks.	
3	Momentarily insert make-busy plug into remaining GB jack.	Register scored. At sender make-busy frame— CB lamp lighted. Minor alarm sounds.

STEP	ACTION	VERIFICATION
4	Repeat Steps 2, 3 until each subgroup of coin supervisory circuits has been selected as remaining subgroup to be made busy.	
5	Remove all make-busy plugs from GB jacks.	
6	Momentarily operate ASB key.	CB lamp extinguished. Minor alarm silenced.

AE. Sender Group

Keypulsing "A" Senders

Caution: Do not hold all senders of the group busy any longer than necessary as this interferes with traffic.

1	At sender make-busy frame— Insert make-busy plugs into all except one keypulsing sender subgroup GB jack.	
2	Momentarily insert make-busy plug into remaining GB jack.	Register scored. At sender make-busy frame— SB lamp lighted. Minor alarm sounds.
3	Repeat Steps 1, 2 until each subgroup of keypulsing senders has been selected as remaining subgroup to be made busy.	
4	Remove all make-busy plugs from GB jacks.	
5	Momentarily operate ASB key.	SB lamp extinguished. Minor alarm silenced.

DCKP or MFKP Senders (Switchboard 3C or 3CL) Transmits Dial Pulses

6	At sender make-busy frame— Insert 258C plugs into all except one sender MB jack.	
7	Using sender test circuit— Originate call using remaining sender of subgroup.	Register scored.
8	Repeat Steps 6, 7 until each sender has been tested by sender test circuit.	
9	Remove all make-busy plugs.	

STEP	ACTION	VERIFICATION
AF.	**Subscriber District Junctor Group**	
1	At sender link and controller frame— Insert make-busy plugs into MB jacks.	
2	Block nonoperated W, TM relays.	
3	Block operated SS relay.	
4	Block operated GPO relay.	
5	Momentarily block operated BA relay.	Register did not score.
6	Block operated SL relay.	Register did not score.
7	Momentarily block operated BA relay.	Register scored.
8	Momentarily block operated BB relay.	Register scored.
9	Remove blocking tools from SL, GPO, SS, TM, W relays.	
10	Remove all make-busy plugs from MB jacks.	
AG.	**Trunk Group**	
	"A" Switchboard Outgoing Trunks	
1a	If make-busy jacks are provided— At "A" switchboard— Insert make-busy plugs into all except one make-busy jack of trunks of group.	
2b	If make-busy jacks are not provided— At "A" switchboard— Make busy all except one trunk of group by inserting plugs of operator calling cords into trunk jacks.	
3	Make busy remaining trunk.	Register scored.
4	Repeat Step 1a or 2b and Step 3 until each trunk has been selected as remaining trunk to be made busy.	

STEP	ACTION	VERIFICATION
	Revertive Call Trunks, Subscriber Recording Completing Trunks, Toll Number Checking Trunks, Toll, Tandem or "A" Switchboard Incoming Trunks, Miscellaneous Trunks, 3A or 4A Announcement System Incoming Trunks	
5	At trunk circuit— Insulate register control contacts of all except one of register control relays of trunk group.	
6	Insulate remaining register control contacts.	Register scored.
7	Repeat Steps 5, 6 until each register control relay has been selected as remaining relay to be tested.	
	Link Circuits Used With 3C or 3CL Switchboard	
8	At link circuit— Insert 258C plugs into all except one subgroup MB jack.	
9	Insert 258C plug into remaining subgroup MB jack.	Register scored.
10	Repeat Steps 8, 9 until each subgroup has been selected as remaining subgroup to be made busy.	
11	Remove all make-busy plugs.	
	AH. Keypulsing "A" and Step-by-Step District Junctor Group	
1	At district junctor circuits— Block operated SL relay of all except one district junctor of group.	
2	Momentarily block operated last SL relay.	Register scored.
3	Repeat Steps 1, 2 until each district junctor has been selected as last to be tested.	
	AI. 8A Announcement Trunk Group	
1	At announcement trunk circuit— Insulate 4B of SL1 relay in each trunk in trunk group associated with register under test.	

STEP	ACTION	VERIFICATION
2	Momentarily remove and replace in turn, insulating tool in each trunk when trunk is idle.	Register scored once for each trunk tested.
3	Remove insulating tools from all trunks in group.	
4	Repeat Steps 1 through 3 for each trunk group.	

AJ. 9A Announcement Trunk Group

1	At announcement trunk circuit— Insulate 7B of B relay in each trunk in trunk group associated with register under test.	
2	Momentarily remove and replace in turn, insulating tool in each trunk when trunk is idle.	Register scored once for each trunk tested.
3	Remove insulating tools from all trunks in group.	
4	Repeat Steps 1 through 3 for each trunk group.	

PEG COUNT REGISTERS

BA. Line Link Frame Originating Traffic

1	At register cabinet— Operate peg count control key.	
2	At line link frame— Originate test call on spare line.	Register scored.
3	Disconnect call.	
4	Insert make-busy plug into EB jack.	
5	Originate test call on spare line.	Register scored.
6	Disconnect call.	
7	Remove make-busy plug from EB jack.	
8	▶At register cabinet—◀ Restore peg count control key.	

STEP	ACTION	VERIFICATION
BB.	**District Junctor and District Junctor Test Frame**	
	Subscriber District Junctors	
1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Insert make-busy plugs into all except one DB jack.	
3	Using district junctor test circuit— Originate call in first subgroup of district junctors.	Register scored twice.
4	Repeat Step 3 for each subgroup of district junctors.	
5	Repeat Steps 2 through 4 until each originating marker has been tested.	
6	Remove make-busy plugs from DB jacks.	
7	⧫At register cabinet— Restore peg count control key.⧫	
	Keypulsing District Junctors	
8	At register cabinet— Operate peg count control key.	
9	At "A" switchboard— Originate call on idle keypulsing district junctor in subgroup to busy line number.	Register scored.
10	Disconnect call.	
11	Repeat Steps 9 and 10 for each of other subgroups of keypulsing district junctors.	
12	⧫At register cabinet—⧫ Restore peg count control key.	
BC.	**Office Link Frame**	
1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Originate call to office link frame associated with register under test.	Register scored.

STEP	ACTION	VERIFICATION
3	At register cabinet— Restore peg count control key.	

BD. Intertoll Trunk Concentrating Equipment Controller Circuit

1	At register cabinet— Operate peg count control key.	
2	At trunk concentrating controller circuit— Block operated AB, GR relays. ***Note:*** This will cause incoming trunks of all originating offices to be made busy.	
3	When trunk concentrating controller circuit is idle— Momentarily operate HG1 relay.	Register scored.
4	Momentarily operate HG2 relay.	Register scored.
5	Insulate following relay contacts, in turn, operating HG1 relay after each contact has been insulated. The insulating tool should be removed after each test and should be moved to next set of contacts:	Register did not score on any of these tests.

CONTACT	RELAY
5B, 6B	SCR
4B, 5B	SR1
1T, 2T	LCR
4B, 5B	LR1

6	Remove blocking tools from AB, GR relays.	
7	▶At register cabinet—◀ Restore peg count control key.	

BE. Outgoing Trunk Group

1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Insert make-busy plug into DB jack of originating marker 0.	

STEP	ACTION	VERIFICATION
3	At made-busy originating marker— Using 893 cord, strap 1T, 2T of DMT relay.	
4	At originating trouble indicator frame— Using made-busy marker, originate call to group of trunks to be tested.	Register scored.
	Note: When all trunks of the original group are busy, the associated overflow register and peg count register associated with the alternate route relay will also operate. The overflow and peg count registers associated with the first and subsequent alternate routes will also operate if an all-trunk-busy condition exists on these trunk groups.	
5	▶At originating marker—◀ Remove strap from 1T, 2T of DMT relay.	
6	▶At originating trouble indicator—◀ Remove make-busy plug from DB jack.	
7	Repeat Steps 2 through 6 for each succeeding originating marker.	
8	▶At register cabinet—◀ Restore peg count control key.	

BF. "A" Switchboard, Toll Position, or Miscellaneous Desk

1	At "A" switchboard position, toll position, or miscellaneous desk— Momentarily operate peg count key.	Register scored.
2a	If peg count checking is provided— Insert plug of peg count checking circuit into switchboard monitoring jack.	
3a	At "A" switchboard position, toll position, or miscellaneous desk— Momentarily operate peg count key.	Register scored.
4a	Disconnect peg count checking circuit.	

BG. Originating Marker and/or Originating Marker Class of Service

Originating Marker Peg Count Register

1	At register cabinet— Operate peg count control key.	

STEP	ACTION	VERIFICATION
2	At originating trouble indicator frame— Insert make-busy plug into originating marker DB jack.	
3	At made-busy originating marker— Using 893 cord, strap 9T, 10T of DMT relay.	
4	At originating trouble indicator frame— Using made-busy marker, originate test call.	Register scored and, if provided, originating marker class-of-service peg count register scored.
5	▶At originating marker—◀ Remove strap from 9T, 10T of DMT relay.	
6	▶At originating trouble indicator frame—◀ Remove make-busy plug from DB jack.	
7	▶At register cabinet— Restore peg count control key.◀	

Originating Marker Class-of-Service Peg Count Register

8	At register cabinet— Operate peg count control key.	
9	At originating trouble indicator frame— Insert make-busy plug into originating marker DB jack.	
10	At made-busy originating marker— Using 893 cord, strap 9T, 10T of DMT relay.	
11	At originating trouble indicator frame— Using made-busy marker, originate call using one of the subscriber class-of-service keys.	Register for particular class of service scored and, if provided, originating marker peg count register scored.
12	Repeat Step 11 until all customer classes of service have been tested.	
13	▶At made-busy originating marker—◀ Remove strap from 9T, 10T of DMT relay.	
14	▶At originating trouble indicator frame—◀ Remove make-busy plug from DB jack.	
15	Repeat Steps 9 through 14 for each originating marker.	
16	▶At register cabinet—◀ Restore peg count control key.	

STEP	ACTION	VERIFICATION
BH.	**Line Link Frame Terminating Traffic**	
1	At register cabinet— Operate LK key to line link frame position.	
2	At terminating trouble indicator frame— Originate call to idle line associated with line link frame.	Register scored.
3	▶At register cabinet—◀ Restore LK key.	
BI.	**PBX**	
1	At register cabinet— Operate peg count control key.	
2	At terminating trouble indicator frame— Originate call to directory number of PBX equipped with peg count register.	Register scored.
3	▶At register cabinet—◀ Restore peg count control key.	
BJ.	**Number Group**	
1	At register cabinet— Operate peg count control key.	
2	At terminating trouble indicator frame— Using 0 marker, originate call to line associated with number group.	Register scored.
3	Repeat Step 2 for each marker.	
4	▶At register cabinet—◀ Restore peg count control key.	
BK.	**Subscriber Line Overload**	
	Cross-Connection Type	
1	At terminating trouble indicator frame— Insert 322A plug into DB jack.	
2	At terminating marker— Insert 329A plug into P jack.	
3	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register scored.

STEP	ACTION	VERIFICATION
4	At terminating marker— Remove 329A plug from P jack.	
5	Insert 322A plug into N jack.	
6	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register did not score.
7	At outgoing trunk test frame— Originate line voltmeter test to line associated with register.	
8	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register scored.
9	At outgoing trunk test frame— Release customer line.	
10	▶At terminating marker—◀ Remove 322A plug from N jack.	
11	▶At terminating trouble indicator frame—◀ Remove 322A plug from DB jack.	
Jack Panel Type		
12	At terminating trouble indicator frame— Insert 322A plug into DB jack.	
13	At terminating marker— Insert 329A plug into P jack.	
14	Insert 329A plugs into TH, H, T, U jacks corresponding to customer line number on which overload observations are to be made.	
15	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register scored.
16	At terminating marker— Remove 329A plug from P jack.	
17	Insert 322A plug into N jack.	
18	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register did not score.

STEP	ACTION	VERIFICATION
19	At outgoing trunk test frame— Originate line voltmeter test to line associated with register.	
20	At terminating trouble indicator frame— Using made-busy terminating marker, originate call to line associated with register.	Register scored.
21	At outgoing trunk test frame— Release customer line.	
22	▶At terminating marker—◀ Remove make-busy plugs from N, TH, H, T, U jacks.	
23	▶At terminating trouble indicator frame—◀ Remove make-busy plug from DB jack.	

BL. Incoming Link Frame

1	At register cabinet— Operate peg count control key.	
2	At terminating trouble indicator frame— Using 0 terminating marker, originate call to incoming link frame.	Register scored.
3	Repeat Step 2 for each terminating marker.	
4	▶At register cabinet—◀ Restore peg count control key.	

BM. Incoming Toll, Tandem, Miscellaneous, or 1A, 1B, 3A, or 4A Announcement System Trunk Group

1	At register cabinet— Operate peg count control key.	
2	At originating office— Make one trunk of group busy.	
3	At trunk circuit— Connect outgoing trunk test circuit or portable incoming trunk test circuit to trunk.	
4	Using trunk test circuit, originate test call to busy line number.	Register scored.
5	Disconnect trunk test circuit.	

STEP	ACTION	VERIFICATION
6	At originating office— Remove busy condition from trunk.	
7	Repeat Steps 2 through 6 for each remaining trunk in group.	
8	▶At register cabinet—◀ Restore peg count control key.	
BN.	**Number Checking Sender Group**	
1	At register cabinet— Operate peg count control key.	
2	At sender make-busy frame— Insert make-busy plug into number checking sender MB jack.	
3	▶At sender—◀ Using test receiver, apply ground to 1T of UL relay five times.	Register scored five times.
4	▶At sender make-busy frame—◀ Remove make-busy plug from MB jack.	
5	Repeat Steps 2 through 4 until all number checking senders have been tested.	
6	▶At register cabinet—◀ Restore peg count control key.	
BO.	**Toll Number Checking Trunk Group**	
1	At register cabinet— Operate peg count control key.	
2	At originating office— Make one trunk of group busy.	
3	At trunk circuit— Using test receiver, apply ground to 6T of D relay five times.	Register scored five times.
4	At originating office— Remove busy condition from trunk.	
5	Repeat Steps 2 through 4 until all trunks have been tested.	
6	▶At register cabinet—◀ Restore peg count control key.	

STEP	ACTION	VERIFICATION
BP. Revertive Call Trunk		
1	At register cabinet— Operate peg count control key.	
2	At outgoing trunk test frame— Insert make-busy plug into MB jack of revertive call trunk.	
3	At trunk circuit— Block operated RV4 relay.	
4	Using test receiver, momentarily apply ground to 8T of RV1 relay.	Register scored.
5	Remove blocking tool from RV4 relay.	
6	At outgoing trunk test frame— Remove make-busy plug from MB jack.	
7	Repeat Steps 2 through 6 until all revertive call trunks have been tested.	
8	▶At register cabinet—◀ Restore peg count control key.	
BQ. Keypulse Sender		
1	At register cabinet— Operate peg count control key.	
Keypulse Sender (SD-25015-01) Peg Count Register		
2a	If automatic sender test frame is provided— Originate a test call to keypulse sender.	Register scored.
3a	Restore test frame to normal.	
4b	If automatic sender test frame is not provided— At keypulse sender— Block operated ON1 relay.	
5b	Momentarily operate CT relay.	Register scored.
6b	Remove blocking tool from ON1 relay.	
DCKP or MFKP Sender (SD-95480-01 or SD-95481-01) Peg Count Register		
7c	If sender test circuit is provided— Originate test call to keypulse sender.	Register scored.

STEP	ACTION	VERIFICATION
8c	Restore test frame to normal.	
9d	If sender test circuit is not provided— At keypulse sender— Momentarily operate IS relay.	Register scored.
10	▶At register cabinet—◀ Restore peg count control key.	

BR. Transverter and Bulk Bill Failure

1	At register cabinet— Operate peg count control key.	
2	At transverter trouble indicator frame— Insert make-busy plugs into TVMB, TVTIB jacks.	

Transverter Peg Count Register

3	At made-busy transverter— Using 893 cord, strap 2T, 3T of SDTA relay.	
4	At sender test frame— Using made-busy transverter, originate call on a subscriber sender.	Register scored.
5	▶At made-busy transverter—◀ Remove strap from 2T, 3T of SDTA relay.	

Bulk Bill Failure Peg Count

6	Block nonoperated CK1 relay.	
7	At sender test frame— Using made-busy transverter, originate call on a subscriber sender calling an office code requiring message index other than nine.	Register scored. Major alarm sounds.
8	At transverter trouble indicator frame— Operate release key.	Major alarm silenced.
9	▶At made-busy transverter—◀ Remove blocking tool from CK1 relay.	
10	▶At transverter trouble indicator frame—◀ Remove make-busy plugs from TVMB, TVTIB jacks.	
11	▶At register cabinet—◀ Restore peg count control key.	

STEP	ACTION	VERIFICATION
BS.	**Auxiliary Line Circuit**	
1	At MDF— Connect 1014A handset to coin line.	
2	Using 893 cord, ground tip side of line.	
3	Originate call to operator; inform operator that call is test call.	
4	Disconnect call.	Register scored.
5	Remove ground from tip side of line.	
BT.	**Incoming Intercepting Trunk**	
1	At originating office— Make busy trunk to be tested.	
2	At trunk circuit test panel— Connect J94729A portable test set or J94729B trunk test unit to trunk to be tested.	
3	Originate call for operator termination.	
4	When operator answers— Indicate test call is being made.	
5	Disconnect call.	OR register scored.
6a	If machine announcement is provided— Originate call for machine termination.	
7a	After a complete announcement— Disconnect call.	MR register scored.
8a	Originate call for machine termination.	
9a	When operator answers following allowed announcement cycles— Indicate test call is being made.	
10a	Disconnect call.	TOR register scored.
11	Disconnect test unit.	
12	At originating office— Release made-busy trunk.	

STEP	ACTION	VERIFICATION
BU. Auxiliary Sender		
7- and 10-Digit Calls		
1	At sender test frame— Originate 7-digit auxiliary sender test call on auxiliary sender to be tested.	7-digit register scored.
2	Disconnect 7-digit call.	
3	Originate 10-digit auxiliary sender test call.	10-digit register scored.
4	Disconnect 10-digit call.	
5	Repeat Steps 1 through 4 until all auxiliary senders have been tested.	
Partial Dial		
6	Originate 10-digit auxiliary sender test call on an auxiliary sender within group under test. Do not key units digit.	After timing period— Partial dial register scored.
7	Disconnect call.	
8	Repeat Steps 6, 7 for other auxiliary sender groups.	Corresponding partial dial register scored.
Stuck Auxiliary Sender		
9	At sender test frame— Operate PAS- key to select auxiliary sender associated with first auxiliary sender group.	
10	Select subscriber sender which has access to particular auxiliary sender to be tested.	
11a	If sender monitor operation is provided— Notify trouble supervisory operator not to prime subscriber sender selected for test.	
12b	If automatic priming is provided— Operate (pull out) CTR key for subscriber sender selected for test.	
13	Insert make-busy plug into TO1 jack.	
14	Operate (pull out) CTR (AS) key.	
15	Using auxiliary sender selected, originate 10-digit auxiliary sender test call.	After timing period— Auxiliary stuck sender register scored.

STEP	ACTION	VERIFICATION
16	Disconnect call.	
17	Repeat Steps 9 through 16 for other auxiliary sender groups.	
18	Remove make-busy plug from TO1 jack.	
19	Restore test keys.	
BV. ANI Plant Test Calls		
1	At outpulser-identifier trunk test frame— Originate test call over any trunk.	TC register scored once.
2	Restore outpulser-identifier trunk test frame to normal.	
BW. Code Compressor		
1	At traffic register cabinet— Operate peg count control key.	
2	At originating sender test frame— Originate DDD test call.	Register scored.
3	At traffic register cabinet— Restore peg count control key.	
BX. ANI Outpulser		
Nonoperator Identified		
1	At outpulser-identifier trunk test frame— Originate regular single-party test call to outpulser associated with register under test.	Outpulser usage register scored.
2	Disconnect call.	
ANI Operator Identified		
3	At outpulser under test— Using 893 cord, strap 8F to 8B of RC relay.	
4	At outpulser-identifier trunk test frame— Originate multiparty test call to outpulser associated with register under test.	Operator identified register scored.
5	At outpulser under test— Remove strap from RC relay.	
6	▶At outpulser-identifier trunk test frame—◀ Disconnect call.	

STEP	ACTION	VERIFICATION
BY.	**3-Digit Translator**	
1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Originate test call using a code associated with translator under test.	Register scored.
3	At register cabinet— Restore peg count control key.	
BZ.	**Individual Code Point Preroute**	
1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Originate test call using code of code point to be tested.	Register scored.
3	At register cabinet— Restore peg count control key.	
CA.	**Any Channel Selected**	
1	At register cabinet— Operate peg count control key.	
2	At terminating trouble indicator frame— Insert make-busy plug into DB jack of marker to be tested.	
3	Originate test call.	ACS register scored.
4	Release test call connection.	
5	Remove make-busy plug from DB jack.	
6	Repeat Steps 1 through 5 for each marker to be tested.	
7	At register cabinet— Restore peg count control key.	
CB.	**Sample Channel Selected**	
1	At register cabinet— Operate peg count control key.	

STEP	ACTION	VERIFICATION
2	At terminating trouble indicator frame— Insert make-busy plug into DB jack of marker to be tested.	
3	At terminating marker— Block operated IK, NK1 relays.	ACS register scored.
4	Momentarily operate CH0, CH5 relays.	SCS register scored once for each relay operated.
5	Remove blocking tools from IK, NK1 relays.	
6	At terminating trouble indicator frame— Remove make-busy plug from DB jack.	
7	Repeat Steps 1 through 6 for each marker to be tested.	
8	At register cabinet— Restore peg count control key.	

CC. 3-Digit Translator Overload

1	At register cabinet— Operate peg count control key.	
2	At originating trouble indicator frame— Insert make-busy plugs into DB jacks of lowest and highest numbered originating markers.	
3	At associated translator connector— Block operated BO relay.	
4	Insulate 4M of P_ relay associated with highest numbered marker made busy and block relay operated.	
5	Using 893 cord, connect battery to L winding terminal of P_ relay associated with lowest numbered marker.	OL register scored.
6	Remove battery from P_ relay.	
7	Remove insulating and blocking tools from P_ relay.	
8	At originating trouble indicator frame— Remove make-busy plug from DB jack of highest numbered marker made busy and insert into DB jack of next lower numbered marker.	

STEP	ACTION	VERIFICATION
9	Repeat Steps 4 through 8 until all other markers have been tested in conjunction with first marker.	
10	At associated translator connector— Remove blocking tool from BO relay.	
11	At originating trouble indicator frame— Remove make-busy plugs from DB jacks of first and second markers.	
12	At register cabinet— Restore peg count control key.	
CD.	**Code Compressor Trouble Overflow**	
1	At register cabinet— Operate peg count control key.	
2	At code compressor circuit— Block nonoperated TK relay.	
3	At code compressor trouble indicator circuit— Originate test call using desired code compressor.	OFR register scored.
4	Restore code compressor trouble indicator circuit to normal.	
5	▶At code compressor circuit—◀ Remove blocking tool from TK relay.	
6	At register cabinet— Restore peg count control key.	
CE.	**MJ Mobile Radio (Large and/or Small System) Line Circuit**	
1	At test panel for large and/or small mobile radio switching systems— Restore to normal all lever-type keys.	
2a	If testing large system line circuit— At line circuit— Apply ground to 5T of RD relay.	Register scored.
3a	Repeat Step 2a for each line circuit.	
4b	If testing small system line circuit— At line circuit— Apply ground to 3B of BY relay.	Register scored.
5b	Repeat Step 4b for each line circuit.	

STEP	ACTION	VERIFICATION
CF.	**MJ Mobile Radio (Small System) Call Check**	
1	At test panel for large and/or small mobile radio switching systems— Restore to normal all lever-type keys.	
	Call Extended to Switchboard	
2	At link circuit— Apply ground to 9B of RO relay.	Register scored.
3	Repeat Step 2 on each link circuit.	
	Roam Line Used	
4	Apply ground to 9B of RLC relay.	Register scored.
5	Repeat Step 4 for each link circuit.	
CG.	**MJ Mobile Radio (Large System) Call Check**	
1	At test panel for large and/or small mobile radio switching systems— Restore to normal all lever-type keys.	
	Manual Mobile Call Operation	
2	At link circuit— Apply ground to 7T of MC relay.	Register scored.
3	Repeat Step 2 for each link circuit.	
	Call to Operator	
4	Apply ground to 3T of OA relay.	Register scored.
5	Repeat Step 4 for each link circuit.	
	Call from Switchboard	
6	Apply ground to 12T of SA relay.	Register scored.
7	Repeat Step 6 for each link circuit.	
CH.	**MJ Mobile Radio (Small System) Sender-Register Circuit**	
1	At test panel for large and/or small mobile radio switching systems— Restore to normal all lever-type keys.	

STEP	ACTION	VERIFICATION
	Register Portion of Register-Sender Circuit	
2	At register-sender circuit— Apply ground to 7B of REG relay.	Register scored.
	Sender Portion of Register-Sender Circuit	
3	Apply ground to 10B of SD relay.	Register scored.
	C1. MJ Mobile Radio (Large and/or Small System) Marker Operation	
1	At test panel for large and/or small mobile radio switching systems— Restore to normal all lever-type keys.	
	End of Pulsing Land-to-Mobile Call	
2a	If duplicate service is provided— At duplicate switching and test access circuit— Operate MB MKR_ key.	
3a	At marker circuit— Block operated ES relay.	
4a	Block operated LCT relay.	
5a	Momentarily operate ST1 relay.	Register scored.
6a	Remove blocking tools from ES, LCT relays.	
7a	Repeat Steps 2a through 6a for other marker.	
8b	If duplicate service is not provided— Apply ground to 7T of MTR relay.	Register scored.
	Marker Ready to Establish Link on Mobile-to-Land Call	
9a	If duplicate service is provided— At duplicate switching and test access circuit— Operate MB MKR_ key.	
10a	At marker circuit— Momentarily operate INC relay.	Register scored.
11a	Repeat Steps 9a, 10a for other marker.	
12b	If duplicate service is not provided— Apply ground to 1T of MTR relay.	Register scored.

STEP	ACTION	VERIFICATION
Line-to-Link Connection Established		
13a	If duplicate service is provided— At duplicate switching and test access circuit— Operate MB MKR_ key.	
14a	At marker circuit— Insulate 9T, 10T of INC relay.	
15a	Block operated INC relay.	
16a	Momentarily operate LCT relay.	Register scored.
17a	Remove blocking tool from INC relay.	
18a	Remove blocking tools from 9T, 10T of INC relay.	
19a	Repeat Steps 13a through 18a for other marker.	
20b	If duplicate service is not provided— Apply ground to 1B of MTR relay.	Register scored.
Land-to-Mobile Call Completed		
21a	If duplicate service is provided— At duplicate switching and test access circuit— Operate MB MKR_ key.	
22a	At marker circuit— Block operated ST1 relay.	
23a	Momentarily operate OTG relay.	Register scored.
24a	Remove blocking tool from ST1 relay.	
25a	Repeat Steps 21a through 24a for other marker.	
26b	If duplicate service is not provided— Apply ground to 4T of MTR relay.	Register scored.

CJ. 8A Announcement Trunk Peg Count

1	At announcement trunk— Momentarily apply ground to 3F of SL1 relay.	Register scored.
2	Repeat Step 1 for each trunk.	

STEP	ACTION	VERIFICATION
CK.	**9A Announcement Trunk Peg Count**	
1a	If SD-95862-01 is provided— Momentarily apply ground to 10M of PC2 relay. *Note:* On equipment rated MD, use 8M of TO relay or 1M of PC relay.	Register scored.
2b	If SD-95859-01 is provided— Momentarily apply ground to 9M of TG relay.	Register scored.
3	Repeat Step 1a or 2b for each trunk.	
CL.	**MF Outgoing Sender**	
1	At outgoing trunk test frame— Originate call for any intercepted number.	Register scored.
2	Disconnect test call.	
CM.	**DID Translator Usage**	
1	At terminating trouble indicator frame— Originate call to any unused number that appears in DID translator.	Register scored.
2	Disconnect call.	
CN.	**DID Translator Route Usage**	
1	At terminating trouble indicating frame— Originate call to any DID customer.	Register scored.
2	Disconnect call.	
CO.	**AMA Recorder**	
	Note: Before starting this test which will cause the perforation of a make-busy pattern on the tape, using a red china marking pencil, draw a line across the unperforated tape where it enters the tape chute.	
1	At trouble recorder frame— Insert make-busy plug into R-MB jack of recorder under test. *Note:* Do not hold recorder busy longer than necessary as this may interfere with service.	R lamp lighted. At traffic register cabinet— Register scored once.

STEP	ACTION	VERIFICATION
2	At trouble recorder frame— Remove make-busy plug from R-MB jack of recorder under test.	R lamp extinguished. At traffic register cabinet— Register scored once.
3	At associated perforator— Raise slack tape arm and hook it over catch.	
4	Pull back some slack in tape and disengage tape from tape guides.	
5	Using a red china marking pencil, place two large crosses on smooth side of tape over lower two diamond patterns—that is, diamond pattern farthest from perforator drum.	
6	Find red mark placed on tape at start of testing; mark two large crosses on smooth side of tape so that center of crosses is 4-1/2 inches from red mark in a direction away from perforator drum.	
7	Replace tape in tape guides and remove slack tape arm from catch.	
8	Record on accounting center notification form recorder number, date, time and a note that tape was marked with red crosses to indicate that all entries between these crosses should be skipped.	

CP. Timed Automatic Cutoff Recycle

1	At telephone circuit of unoccupied service observing desk position— Block operated CD relay.	
2	Momentarily operate RCY key.	Register scored.
3	Repeat Step 2 twice.	Register scored twice.
4	Remove blocking tool from CD relay.	

CQ. Dynamic Overload Control

1	At originating trouble indicator— Insert make-busy plug into DB jack of any marker in marker group.	
2	Operate DT key corresponding to marker made busy.	

STEP	ACTION	VERIFICATION
3	Set RTF and RT switches according to RTCA_ relay associated with route transfer relay in the marker.	RTCA_ lamp lighted.
4	Operate keys A_, B_, C_, and CS_, also ZCT_, GS1, AR, or GS3 if required, for code associated with route transfer relay in the marker.	
5	Momentarily operate ST key.	Register scored.
6	Momentarily operate RL key.	
7	Repeat Steps 3 through 6 for all route transfer relays.	
8	Restore RTF and RT switches to normal.	RTCA_ lamp extinguished.
9	Remove make-busy plug from DB jack.	
CR.	**Coin Station Test Line**	
1	At coin station test line— Check that test line circuit is not busy.	OH and DISC relays normal.
2	Insert plug of 3W9A cord connected to 1C type coin station into TJ jack of test line.	
3	Place 10 cents in coin station.	
4	Lift receiver off hook.	Interrupted dial tone heard.
5	Hang up receiver.	Register scored.
6	Disconnect test line.	
CS.	**Subscriber Line Busy**	
1	At terminating trouble indicator— Insert make-busy plug into DB_ jack.	
2	At terminating marker— Manually operate BBA relay.	Register scored.
3a	If terminating marker applique is provided— At terminating marker applique— Block operated LOF relay.	
4a	At terminating marker— Momentarily apply ground to B3 of AL relay.	Register scored.
5a	▶At terminating marker applique—◀ Remove blocking tool from LOF relay.	

STEP	ACTION	VERIFICATION
6	▶At terminating trouble indicator—◀ Remove make-busy plug from DB_ jack.	
CT.	**First Failure Terminating Marker**	
1	At terminating trouble indicator— Insert make-busy plug into DB_ jack.	
2	At terminating marker— Block nonoperated HMT relay.	
3	At terminating trouble indicator— Originate a call to any number.	Register scored.
4	Momentarily operate RL key.	
5	At terminating marker— Remove blocking tool from HMT relay.	
6	At terminating trouble indicator— Remove make-busy plug from DB_ jack.	
CU.	**Terminal Hunting Line Called**	
1	At terminating trouble indicator— Originate a test call to any terminal hunting line.	Register scored.
2	Momentarily operate RL key.	
CV.	**▶AIS Without LLP**	
1	At traffic register cabinet— Operate peg count control key.	
2	At terminating trouble indicator— Originate a test call to an intercepted line number.	At traffic register cabinet— Register scored.
3	At traffic register cabinet— Restore peg count control key.	
4a	If terminating marker group serves more than one office— Repeat Steps 1 to 3 for other offices.	
CW.	**Translator Circuit—PBX-AIOD—PBX Requests and Failures**	
1	At translator register and control unit— Momentarily apply ground to terminal 18, B terminal strip.	PBXT register scored.

STEP	ACTION	VERIFICATION
2	Momentarily apply ground to terminal 28, B terminal strip.	FST register scored.
3	Momentarily apply ground to terminal 18, A terminal strip.	NIRT register scored.
4	Momentarily apply ground to terminal 57, A terminal strip.	NIRFT register scored.
CX.	**No. 1 Trunk Concentrator Seizure**	
1	At trunk concentrator frame— Operate MB-O key.	MB-O lamp lighted.
2	At any idle trunk circuit within group made busy— Momentarily operate SGA relay.	PC-O register scored.
3	At trunk concentrator frame— Release MB-O key.	MB-O lamp extinguished.
4	Repeat Steps 1 through 3 for other switches associated with concentrator.	PC_ register associated with each switch scored once.
CY.	**Coin Supervisory Circuit—First and Second Trial Failures**	
1	At coin supervisory circuit— Insert make-busy plug into an idle circuit within the first group of coin supervisory circuits.	
2	Momentarily apply ground to 9M of RW relay.	CFF_ register scored.
3	Momentarily apply ground to 2M of RZ relay.	CSF_ register scored.
4	Remove make-busy plug from coin supervisory circuit.	
5	Repeat Steps 1 through 4 for additional groups.	CFF_ and CSF_ registers scored.
CZ.	**Billing Data Transmitter—Lines of AMA Data**	
1	At emergency recorder— Verify that emergency recorder is not in service.	EW lamp not lighted.
2	Momentarily apply ground to 5T of PTC relay.	LPC_ register associated with emergency recorder scored.

STEP	ACTION	VERIFICATION
3	At transverter trouble indicator frame— Insert 322A plug into TN_ jack of lowest numbered recorder.	At emergency recorder— EW lamp lighted.
4	At recorder transferred in Step 3— Momentarily apply ground to 5T of PTC relay.	LPC_ register associated with recorder scored.
5	At transverter trouble indicator frame— Remove 322A plug from TN_ jack of lowest numbered recorder.	At emergency recorder— EW lamp extinguished.
6	Repeat Steps 3 through 5 for each succeedingly higher numbered recorder until all recorders intransverter group have been tested.	LPC_ register associated with recorder under test scored.

LOAD REGISTERS

DA. Intersender Timing Load Register

Note: Do not hold all subscriber sender subgroups busy any longer than necessary as this interferes with originating traffic.

1a	If sender load control is provided— At originating trouble indicator frame— Check that LC key is normal.	
2	Inform traffic department to disregard lamps and alarms associated with subscriber sender load.	
3	At sender make-busy frame— Insert make-busy plugs into subscriber sender GB jacks required to operate K relay in traffic register relay frame.	Minor alarm sounds. At register cabinet— Register scores once or scores every 1.3 seconds if LD interrupter is provided. At sender make-busy frame— LR lamp lighted. At originating trouble indicator frame— IT lamp lighted. At one of subscriber sender frames under test— Check that IT relay is operated.
4	Remove make-busy plug from one GB jack.	At register cabinet— Register scores every 1.3 seconds if LD interrupter is provided. At subscriber sender frame— After 5 to 12 seconds— IT relay released. At originating trouble indicator frame— IT lamp extinguished.

STEP	ACTION	VERIFICATION
5	At sender make-busy frame— Momentarily operate alarm release key.	LR lamp extinguished. Minor alarm silenced.
6	Remove make-busy plugs.	

DB. Terminating Sender

1	At originating trouble indicator frame— Check that RT keys are normal.	
2a	If sender-busy lamp is provided at "A" switchboard— Inform traffic department to disregard signals.	
3	At terminating trouble indicator frame— Insert make-busy plugs into MB jacks of subgroups of senders associated with terminating sender load control circuit.	Associated group-busy register scored. At terminating trouble indicator frame— FSB lamp lighted. Minor alarm sounds.
4b	If T5, T6 relays are not provided in terminating sender timing control circuit— Maintain busy condition for 5 to 12 seconds.	Register scored every 1.3 seconds. At terminating trouble indicator frame— TLC lamp lighted.
5c	If T5, T6 relays are provided in terminating sender timing control circuit— Maintain busy condition for 12 to 19 seconds.	Register scored every 1.3 seconds. At terminating trouble indicator frame— TLC lamp lighted.
6	Remove make-busy plugs from MB jacks.	
7	Operate ASB key.	At terminating trouble indicator frame— FSB lamp extinguished. TLC lamp extinguished. Minor alarm silenced.

DC. Subscriber Sender

1	Inform traffic department to disregard lamps and alarms associated with subscriber sender load.	
2a	If sender load control is provided— At originating trouble indicator frame— Check that LC key is normal.	
3	At sender make-busy frame— Insert make-busy plugs into subscriber sender GB jacks starting with lowest numbered subgroup until number of subgroups required to advance register have been made busy.	Register scores once or scores every 1.3 seconds if LD interrupter is provided. At sender make-busy frame— LR lamp lighted. Minor alarm sounds.

STEP	ACTION	VERIFICATION
4	Remove make-busy plug from lowest numbered GB jack and insert it into next higher numbered GB jack.	Register scores once or scores every 1.3 seconds if LD interrupter is provided.
5	Repeat Step 4 until all subgroups have been tested.	
6	Remove all make-busy plugs from GB jacks.	
7	Momentarily operate AR key.	At sender make-busy frame— LR lamps extinguished. Minor alarm silenced.
8	Insert one less make-busy plug into GB jacks than is required to operate register, starting with lowest numbered GB jack.	Register did not score.
9	Repeat Step 8 until all subgroups have been tested.	
10	Remove all make-busy plugs from GB jacks.	

DD. Line Link Frame

1	At register cabinet— Operate LK key to line link frame position.	
2	At terminating trouble indicator frame— Insert make-busy plug into DB jack of terminating marker.	
3	At made-busy marker— Block operated number of LL0-9 relays corresponding to number of line links which must be busy to advance register.	
4	Block nonoperated remaining LL_ relays.	
5	At terminating trouble indicator frame— Using made-busy marker, originate call to idle line on line link frame.	Register scored. Horizontal line group load register did not score.
6	Repeat Steps 3 through 5 until each LL_ relay has been blocked operated at least once.	
7	At made-busy marker— Remove blocking tool from operated LL_ relays and block nonoperated LL_ relays.	
8	At terminating trouble indicator frame— Using made-busy marker, originate call to idle line on line link frame.	Register did not score.

STEP	ACTION	VERIFICATION
9	Repeat Step 8 until each LL_ relay has been blocked nonoperated at least once with the required number of LL_ relays blocked operated.	
10	▶At made-busy marker—◀ Remove blocking tools from LL_ relays.	
11	▶At terminating trouble indicator frame—◀ Remove make-busy plug from DB jack.	
12	Repeat Steps 2 through 11 for each terminating marker. ***Note:*** On subsequent line link frames, it will not be necessary to perform Steps 6 and 9 since marker functions will be checked in testing first line link frame.	
13	▶At register cabinet—◀ Restore LK key.	
DE.	**Horizontal Line Group**	
1	At register cabinet— Operate LK key to horizontal line group position.	
2	At terminating trouble indicator frame— Insert make-busy plug into DB jack of terminating marker.	
3	At made-busy marker— Block operated number LL0-9 relays corresponding to number of line links which must be busy to advance register.	
4	Block nonoperated remaining LL_ relays.	
5a	On installations prior to Issue 17D of SD-25317-01— At terminating trouble indicator frame— Using made-busy marker, originate call to idle line on line link frame.	Register scored. Line link frame load register did not score.
6b	On installations after Issue 17D of SD-25317-01— At terminating trouble indicator frame— Using made-busy marker, originate call to idle line on line link frame.	Register scored. Line link frame load register scored.
7	Repeat Steps 3, 4, and 5a or 6b until each LL_ relay has been blocked operated at least once.	

STEP	ACTION	VERIFICATION
8	At made-busy marker— Remove blocking tool from an operated LL_ relay and block nonoperated LL_ relay.	
9	At terminating trouble indicator frame— Using made-busy marker, originate call to idle line on line link frame.	Register did not score.
10	Repeat Step 9 until each LL_ relay has been blocked nonoperated at least once with the required number of LL_ relays blocked operated.	
11	▶At made-busy marker—◀ Remove blocking tools from LL_ relays.	
12	▶At terminating trouble indicator frame—◀ Remove make-busy plug from DB jack.	
13	Repeat Steps 2 through 12 for each terminating marker. *Note:* On subsequent line link frames, it will not be necessary to perform Steps 7 and 10 since marker functions will be checked in testing first line link frame.	
14	▶At register cabinet—◀ Restore LK key.	

DURATION AND DELAY REGISTERS

EA. Line Link Controller Delay Register

1	At line link frame— Insert make-busy plugs into SS0-7 jacks.	
2	Block nonoperated G8, G9 relays.	
3	Using 1014A handset, originate call on spare vertical unit.	After 1.5 to 2 seconds— RL relay operated and call restarted. Register scored every 1.5 to 2 seconds.
4	Disconnect call.	
5	Momentarily remove make-busy plug from one SS jack.	At register relay circuit— Relays restored to normal.
6	At register relay circuit— Block nonoperated N relay.	
7	At line link frame— Originate call.	At register relay circuit— W, Z, N1 relays operated.

STEP	ACTION	VERIFICATION
8	At line link frame— Momentarily remove make-busy plug from one SS jack.	At register relay circuit— W, Z, N1 relays released. At line link frame— Dial tone heard.
9	Disconnect call.	
10	At register relay circuit— Remove blocking tool from N relay.	
11	At line link frame— Block operated TRL relay.	
12	Originate call.	After 1.5 to 2 seconds— RL relay did not operate. Register scored.
13	Momentarily remove make-busy plug from one SS jack.	At register relay circuit— Relays restored to normal.
14	Disconnect call.	
15	Remove blocking tool from TRL relay.	
16	Insert make-busy plug into EB jack.	
17	Repeat Steps 3 through 16. ***Note:*** The RL, G8, G9 relays refer to the RL, G8, G9 relays in mate circuit.	
18	Remove make-busy plugs from SS0-7, EB jacks.	
19	Remove blocking tools from G8, G9 relays.	
20	Disconnect handset.	

EB. Intertoll Trunk Group Elapsed Time and Group-Busy Time Duration Registers

1	At register cabinet— Operate group-busy time control key.	ET register scored at rate of ten registrations per minute.

Rapid Test of GBT Registers

2	Insert 258C plug into TST jack.	GBT, ET registers scored in unison at rate of ten registrations per minute.
3	Remove plug from TST jack.	

STEP	ACTION	VERIFICATION
	Regular Test of GBT Registers	
	Note: When making following tests, make busy trunks at toll switchboard using switchboard or make-busy cords.	
	Intertoll Trunk Group Consisting of Terminal, Via, or Common Trunks	
4	Make busy all except one trunk of group.	
5	Make busy remaining trunk of group.	Group GBT, ET registers scored in unison at rate of ten registrations per minute.
6	Repeat Steps 4, 5 until each trunk of group has been selected as remaining trunk to be made busy.	
7	Remove busy condition from trunks.	
	Intertoll Trunk Group Consisting of Terminal and Common or Via and Common Trunks	
8	Make busy all except one trunk of terminal or via subgroup.	
9	Make busy remaining trunk of this subgroup.	Subgroup GBT, ET registers scored in unison at rate of ten registrations per minute.
10	Repeat Steps 8, 9 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
11	Make busy all except one trunk of common subgroup.	
12	Make busy remaining trunk of this subgroup.	Both subgroup GBT, group GBT, ET registers scored in unison at rate of ten registrations per minute.
13	Repeat Steps 11, 12 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
14	Remove busy condition from trunks.	
	Intertoll Group Consisting of Terminal and Via Trunks	
15	Make busy all except one trunk of terminal subgroup.	

STEP	ACTION	VERIFICATION
16	Make busy remaining trunk of this subgroup.	Subgroup GBT, ET registers scored in unison at rate of ten registrations per minute.
17	Repeat Steps 15, 16 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
18	Make busy all except one trunk of via subgroup.	
19	Make busy remaining trunk of this subgroup.	Both subgroup GBT, ET registers scored in unison at rate of ten registrations per minute.
20	Repeat Steps 18, 19 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
21	Remove busy condition from trunks.	
Intertoll Trunk Group Consisting of Terminal, Via, and Common Trunks		
22	Make busy all except one trunk of terminal subgroup.	
23	Make busy remaining trunk of this subgroup.	Subgroup GBT, ET registers scored in unison at rate of ten registrations per minute.
24	Repeat Steps 22, 23 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
25	Make busy all except one trunk of common subgroup.	
26	Make busy remaining trunk of this subgroup.	Both subgroup GBT, first group GBT, and ET registers scored in unison at rate of ten registrations per minute.
27	Repeat Steps 25, 26 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
28	Remove busy condition from terminal subgroup of trunks.	
29	Make busy all except one trunk of via subgroup.	
30	Make busy remaining trunk of this subgroup.	Both subgroup GBT, second group GBT, and ET registers scored in unison at rate of ten registrations per minute.

STEP	ACTION	VERIFICATION
31	Repeat Steps 29, 30 until each trunk in this subgroup has been selected as remaining trunk to be made busy.	
32	Remove busy condition from all trunks.	
33	At register cabinet— Restore group-busy time control key.	
EC.	**Intertoll Trunk Group Arranged for Relay Chain Circuit (Idle Trunk Indicating)**	
1	At register cabinet— Operate group-busy time control key.	ET register scored at rate of ten registrations per minute.
2	At toll switchboard— Make busy all except one trunk of group.	
3	Make busy remaining trunk of group.	Group GBT, ET registers scored in unison at rate of ten registrations per minute.
4	Repeat Steps 2, 3 until each trunk of group has been selected as remaining trunk to be made busy.	
5	Remove busy condition from trunks.	
6	Restore group-busy time control key.	
ED.	**Delayed Answer Register and Total Calls Register for Answering Time Recorder**	
1	At answering time recorder circuit— Restore TR key.	KP lamp extinguished.
2	Insert one plug of P3E cord into TI jack.	BY lamp lighted when recorder is busy.
3	After BY lamp is extinguished— Insert other plug of P3E cord into any one of TST jacks.	
4	Insert 258C plugs into all other TST jacks.	
5	Operate T1 key.	BY lamp lighted. In 3 to 39 seconds— BY lamp extinguished. TC, DA registers scored.
6	Restore T1 key.	
7	Operate T1 key for about 1 second, then release.	TC register scored. DA register did not score.

STEP	ACTION	VERIFICATION
8	Operate BG key if it is normal, or restore key to normal if it is operated.	
9	Operate T1 key for about 1 second, then release.	TC, DA registers did not score.
10	Repeat Steps 7, 8, 9 with plug of P3E cord inserted, in turn, into each TST jack with 258C plugs in all other TST jacks.	
11	Restore TR key to position it was in at start of test.	
12	Remove all cords and plugs.	
13	Restore BG key to position it was in at start of test.	