COMPLETING MARKERS
TESTS USING OFFICE TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers a method of testing completing markers, using the office test frame in No. 5 crossbar offices.

1.02 The tests covered are:

A. Trunk Link Frame Preference and Lockout Feature: This test checks the trunk link frame selecting feature of the marker.

B. Two-step Allotter Feature — More Than 20 Trunks on a Trunk Link Frame for a Particular Route: This test checks that the marker alternates selection of allotted trunk groups on successive calls. It also checks that, if all the trunks of one group are busy, the marker will select a trunk in the other group regardless of the setting of the 2-step allotter.

C. Failure-to-Match Feature Using Allotted Intraoffice Trunks: This test checks that the marker recycles after a failure to match, on calls using allotted intraoffice trunks.

D. Failure-to-Match Feature Using Nonallotted Intraoffice Trunks: This test checks that the marker recycles after a failure to match, on calls using nonallotted intraoffice trunks.

E. Failure-to-Match Feature Using Outgoing Trunks: This test checks that the marker recycles after a failure to match on calls using outgoing trunks.

F. Failure-to-Match Feature Using Incoming Trunks: This test checks that the marker recycles after a failure to match on calls using incoming trunks.

G. Junctor Subgroup Selection Feature: This test checks the operation of the junctor subgroup sequence (JSQ0-5) and step position (STP1-2) relays.

H. Channel Preference Feature: This test checks the preference and selection of a channel by the marker.

I. Reverting Call Feature: This test checks that the marker completes a call to a called customer on the same line as the calling customer.

J. False Cross and Ground Test Feature — FCG Relay: This test checks the marker false cross and ground test feature. It also checks that the marker cancels this test on calls from PBX customers and under heavy traffic conditions.

K. Continuity Test Feature — GT Relay Operate and Release Feature: This test checks the linkage continuity test feature of the marker and the operate and release of the GT (ground test) relay.

L. Called Line Ground Test Feature — GT Relay Hold Test: This test checks the called line ground test feature under worst operating conditions.

M. Plug-up Feature — Non-PBX Line: This test checks that the marker recognizes a non-PBX line placed on plug-up service.

N. Plug-up Feature — PBX Line: This test checks that the marker recognizes a PBX line placed on plug-up service.

O. Nonallotted PBX Group Preference Feature: This test checks that the marker hunts for an idle line when all the PBX lines are within one tens block.

P. PBX Group — End of Block Hunting Feature: This test checks that the marker hunts for an idle line in a subsequent tens block when all the lines in the first tens block are found busy.

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Q. Outgoing Sender Preference and Lockout Feature: This test checks the sender selection feature of the marker.

R. No-test Feature — Special Markers: This test checks that the marker no-test feature, with or without message register potential detection, functions properly under a called line busy condition.

S. Special Hunt (Nontest) Feature — Special Markers: This test checks that the marker recognizes a special hunt call and establishes the connection on a special hunt basis. A special hunt call is also known as a regular test call.

T. Reorder Feature: This test checks that the marker sets up reorder in the trunk when requested to do so by the incoming register.

U. Incoming Register DCK and Link Release Feature: This test checks that the marker sets the incoming trunk to overflow when signaled by an incoming register that there is a double connection on the incoming register link. This test also checks the link release feature and that trouble indications will be cancelled when the CLRR key is operated.

V. Free Number Feature: This test checks that the marker recognizes a call to a free number.

W. Permanent Signal Feature: This test checks that the marker recognizes a permanent signal condition from the originating register and routes the customer to a permanent signal holding trunk or common overflow trunk.

X. Partial Dial Feature: This test checks that the marker recognizes a partial dial condition from the originating register and routes the customer to a tone or special service trunk.

Y. Permanent Overflow Feature: This test checks that the marker terminates a call for a number arranged to return overflow indication.

Z. Trunk Coin Return Feature: This test checks that the marker recognizes a coin class of call to a route that requires the coin to be returned by the trunk circuit.

AA. Party Check: This test checks call party check and blocking on mismatches.

AB. Service Observing AMA Feature: This test checks that the marker recognizes a calling line that is on service observing.

AC. Route Advance Feature — Originating Route: This test checks that the marker functions properly for route advance from originating route.

AD. Route Advance Feature — Tandem Route: This test checks that the marker functions properly for route advance from tandem route.

AE. Transfer of Start Lead Feature: This test checks that the marker recognizes a transfer of marker start lead within a marker connector.

AF. Blank and Unequipped Number Feature: This test checks that the marker reroutes and terminates calls requiring blank number or intercept routes.

AG. Number Series Discrimination or Office Discrimination (Physical, Theoretical, and Extheo): This test checks that the marker recognizes an incorrect combination of office code and numericals and routes the customer to an intercept trunk.

AH. Line Busy Test Feature: This test checks that the marker recognizes a busy line.

AI. Nonallotted PBX Recycle Feature: This test checks that the marker recycles when it finds a nonallotted PBX line busy at the line link frame, and that the marker again attempts to locate another idle line in the number group. If successful in locating an idle line, the marker completes the call to that line. If it does not find an idle line for intraoffice calls, it causes a route advance to a tone trunk.

AJ. Service Call Feature: This test checks that the marker handles service and directing codes requiring special operations.

AK. Intraoffice Call Feature: This test checks the marker route relay cross connections for intraoffice codes.

AL. Subscriber Outgoing Call Feature: This test checks the marker route relay cross connections for outgoing and junctor routes.

AM. Subscriber Class Screening Features: This test checks the marker screening features.

AN. Incoming Call Feature: This test checks the marker ability to complete incoming calls.

AO. Station Ringer Test Feature: This test checks the marker route relay cross connections for station ringer test code.

AP. Heavy Traffic Timing Feature: This test checks that the marker recognizes a heavy traffic condition.

AQ. Timing Features: This test checks that the marker timing circuits are functioning.

AR. Vacant Code Feature: This test checks that the marker recognizes a vacant code.

AS. Sender Group Release Feature: This test checks that the marker functions with the sender group release circuit.

AT. Dual Voltage Hold Magnet Operation Feature: This test checks hold magnet operation by the marker.

AU. Diverted Route Feature: This test checks the marker route relay cross connections for diverted routes.

1.03 Tests R and S require action and verification at the local test desk.

1.04 In Test B it is necessary to make all trunks on one trunk link frame in an allotted group busy.

1.05 In Test R it is necessary to make 9 junctor switches busy on a line link frame.

1.06 In Test AC it is necessary to make all tone and overflow trunks on one trunk link frame busy.

1.07 In Test W it is necessary to make all permanent signal holding trunks busy.

1.08 *Lettered Steps:* A letter a, b, c, etc, added to 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 a series of steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.09 During Tests C and D the originating matching loss register will score. During Test F the incoming matching loss register will score. During Test AC the overflow register associated with the trunk group being tested will score. The reporting of these register operations should be in accordance with local instructions.

2. APPARATUS

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

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

2.03 KS-3008 Stop Watch, or equivalent.

2.04 32A Test Set.

2.05 420J diode.

Note: Polarity of diode is indicated on the body of the diode thus —

2.06 1011G dial hand test set (handset, equipped with a 3W8A cord assembly con-

sisting of a W3AA cord, 471A jack, 351A plug and KS-8010 switch.

2.07 1011G dial hand test set (handset) equipped with a 2W38A cord assembly, consisting of a W2CK cord, 471A jack, and a 310 plug.

2.08 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), as required (use with tools specified in 2.09 through 2.13).

2.09 624A (terminal connector) tools (used for making test connection to winding terminals of wire-spring-relays), as required.

2.10 419A (test connector) tools (used for making test connection to the rear make or break contact terminals of wire-spring type relays), as required.

2.11 KS-6278 connecting clips (used for making connection to battery and ground terminals and diodes), as required.

2.12 651D (relay contact connector holder) tools (used for holding relay contact connector tools when making test connections to fixed contacts of wire-spring-relays), as required.

2.13 639A (relay contact connector) tools (used in conjunction with 651D tools), as required.

2.14 Patching cord, P3E cord, 8 feet long, equipped with two 310 plugs (3P6E cord) (used for patching from ITT jack to T jack of incoming trunk).

2.15 Patching cord, W3M cord, 15 feet long equipped with one 320 plug and three 360 tools (3W4B cord) and one KS-6248 connecting clip (used to connect SP jack to unit terminal strip).

2.16 Patching cord, P3D cord, 6 feet long, equipped with two 309 plugs (3P3A cord) (used for patching from MB1 and MB2 jack fields), as required.

2.17 Patching cord, P3AC, 7 feet long, equipped with one 351A plug and one 324B plug (3P34A cord) (used for patching from service observing jack to line vertical).

2.18 Surge tester (made up locally). Use a G.E. NE-5 lamp, or equivalent, inserted into a 47B lamp socket. Solder one terminal of the jack to a 10,000 ohm 1/4 watt radio type resistor.

Note: The NE-5 lamp will break down between 120 to 150 volts and sustain between 60 to 80 volts.

2.19 68,000 ohm 1/4 watt radio type resistor, obtain locally.

2.20 141,000 ohm 1/4 watt radio type resistor, obtain locally.

2.21 173,000 ohm 1/4 watt radio type resistor, obtain locally.

2.22 7,570 ohm 1/4 watt radio type resistor, obtain locally.

2.23 11,300 ohm 1/4 watt radio type resistor, obtain locally.

2.24 164 ohm 1/4 watt radio type resistor, obtain locally.

TABLE A

APPARATUS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU
Office Test Frame (OTF)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
322A (make-busy) Plug	√	√	√	√	√	√	√	√		√	√	√	√				√	√	√	√	√		√	√						√											√	√		√	√	
349A (make-busy) Plug						√												√																														
329A (make-busy) Plug							√	√							√	√																																	
351C (make-busy) Plug																																	√	√													
Tool (2.02)		√	√	√	√	√		√		√	√	√			√		√										√			√											√	√		√		
Stop Watch (2.03)																				1			1	1																			1	1				
Test Set (2.04)	1	1	1	1	1	1	1																																			1	1		1	1	
Diode (2.05)			√	√	√		√				√				√																																
Test Set (2.06)																		1	1																														
Test Set (2.07)																				1																													
Cord (2.08)			√	√	√		√			√	√	√	√	√	√						√						√			√											√				√	
Tool (2.09)			√	√	√		√				√			√	√						√																									
Tool (2.10)											√	√	√														√			√																	
Tool (2.11)			√	√	√		√			√	√	√	√		√												√			√														√		
Tool (2.12)									√																																				√		
Tool (2.13)									√																																				√		
Cord (2.14)						2															1	2		2				2			2	2	2					2			2					
Cord (2.15)						1																1		1				1			1	1	1					1			1					
Cord (2.16)																					√						√	√																		
Cord (2.17)																										1																					
Surge Tester (2.18)																																													√		
Resistor (2.19)									1																																					
Resistor (2.20)											1																																			
Resistor (2.21)											1																																			
Resistor (2.22)												1																																		
Resistor (2.23)												1																																		
Resistor (2.24)													1																																	

√ as required.

3. PREPARATION

STEP	ACTION	VERIFICATION
	Tests A through Q and U through AU	
1	At OTF — Restore all keys.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Trunk Link Frame Preference and Lockout Feature	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records the intraoffice route that has at least one idle trunk on each trunk link frame.	
4	At OTF — Operate OTL, 7D, and MCB keys.	
5	Operate CL- key depending on class of service of route selected.	
6	Operate A- through G- DIAL switches to select intraoffice code and any test line number.	
7	Operate MKR- key for marker under test.	
8	At marker — Insert plug of 32A test set into RC jack.	
9	Observe setting of FM- and FMG- relays.	
10	Operate white key on 32A test set momentarily.	At marker — With intraoffice trunks available on all trunk link frames, then starting with FMG- and FM- relays operated corresponding to the highest number trunk link frame, FS- relays operate in this order — FS0, FS2, FS4, etc, corresponding to even numbered trunk link frames provided, then FS1, FS3, etc, corresponding to the odd numbered trunk link frames provided. *Note:* If FMG- and FM- relays are not operated corresponding to the highest trunk link frame provided, operate red key on 32A test set momentarily. Repeat this step until these relays are operated.

STEP	ACTION	VERIFICATION
11	Operate red key on 32A test set momentarily.	
12	Repeat Steps 10 and 11 until all FS- relays have been operated for equipped trunk link frames.	Observe proper sequence of FS- relays.
13	Remove 32A test set from RC jack.	
14	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

B. Two-step Allotter Feature — More Than 20 Trunks on a Trunk Link Frame for a Particular Route

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a route having allotted groups.	
4	At OTF — Operate OTL, 7D, MCB, and REC keys.	
5	Operate CL- key depending on class of service of route selected.	
6	Operate A- through G- DIAL switches to select allotted route and any test line number.	
7	Operate MKR- key for marker under test.	
8	At marker — Insert plug of 32A test set into RC jack.	
9	Operate white key on 32A test set momentarily.	At marker — GPA relay operates. *Note:* If GPA relay does not operate, repeat Steps 9 and 10.
10	Operate red key on 32A test set momentarily.	
11	Repeat Steps 9 and 10.	GPB relay operates.
12	At OTF — Operate FS- key to select any trunk link frame having trunks in groups A and B.	

STEP	ACTION	VERIFICATION
13	At marker — Block nonoperated all equipped FTC- relays except FTC- relay associated with trunk link frame selected in Step 12.	
14a	If trunks selected appear on jack, lamp and key circuit — Insert make-busy plugs in MB jacks of all trunks assigned to group A.	
15b	If trunks selected have make-busy switches on relay rack — Operate MB switches of all trunks assigned to group A.	
16	At OTF — Operate ST key.	At TIC bay — Display registered. Trunk location FS-, LC-, LV-, FAK or FBK lamps light for trunk in group B.
17	Restore ST key.	
18	At TIC bay — Operate RLS key momentarily.	Display released.
19a	If trunks selected appear at jack, lamp and key circuit — Remove all make-busy plugs from trunks assigned in group A.	
20b	If trunks selected have make-busy switches on relay rack — Restore all MB switches for trunks assigned in group A.	
21	At marker — Operate white key on 32A test set momentarily.	At marker — GPB relay operates. *Note:* If GPB relay does not operate repeat Steps 21 and 22.
22	Operate red key on 32A test set momentarily.	
23	Repeat Steps 14a through 20b, as required making busy trunks in group B.	At TIC bay — Display registered. Trunk location FS-, LC-, LV-, FAK or FBK lamps light for trunk in group A.
24	At marker — Remove 32A test set from RC jack.	

STEP	ACTION	VERIFICATION
25	Remove blocking tools from FTC- relays.	
26	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
27a	If trunks selected appear at jack, lamp and key circuit — Remove all make-busy plugs from trunks assigned in group B.	
28b	If trunks selected have make-busy switches on relay rack — Restore all MB switches for trunks assigned in group B.	
	C. Failure-to-Match Feature Using Allotted Intraoffice Trunks	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a trunk link frame having allotted intraoffice trunks in groups A and B and a tone trunk.	
4	At OTF — Operate FS- key for selected trunk link frame.	
5	Operate OTL, 7D, and MCB keys.	
6	Operate CL- key depending on class of service of trunks selected.	
7	Operate A- through G- DIAL switches for intraoffice route and any test line number that terminates on same line link frame as originating test line.	
8	Operate MKR- key for marker under test.	
9	At marker — Insert plug of 32A test set into RC jack.	
10	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
11	Block nonoperated JSQ1, JSO, and SQA relays. *Note:* This will force marker into sequence 0 (JSQ0) at all times.	

STEP	ACTION	VERIFICATION
12	Block nonoperated TCH0 through TCH8 relays.	
13	Connect positive side of diode to upper winding terminal of STP1 relay and negative side to upper winding terminal of STP relay.	
14	Operate white key on 32A test set momentarily.	At marker — GPA, GPB, and RAV1 relays operate momentarily. At OTF — Overflow tone heard.
15	Operate red key on 32A test set momentarily.	Tone removed.
16	Connect positive side of another diode to upper winding terminal of STP2 relay and negative side to lower terminal of J9 resistor. *Note:* This connection makes channel 9 appear busy in step position 2.	
17	Operate white key on 32A test set momentarily.	At marker — GPA, GPB, RAV1 and RBT relays operate momentarily. At OTF — Overflow tone heard. *Note:* Above tone set up by originating register.
18	Operate red key on 32A test set momentarily.	Tone removed.
19	Remove diodes from STP, STP1, STP2 relays and J9 resistor.	
20	Remove blocking tools from JSQ1, JSO, SQA, and TCH- relays.	
21	Remove 32A test set from RC jack.	
22	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

STEP	ACTION	VERIFICATION
	D. Failure-to-Match Feature Using Nonallotted Intraoffice Trunks	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a trunk link frame having an intraoffice trunk and a tone trunk.	
4	At OTF — Operate FS- key for selected trunk link frame.	
5	Operate OTL, 7D, and MCB keys.	
6	Operate CL- key depending on class of service of trunk selected.	
7	Operate A- through G- DIAL switches for intraoffice route and any test line number that terminates on same line link frame as originating test line.	
8	Operate MKR- key for marker under test.	
9	At marker — Insert plug of 32A test set into RC jack.	
10	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
11	Block nonoperated JSQ1, JSO, and SQA relays. *Note:* This will force marker into sequence 0 (JSQ0) at all times.	
12	Block nonoperated TCH0 through TCH8 relays.	
13	Connect positive side of diode to upper winding terminal of STP1 relay and negative side to upper winding terminal of STP relay.	
14	Operate white key on 32A test set momentarily.	At marker — FM, 1FA, 2FA, and RAV1 relays operate momentarily. At OTF — Overflow tone heard.

STEP	ACTION	VERIFICATION
15	Operate red key on 32A test set momentarily.	Tone removed.
16	Connect positive side of another diode to upper winding terminal of STP2 relay and negative side to lower terminal of J9 resistor. *Note:* This connection makes channel 9 appear busy in step position 2.	
17	Operate white key on 32A test set momentarily.	At marker — RBT relay operates momentarily. At OTF — Overflow tone heard. *Note:* Above tone set up by originating register.
18	Operate red key on 32A test set momentarily.	Tone removed.
19	Remove diodes from STP, STP1, STP2 relays and J9 resistor.	
20	Remove blocking tools from JSQ1, JSO, SQA and TCH- relays.	
21	Remove 32A test set from RC jack.	
22	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	E. Failure-to-Match Feature Using Outgoing Trunks	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a trunk link frame having an outgoing trunk with no alternate routes and a tone trunk. Record ground supply of outgoing trunk route.	
4	At OTF — Operate FS- key for selected trunk link frame.	
5	Operate OTL, 7D and MCB keys.	

STEP	ACTION	VERIFICATION
6	Operate CL- key depending on class of service of trunks selected.	
7	Operate A- through G- DIAL switches for outgoing trunk route and any test number.	
8	Operate MKR- key for marker under test.	
9	At marker — Insert plug of 32A test set into RC jack.	
10	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
11	Block nonoperated JSQ1, JSO, and SQA relays. *Note:* This will force marker into sequence 0 (JSQ0) at all times.	
12	Block nonoperated TCH0 through TCH8 relays.	
13	Connect positive side of diode to upper winding terminal of STP1 relay and negative side to upper winding terminal of STP relay.	
14	Connect positive side of another diode to upper winding terminal of STP2 relay and negative side to lower terminal of J9 resistor.	
15	Connect the positive side of another diode to upper winding terminal of GS- relay associated with outgoing trunks ground supply number as determined in Step 3. Connect the negative side to lower terminal of T9 resistor.	
16	Operate white key on 32A test set.	At marker — FM, 1FA, 2FA, RAV1, RBT relays operate momentarily. At OTF — Overflow tone heard. *Note:* Above tone set up by originating register.
17	Operate red button on 32A test set.	Tone removed.

STEP	ACTION	VERIFICATION
15	Operate red key on 32A test set momentarily.	Tone removed.
16	Connect positive side of another diode to upper winding terminal of STP2 relay and negative side to lower terminal of J9 resistor. *Note:* This connection makes channel 9 appear busy in step position 2.	
17	Operate white key on 32A test set momentarily.	At marker — RBT relay operates momentarily. At OTF — Overflow tone heard. *Note:* Above tone set up by originating register.
18	Operate red key on 32A test set momentarily.	Tone removed.
19	Remove diodes from STP, STP1, STP2 relays and J9 resistor.	
20	Remove blocking tools from JSQ1, JSO, SQA and TCH- relays.	
21	Remove 32A test set from RC jack.	
22	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	E. Failure-to-Match Feature Using Outgoing Trunks	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a trunk link frame having an outgoing trunk with no alternate routes and a tone trunk. Record ground supply of outgoing trunk route.	
4	At OTF — Operate FS- key for selected trunk link frame.	
5	Operate OTL, 7D and MCB keys.	

STEP	ACTION	VERIFICATION
6	Operate CL- key depending on class of service of trunks selected.	
7	Operate A- through G- DIAL switches for outgoing trunk route and any test number.	
8	Operate MKR- key for marker under test.	
9	At marker — Insert plug of 32A test set into RC jack.	
10	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
11	Block nonoperated JSQ1, JSO, and SQA relays. *Note:* This will force marker into sequence 0 (JSQ0) at all times.	
12	Block nonoperated TCH0 through TCH8 relays.	
13	Connect positive side of diode to upper winding terminal of STP1 relay and negative side to upper winding terminal of STP relay.	
14	Connect positive side of another diode to upper winding terminal of STP2 relay and negative side to lower terminal of J9 resistor.	
15	Connect the positive side of another diode to upper winding terminal of GS- relay associated with outgoing trunks ground supply number as determined in Step 3. Connect the negative side to lower terminal of T9 resistor.	
16	Operate white key on 32A test set.	At marker — FM, 1FA, 2FA, RAV1, RBT relays operate momentarily. At OTF — Overflow tone heard. *Note:* Above tone set up by originating register.
17	Operate red button on 32A test set.	Tone removed.

STEP	ACTION	VERIFICATION
18	Remove diodes from STP, STP1, STP2, GS-relays and J9, and T9 resistors.	
19	Remove blocking tools from JSQ1, JSO, SQA and TCH- relays.	
20	Remove 32A test set from RC jack.	
21	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

F. Failure-to-Match Feature Using Incoming Trunks

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records an incoming DP or MF trunk and have made busy at distant office.	
4	At relay rack — Patch from ITT jack to T jack of trunk selected.	
5	At OTF — Operate ITT, ITT1, MCB keys and MKR-key for marker under test.	
6a	If trunk selected is MF — Operate MF key.	
7b	If trunk selected has short conductor loop — Operate SLP key.	
8c	If trunk selected is by-link — Operate BL key.	
9c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
10c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
11d	If trunk selected does not require dial start signal — At OTF — Operate ONHK key.	

STEP	ACTION	VERIFICATION
12e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
13	At OTF — Operate A- through G- DIAL switches, as required, to select any test line number.	
14	Operate -D key depending on incoming class of trunk selected.	
15	At trunk link frame of selected incoming trunk — Insert make-busy plug into JS9 jack.	
16	At marker — Insert plug of 32A test set into RC jack.	
17	Block nonoperated TCH0 through TCH8 relays.	
18	Operate white key on 32A test set momentarily.	At marker — FM and PM0 relays operate momentarily. At OTF — Overflow tone heard.
19	Operate red key on 32A test set momentarily.	Tone removed.
20	Remove blocking tools from TCH- relays.	
21	Remove 32A test set from RC jack.	
22	At trunk link frame of selected incoming trunk — Remove make-busy plug from JS9 jack.	
23	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
24c	If trunk selected is by-link — Remove patching cord from SP and TM jacks.	
25	At relay rack — Remove patching cords from ITT, T, and SP jacks and from unit terminal strip.	
26	Have trunk restored to service at distant office.	

STEP	ACTION	VERIFICATION

G. Junctor Subgroup Selection Feature

2 At jack, lamp and key circuit —
Insert make-busy plug into M-C-MB jack of marker under test.

3 Select from office records an outgoing trunk.

4 At jack, lamp and key circuit —
Insert make-busy plug into OGT-MB jack of trunk selected.

5 At OTF —
Operate FS- key corresponding to trunk link frame number of selected trunk.

6 Insert make-busy plug into TS- jack for selected trunk.

7 Operate OTL, 7D, NT, and MCB keys.

8 Operate CL- key depending on class of service of route selected.

9 Operate A- through G- DIAL switches for outgoing trunk route and any test line number in called office.

10 Operate MKR- key for marker under test.

11 At marker —
Insert plug of 32A test set into RC jack.

TABLE B — JUNCTOR SUBGROUP SELECTED

NUMBER OF TRUNK LINK FRAMES	JUNCTOR STEP POSITION (STP1 or STP2)	JUNCTOR SEQUENCE (JSQ-)					
		0	1	2	3	4	5
2	1	JG0	JG1	JG2	JG0	JG1	JG2
2	2	JG3	JG4	JG3	JG4	JG3	JG4
3	1	JG0	JG1	JG2	JG0	JG1	JG2
3	2	JG3	JG3	JG3	JG3	JG3	JG3
4	1	JG0	JG1	JG0	JG1	JG0	JG1
4	2	JG2	JG2	JG2	JG2	JG2	JG2
5	1	JG0	JG1	JG0	JG1	JG0	JG1
5	2	JG1	JG0	JG1	JG0	JG1	JG0

STEP	ACTION	VERIFICATION
12	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
13	Operate white key on 32A test set momentarily.	At marker — JG- relay operates for operated JSQ- in step position one (STP1) shown in Table B. At OTF — Call completes to distant office test line.
14	Operate red key on 32A test set momentarily.	Connection releases.
15	Repeat Steps 13 and 14 five times.	JG- relays operate in sequence as shown in Table B.
16	Connect positive side of diode to upper winding terminal of STP1 relay and negative side to upper winding terminal of STP relay.	
17	Operate white key on 32A test set momentarily.	At marker — JG- relay operates for operated JSQ- in step position two (STP2) shown in Table B. At OTF — Call completes to distant office test line.
18	Operate red key on 32A test set momentarily.	Connection releases.
19	Repeat Steps 17 and 18 five times.	JG- relays operate in sequence as shown in Table B.
20	Remove 32A test set from RC jack.	
21	Remove diode from STP1 and STP relays.	
22	At jack, lamp and key circuit — Remove make-busy plugs from M-C-MB and OGT-MB jacks.	
23	At OTF — Remove make-busy plug from TS- jack.	

H. Channel Preference Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records an outgoing trunk.	

STEP	ACTION	VERIFICATION
4	At jack, lamp and key circuit — Insert make-busy plug into OGT-MB jack of trunk selected.	
5	At OTF — Operate FS- key corresponding to trunk link frame number of selected trunk.	
6	Insert make-busy plug into TS- jack for selected trunk.	
7	Operate OTL, 7D, NT, and MCB keys.	
8	Operate CL- key depending on class of service of route selected.	
9	Operate A- through G- DIAL switches for outgoing trunk route and any test line number in called office.	
10	Operate MKR- key for marker under test.	
11	Operate REC key.	
12	At marker — Advance junctor sequence circuit by operating JSQ- relays until JSQ0 operates.	
13	Block nonoperated JSQ1, JSO and SQA relays. *Note:* This will force marker into sequence 0 (JSQ0) at all times.	
14	At OTF — Operate ST key.	At TIC bay — Display registered. CH- lamp of most preferred idle channel for first trial lights.
15	Restore ST key.	
16	At TIC bay — Operate RLS key momentarily.	Display released.
17	At marker — Block operated TCH- relay associated with CH- lamp in Step 14.	
18	Repeat Steps 14 through 17 until the least preferred channel has been selected.	Display registered. CH- lamp of next preferred idle channel for first trial lights.

STEP	ACTION	VERIFICATION
19	Remove blocking tools from all TCH- relays.	
20	Block operated TR2A relay.	
21	Block nonoperated XTRK relay.	
22	At OTF — Operate ST key.	Display registered. CH- lamp of most preferred idle channel for second trial lights.
23	Restore ST key.	
24	At TIC bay — Operate RLS key momentarily.	Display released.
25	At marker — Block operated TCH- relay associated with CH- lamp in Step 22.	
26	Repeat Steps 22 through 25 until the least preferred channel has been selected.	Display registered. CH- lamp of next preferred idle channel for second trial lights.
27	At marker — Remove blocking tools from TCH-, JSQ1, TR2A, JSO, SQA and XTRK relays.	
28	At jack, lamp and key circuit — Remove make-busy plugs from M-C-MB and OGT-MB jacks.	
29	At OTF — Remove make-busy plug from TS- jack.	

I. Reverting Call Feature

2	At OTF — Operate OTL, 7D and MCB keys, and GPA or GPB key as required.	
3	Operate A- through G- DIAL switches to select intraoffice code and originating test line (OTL) number.	
4	Operate MKR- key for marker under test.	
Reverting Trunks Provided		
5	Operate CL- key to select flat rate two-party class of service.	
6	Operate REC key.	

STEP	ACTION	VERIFICATION
7	Operate ST key.	At TIC bay — Display registered. DR-, RV, FS-, LC-, LV-, and FBK lamps light identifying reverting call trunk. At OTF — High tone or busy tone heard.
8	For approximately 2 seconds restore OTL key.	
9	Restore ST key.	Connection released.
10	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
	Special Service Operator Reverting Trunks Provided	
11	Operate TLK key.	
12	Operate CL- key to select message or flat rate two-party class of service.	
13	Operate ST key.	At switchboard — Operator answers reverting call trunk.
14	Restore ST key.	Connection released.

J. False Cross and Ground Test Feature — FCG Relay

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D, and MCB keys.	
4	Operate CL- key for class of service other than PBX.	
5	Operate A- through G- DIAL switches for a noncoin outgoing trunk route and any test line number in called office.	
6	Operate MKR- key for marker under test.	
7	At marker — Connect 68,000-ohm resistor between fixed contacts 10 and 11 of FAK relay.	
8	Operate ST key.	At TIC bay — Display registered. DR- and FCG lamps light.

STEP	ACTION	VERIFICATION
9	Restore ST key.	
10	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
11	At marker — Block operated HTR relay.	
12	At OTF — Operate ST key.	No display. Call completes to test line. *Note:* FCG test cancelled on heavy traffic.
13	Restore ST key.	Connection released.
14	At marker — Remove blocking tool from HTR relay.	
15	At OTF — Restore CL- key.	
16	Operate CL- key for PBX class of service.	
17	Operate ST key.	No display. Call completes to test line. *Note:* FCG test is cancelled with PBX class.
18	Restore ST key.	Connection released.
19	At marker — Remove resistor from FAK relay.	
20	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

K. Continuity Test Feature — GT Relay Operate and Release Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records an intraoffice trunk.	
4	At OTF — Operate OTL, 7D, and MCB keys.	
5	Operate CL- key depending on class of service of route selected.	

STEP	ACTION	VERIFICATION
6	Operate A- through G- DIAL switches to select intraoffice code and any test line number which is ring party.	
7	Operate MKR- key for marker under test.	
8	At marker — Insulate contacts 10M and 11M of FBK relay.	
9	At OTF — Operate ST key.	At TIC bay — Display registered. DR-, HMS1, and SL lamps light. CON lamp does not light. At OTF — Call completes to test line number.
10	Restore ST key.	Connection released.
11	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
12	At jack, lamp and key circuit — Operate CCT key.	
13	At OTF — Operate ST key.	No display. At OTF — Call completes to test line number. ***Note:*** CCT key operated cancels continuity test.
14	Restore ST key.	Connection released.
15	At jack, lamp and key circuit — Restore CCT key.	
16	At marker — Connect positive side of diode to upper winding terminal of OR relay and negative side to upper winding terminal of TR2 relay.	
17	Block nonoperated XTRK relay.	
18	At OTF — Operate ST key.	At TIC bay — No display. At OTF — Call completes to test line number. ***Note:*** Continuity test canceled during second trial.

STEP	ACTION	VERIFICATION
19	Restore ST key.	Connection released.
20	At marker — Remove blocking tool from XTRK relay.	
21	Remove diode from OR and TR2 relay.	
22	Remove insulator from 10M of FAK relay.	
23	At OTF — Operate ST key.	At TIC bay — No display. At OTF — Call completes to test line number.
24	Restore ST key.	Connection released.
25	Operate A- through G- DIAL switches to select intraoffice code and any test line number which is tip party.	
26	Operate ST key.	At TIC bay — Display registered. DR-, HMS1, and SL lamps light. CON lamp does not light. At OTF — Call completes to test line number.
27	Restore ST key.	Connection released.
28	At TIC bay — Operate RLS key momentarily. *Note:* Before proceeding with this test check that the ringing voltage is between 86 volts and 87 volts.	At TIC bay — Display released.
29	At marker — Insulate 10M contact of FBK relay.	
30	Connect 173,000 ohm resistor between contacts 10M and 11M of FBK relay.	
31	At OTF — Operate ST key.	Display registered. DR-, HMS1, and SL lamps light. CON lamp does not light. At OTF — Call completes to test line number. *Note:* This is a nonoperate test of CON test circuit.

STEP	ACTION	VERIFICATION
32	Restore ST key.	Connection released.
33	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
34	At marker — Remove resistor from FBK relay.	
35	Connect 141,000 ohm resistor between contacts 10M and 11M of FBK relay.	
36	At OTF — Operate ST key.	No display. At OTF — Call completes to test line number. ***Note:*** This is an operate test of CON test circuit.
37	Restore ST key —	Connection released.
38	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
39	At marker — Remove resistor from FBK relay.	
40	Remove insulators from FBK relay.	
41	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	L. Called Line Ground Test Feature — GT Relay Hold Test	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D, and MCB keys.	
4	Operate CL- key depending on class of service of route selected.	
5	Operate A- through G- DIAL switches to select intraoffice code and any test line number which is an individual line.	
6	Operate MKR- key for marker under test.	
7	At marker — Connect 7,570 ohm resistor from 12M contact of GT1 relay to ground.	

STEP	ACTION	VERIFICATION
8	Block nonoperated HTR relay.	
9	At OTF — Operate ST key and observe GTF plant register on TIC bay.	At TIC bay — GTF plant register scores twice. Display registered. DR-, 2TR, and GT5 lamps light. At OTF — Call completes to test line number. *Note:* Hold test for GT relay.
10	Restore ST key.	Connection released.
11	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
12	At jack, lamp and key circuit — Operate CGT key.	
13	At marker — Remove blocking tool from HTR relay.	
14	At OTF — Operate ST key.	No display. At OTF — Call completes to test line number. *Note:* CGT key operated cancels ground test.
15	Restore ST key.	Connection released.
16	At marker — Remove resistor from GT relay and ground.	
17	Connect 11,300 ohm resistor from 12M contact of GT1 relay to ground.	
18	At jack, lamp and key circuit — Restore CGT key.	
19	At OTF — Operate ST key.	At TIC bay — No display. At OTF — Call completes to test line number. *Note:* Release test GT relay.
20	Restore ST key.	Connection released.
21	Remove resistor from GT relay and ground	

STEP	ACTION	VERIFICATION
22	At OTF — Operate D- through G- DIAL switches to select any test line number which is a PBX line.	
23	At marker — Connect 7,500 ohm resistor between contacts 11M and 12M of GT1 relay.	
24	At OTF — Operate ST key and observe GTF plant register on TIC bay.	At TIC bay — Display registered. DR-, 2TR and GT5 lamps light. GTF plant register scores twice. At OTF — Call not completed to test line number. Overflow tone heard. ***Note:*** Hold test for GT relay (loop test).
25	Restore ST key.	Tone removed.
26	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
27	Operate CLPT key.	
28	At OTF — Operate ST key.	At TIC bay — No display. Call completes to test line number. ***Note:*** CLPT key operated cancels loop test.
29	Restore ST key.	Connection released.
30	At jack, lamp, and key circuit — Restore CLPT key.	
31	At marker — Remove resistor from GT1 relay.	
32	Connect 11,300 ohm resistor from 11M contact to 12M contact of GT1 relay.	
33	At OTF — Operate ST key.	At TIC bay — No display. At OTF — Call completes to test line number. ***Note:*** Release test of GT relay (loop test).
34	Restore ST key.	Connection released.

STEP	ACTION	VERIFICATION
35	At marker — Remove resistor from GT1 relay.	
36	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	M. Plug-up Feature — Non-PBX Line	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D, and MCB keys.	
4	Operate CL- key depending on class of service of route selected.	
5	Operate A- through G- DIAL switches to select intraoffice code and any test line number which is a non-PBX line.	
6	Operate MKR- key for marker under test.	
7	Operate TLK key.	
8	At horizontal MDF — Connect 164 ohm resistance battery to ring side of test line number selected in Step 5.	
9	Connect ground to tip side of test line number selected in Step 5.	
10	At OTF — Operate ST key.	At OTF — Call completes to trouble intercept trunk.
11	Restore ST key.	Connection released.
12	At horizontal MDF — Remove test connections from tip and ring of test line number.	
13	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	N. Plug-up Feature — PBX Line	
2	At OTF — Operate OTL, 7D, and MCB keys.	

STEP	ACTION	VERIFICATION
3	Operate CL- key depending on class of service of route selected.	
4	Select from office records an unassigned directory number.	
5	At OTF — Operate A- through G- DIAL switches to select intraoffice code and line number selected in Step 4.	
6	Operate MKR- key for marker under test.	
7	At number group frame — Connect L- punching of unassigned line number to any LL- punching.	
8	At OTF — Operate TLK key.	
9	Operate ST key.	Call completes to trouble intercept operator.
10	Restore ST key.	Connection released.
11	At number group — Remove connection from L-, and LL- punchings.	

O. Nonallotted PBX Group Preference Feature

2	Select from office records a nonallotted PBX group which has the largest number of lines in one tens block.	
3	At OTF — Operate OTL, 7D, and MCB keys.	
4	Operate CL- key depending on class of service of route selected.	
5	Operate CB and PBX2 keys.	
6	Operate A- through G- DIAL switches to select intraoffice code and lowest line number in selected nonallotted PBX group.	
7	Operate MKR- key for marker under test.	
8	Insert make-busy plugs into S- jacks corresponding to lowest and next higher units digit of nonallotted PBX group.	

STEP	ACTION	VERIFICATION
9	At OTF — Operate ST key.	At TIC bay — Display registered. DR-, FUT-, VGT-, HGT-, and VFT- lamps light for line location associated with lower units digit with plugs in S- jacks.
10	Restore ST key.	
11	At TIC bay — Operate RLS key momentarily.	Display released.
12	Remove make-busy plugs from S- jacks.	
13	Repeat Steps 8 through 12 applying reference to first and second units digits to two consecutive units digits (second and third, third and fourth, etc, as required) until last units digit of nonallotted PBX has been referred to as a second units digit.	Same as Step 9.
14	Insert make-busy plug into S- jack corresponding to highest unit digit on nonallotted PBX group.	
15	Repeat Steps 9 through 12 for highest unit digit.	Display registered. DR-, FUT-, VGT-, HGT-, and VFT- lamps light for line location associated with highest unit digit.
16	At marker frame — Connect positive side of diode to upper winding terminal of OR relay and negative side to upper winding terminal of TR2 relay.	
17	Block nonoperated XTRK relays.	
18	Repeat Steps 8 through 15 applying reverse order of reference to units digits and S- jacks, starting with highest and next lower units digit.	Display registered. DR-, FUT-, VGT-, HGT-, and VFT- lamps light for line location associated with higher units digit with plugs in S- jacks.
19	At marker — Remove diode from OR and TR2 relays.	
20	Remove blocking tool from XTRK relay.	
21	At OTF — Restore CB key.	
22	Remove make-busy plug from S- jack.	

STEP	ACTION	VERIFICATION
23a	If nonallotted PBX group has less than ten line numbers — At OTF — Insert make-busy plug into S- jack corresponding to any unit digit not associated with PBX group.	
24a	Operate ST key.	At OTF — Busy tone heard.
25a	Restore ST key.	Tone removed.
26a	Remove make-busy plug from S- jack.	

P. PBX Group — End of Block Hunting Feature

2	Select from office records a PBX group which has more than one tens block.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key depending on class of service of route selected.	
5	Operate CB and PBX2 keys.	
6	Operate A- through G- DIAL switches to select intraoffice code and highest line number in lower tens block.	
7	Operate MKR- key for marker under test.	
8	Insert make-busy plug into S- jack corresponding with unit digit of first line number of next higher tens block.	
9	At OTF — Operate ST key.	At TIC bay — Display registered. DR-, FUT-, VGT-, HTG- and VFT- lamps light for line location associated with first line number in next higher tens block.
10	Restore ST key.	
11	Remove make-busy plug from S- jack.	
12	At TIC bay — Operate RLS key momentarily.	Display released.

STEP	ACTION	VERIFICATION
13a	If PBX group has more than two tens blocks — Repeat Steps 6 through 12 for each additional tens block.	
	Q. Outgoing Sender Preference and Lockout Feature	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	Select from office records a nonallotted outgoing route having maximum number of senders available.	
4	At OTF — Operate OTL, 7D and MCB keys.	
5	Operate CL- key depending on class of service of route selected.	
6	Operate A- through G- DIAL switches for outgoing trunk route and any test line number.	
7	Operate MKR- key for marker under test.	
8	Operate REC key.	
9	Operate ST key.	At TIC bay — Display registered. DR-, SSA and OS- lamps light. *Note:* If SSB lamp lights repeat Steps 9 and 10.
10	Restore ST key.	
11	At TIC bay — Operate RLS key momentarily.	Display released.
12	At marker — Block operated SKA relay.	
13	Repeat Steps 9, 10 and 11.	Display registered. DR-, SSA and OS- lamps light.
14	At marker — Remove blocking tool from SKA relay.	
15	Block operated SKB relay.	

STEP	ACTION	VERIFICATION
16	Repeat Steps 9, 10 and 11.	Display registered. DR, SSB and OS- lamps light.
17	At marker — Remove blocking tool from SKB relay.	
18	Advance junctor sequence circuit by operating JSQ- relays until JSQ0 relay operates.	
19	Block operated SKA relay.	
20	Block nonoperated OS2, OS3 and OS4 relays.	
21	Operate ST key.	Display registered. DR-, SSA and OS0 lamps light. *Note:* Sender 0 must be idle.
22	Restore ST key.	
23	AT TIC bay — Operate RLS key momentarily.	Display released.
24	At marker — Remove blocking tool from OS2 relay.	
25	Block nonoperated OS0 relay.	
26	Repeat Steps 21, 22 and 23.	Display registered. DR-, SSA and OS1 lamps light. *Note:* Sender 1 must be idle.
27	At marker — Remove blocking tool from OS3 relay.	
28	Block nonoperated OS1 relay.	
29	Repeat Steps 21, 22 and 23.	Display registered. DR-, SSA and OS2 lamps light. *Note:* Sender 2 must be idle.
30	At marker — Remove blocking tool from OS4 relay.	
31	Block nonoperated OS2 relay.	

STEP	ACTION	VERIFICATION
32	Repeat Steps 21, 22 and 23.	Display registered. DR-, SSA and OS3 lamps light. *Note:* Sender 3 must be idle.
33	At marker — Block nonoperated OS3 relay.	
34	Repeat Steps 21, 22 and 23.	Display registered. DR-, SSA and OS4 lamps light. *Note:* Sender 4 must be idle.
35	At marker — Remove blocking tools from SKA and OS-relays.	
36	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

R. No-test Feature — Special Markers

1	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
2	Select from office records a test line number and determine line link location.	
3	At line link — Insert plug of handset into line switch vertical of test line.	
4	Operate TLK key on handset.	Dial tone heard.
5	Observe channel selected.	
6	At local test desk — Using no-test trunk originate a test call to test line number.	At local test desk — Dial tone heard. Talking path established. *Note:* If approximately 30 seconds have elapsed between Steps 4 and 6 permanent signal tone will replace the dial tone.
7	Release test connection.	Tone removed. Talking path removed.
8	At line link — Restore TLK key on handset.	At line link — Tone removed.

STEP	ACTION	VERIFICATION
9	Insert make-busy plug into JS- jack associated with channel selected in Step 5.	
10	Repeat Steps 4 through 9 until all channels have been selected.	
11	Remove make-busy plugs from JS- jacks.	
12	Remove handset.	
13	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

S. Special Hunt (Nontest) Feature — Special Markers

1	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
2	Select from office records a hunting group and determine line link locations and directory number of the first two lines.	
3	At line link of first line — Insert plug of handset into line switch vertical of first line.	
4	While line is idle — Operate TLK key on handset.	Dial tone heard.
5	At local test desk — Using regular test trunk originate a test call to first line in hunting group.	At line link of second line — Line hold magnet operates.
6	At line link — Remove plug of handset from line vertical of first line and insert plug of handset into line vertical of second line.	Talking path established with local test desk.
7	At local test desk — Release test connection.	Talking path removed. Line hold magnet releases.
8	At line link of second line — Remove handset.	
9	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

STEP	ACTION	VERIFICATION
	T. Reorder Feature	
1	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
2	Select from office records an incoming DP or MF trunk.	
3	Have trunk selected made busy at distant office.	
4	At relay rack — Insert plug of handset into T jack of trunk selected.	
5	Operate TLK key on handset.	Within 40 seconds — Reorder tone heard.
6	Remove plug of handset from T jack.	
7	At jack, lamp and key circuit — Remove make-busy plugs from M-C-MB jack.	
8	Have trunk restored to service at distant office.	
	U. Incoming Register DCK and Link Release Feature	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
3	Select from office records an incoming DP or MF trunk.	
4	Select from office records an incoming register serving trunk selected.	
5	Have trunk selected made busy at distant office.	
6	At jack, lamp and key circuit — Patch from IR jack in MB2 field to IRMB- jack of incoming register selected	
7	Patch from IR jacks in MB1 field to IRMB- jacks of all other incoming registers in same group.	
8	At relay rack — Patch from ITT jack to T jack of trunk selected.	

STEP	ACTION	VERIFICATION
9	At incoming register — Connect 1U winding terminal of DCK relay to D16 terminal strip punching.	
10a	At OTF — If trunk selected is by-link — Operate BL key.	
11b	If trunk selected has A relay ground shunt — Operate GS key.	
12c	If trunk selected has short conductor loop — Operate SLP key.	
13	Operate ITT and ITT1 keys.	
14	Operate ST key.	At TIC bay — Display registered. DR-, INC and LR lamps light. DCK lamp does not light. At OTF — Overflow tone heard.
15	Restore ST key.	Tone removed.
16	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
17	At jack, lamp and key circuit — Operate CLLR key.	
18	At OTF — Operate ST key.	DL- lamp lights. At OTF — Overflow tone heard.
19	Restore ST key.	Tone removed.
20	At TIC bay — Operate TIRAR key momentarily.	At TIC bay — DL- lamp extinguished.
21	At jack, lamp and key circuit — Restore CLLR key.	
22	At incoming register — Remove test connection from DCK relay and terminal strip.	
23	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

STEP	ACTION	VERIFICATION
24	Remove patch cords from IR and IRMB-jacks.	
25	At relay rack — Remove patch cord from ITT and T jacks.	
26	Have trunk restored to service at distant office.	

V. Free Number Feature

Intraoffice Call to Free Number

2	Select from office records the directory number of a free line.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key to select AMA or message register class of service.	
5	Operate A- through G- DIAL switches to select intraoffice code and free line number.	
6	Operate MKR- key for marker under test.	
7	Operate REC key.	
8	Operate ST key.	At TIC bay — Display registered. DR-, INC lamps and A2/5 through G2/5 lamps corresponding to directory number of free line light. RCT8 or RCT9 or FNB lamps light.
9	Restore ST key.	
10	At TIC bay — Operate RLS key momentarily.	Display released.

Incoming Call to Free Number

11	At OTF — Restore all keys.	
12	Select from office records the directory number of a free line.	

STEP	ACTION	VERIFICATION
13	Select from office records an incoming DP or MF trunk and have made busy at distant office.	
14	At relay rack — Patch from ITT jack to T jack of trunk selected.	
15a	At OTF — It trunk selected is MF — Operate MF key.	
16b	If trunk selected has short conductor loop — Operate SLP key.	
17c	If trunk selected is by-link — Operate BL key.	
18c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
19c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
20d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
21e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
22	At OTF — Operate ITT, ITT1, MCB keys, and MKR- key for marker under test.	
23	Operate A- through K- DIAL switches, as required, to select directory number of free line.	
24	Operate -D key depending on incoming class of trunk selected.	
25	Operate CB key.	

STEP	ACTION	VERIFICATION
26	Operate ST key.	At TIC bay — Display registered. DR-, INC lamps and A2/5 through G2/5 lamps corresponding to directory number of free line light. RCT8 or RCT9 or FNB lamps light.
27	Restore ST key.	
28	At TIC bay — Operate RLS key momentarily.	Display released.
29	At relay rack — Remove patching cord from ITT, T, and SP jacks and from unit terminal strip.	
30	Have trunk used in test restored to service.	
31c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from SP and TM jacks.	

W. Permanent Signal Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
Noncoin		
3	At OTF — Operate OTL and DIAL keys.	
4	Operate CL- key.	
5a	If permanent signal holding trunks are provided — Operate ST key, ***start timing.***	Dial tone heard. In 20 to 32 seconds — Permanent signal tone heard. At jack, lamp and key circuit — NC or PB lamps light for PSH trunk seized.
6a	Restore ST key.	NC or PB lamp extinguished. At OTF — Tone removed.
7a	At relay racks — Operate MB switches associated with all permanent signal trunks.	

STEP	ACTION	VERIFICATION
8	At OTF — Operate ST key, ***start timing.***	Dial tone heard. In 20 to 32 seconds — Permanent signal tone heard. At jack, lamp and key circuit — T- PS lamp associated with common overflow trunk lights.
9	Restore ST key.	T- PS lamp extinguished. At OTF — Tone removed
10a	If permanent signal holding trunks are provided — At relay racks — Restore MB switches of all permanent signal trunks.	
11	At OTF — Restore OTL and CL- keys.	
Coin		
12	Operate COTL and DIAL keys.	
13	Operate CN key momentarily.	At OTF — CN lamp lights.
14a	If permanent signal holding trunks are provided — Operate ST key, ***start timing.***	Dial tone heard. In 20 to 32 seconds — CR lamp lights momentarily. CN lamp extinguished. Permanent signal tone heard. At jack, lamp and key circuit — C lamp lights for PSH trunk seized.
15a	Restore ST key.	C lamp extinguished. At OTF — Tone removed.
16a	Operate CN key momentarily.	CN lamp lights.
17a	At relay racks — Operate MB switches associated with all permanent signal trunks.	
18	At OTF — Operate ST key, ***start timing.***	Dial tone heard. In 20 to 32 seconds — At OTF — CR lamp lights momentarily. CN lamp extinguished. Permanent signal tone heard. At jack, lamp and key circuit — T- PS lamp associated with common overflow trunk lights.

STEP	ACTION	VERIFICATION
19	Restore ST key.	Tone removed.
20a	If permanent signal holding trunks are provided — At relay racks — Restore MB switches of all permanent signal trunks.	
	Noncoin and Coin	
21	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	X. Partial Dial Feature	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker ***not*** under test.	
3a	If noncoin route is to be tested — At OTF — Operate OTL and CL- keys.	
4b	If coin route is to be tested — At OTF — Operate COTL key.	
5b	Operate CN key momentarily.	
6	Operate TLK and DIAL keys.	
7	Operate ST key.	Dial tone heard.
8	Using dial of OTF dial any digit other than an 0 or 1, ***start timing.***	In 20 to 32 seconds — Call completes to partial dial trunk serving class of service used in test.
9	Restore ST key.	Connection released.
10c	If office is arranged for direct distance dialing — Operate ST key.	Dial tone heard.
11b	If coin class of service is used — Operate CN key momentarily.	
12	Using dial of OTF, dial a working X0X or X1X code followed by any digit other than an 0 or 1, ***start timing.***	In 20 to 32 seconds — Call completes to partial trunk serving class of service used in test.
13	Restore ST key.	Connection released.

STEP	ACTION	VERIFICATION
14	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

Y. Permanent Overflow Feature

2	Select from office records an incoming DP or MF trunk and have made busy at distant office.	
3	At relay rack — Patch from ITT jack to T jack of trunk selected.	
4	At OTF — Operate ITT, ITT1 and MCB keys.	
5a	If trunk selected is MF — Operate MF key.	
6b	If trunk selected has short conductor loop — Operate SLP key.	
7c	If trunk selected is by-link — Operate BL key.	
8c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
9c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
10d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
11e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
12	AT OTF — Operate A- through K- DIAL switches, as required, to select directory number of permanent overflow number.	

STEP	ACTION	VERIFICATION
13	Operate -D key depending on incoming class of trunk selected.	
14	Operate ST key.	Overflow tone heard.
15	Restore ST key.	Tone removed.
16	At relay rack — Remove patch cord from ITT, T, and SP jacks and from unit terminal strip.	
17c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from TM and SP jacks.	
18	Have trunk restored to service at distant office.	
	Z. Trunk Coin Return Feature	
2	At OTF — Operate COTL and MCB keys.	
3	Operate CN key momentarily.	CN lamp lights.
4	Operate A-, B-, and C- DIAL switches, as required, to direct call to route requiring coin return by trunk.	
5	Operate 3D key.	
6	Operate MKR- key for marker under test.	
7	Operate ST key.	Call completes to coin trunk. If initial coin retention is not equipped — CR lamp lights momentarily. CN lamp extinguished.
8	Restore ST key.	Connection releases. If initial coin retention is equipped — CR lamp lights momentarily. CN lamp extinguished.
	AA. Party Check	
2	At OTF — Operate OTL, 7D and MCB keys.	
3	Operate CL- key to select two-party class of service.	

STEP	ACTION	VERIFICATION
4	Operate A- through G- DIAL switches to select intraoffice code and any test line number.	
5	Operate MKR- key for marker under test.	
6	Operate ST key.	
7	Before ED lamp lights — Operate TP key.	At TIC bay — Display registered. DR-, TP and RP lamps light. FS-, LC- and LV- lamps do not light.
8	At TIC bay — Operate RLS key momentarily.	Display released.
9	Restore ST key.	

AB. Service Observing AMA Feature

2	At OTF — Operate OTL, 7D and MCB keys.	
3	Operate CL- key.	
4	Operate A- through G- DIAL switches to select intraoffice code and any test line number.	
5	Operate REC key.	
6	Operate MKR- key for marker under test.	
7	At line link of OTL — Patch from SO jack to vertical unit jack of OTL.	
8	At service observing patch bay — Patch from SO jack to observing line circuit to be used in test.	
9	At observing line circuit — Block nonoperated LF relay.	
10	Connect from 1T contact of SL relay to ground.	
11	Operate ST key.	At TIC bay — Display registered. DR- and OBS lamps light. At OTF — Call completes to test line.

STEP	ACTION	VERIFICATION
12	Release ST key.	Connection released.
13	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
14	At line link of OTL — Remove patch cord from SO and vertical unit jack.	
15	At service observing patch bay — Remove patch from SO jack.	
16	At observing line circuit — Remove connection from SL relay.	
17	Remove blocking tool from LF relay.	

AC. Route Advance Feature — Originating Route

Noncoin Routes

2	At OTF — Select from office records an originating outgoing route having no alternate route.	
3	Operate OTL, 7D and MCB keys.	
4	Operate CL- key depending on route selected.	
5	Operate A- through G- DIAL switches for outgoing trunk route selected and any test number in called office.	
6	Operate MKR- key to select marker under test.	
7	Operate REC key.	
8	While a trunk in original route is idle — Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying trunk in original route. Call completes to test line number.
9	Restore ST key.	Connection released.
10	At TIC bay — Operate RLS key momentarily.	Display released.

STEP	ACTION	VERIFICATION
11	At jack, lamp and key circuit — Patch from 0 to 9 jacks in MB1 field to the OGT-MB jacks of all trunks associated with route selected.	
12	While noncoin tone trunk is idle — Operate ST key.	Overflow tone heard. At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying a noncoin tone trunk.
13	Restore ST key.	Tone removed.
14	At TIC bay — Operate RLS key momentarily.	Display released.
15	Operate FS- key to select a trunk link frame having at least one common overflow trunk.	
16	At relay rack — Operate MB switches associated with all noncoin tone trunks on trunk link frame selected.	
17	At OTF — While a common overflow trunk is idle — Operate ST key.	Overflow tone heard. At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying common overflow trunk.
18	Restore ST key.	Tone removed.
19	At TIC bay — Operate RLS key momentarily.	Display released.
20	At relay rack — Operate MB switches associated with all common overflow trunks on trunk link frame selected.	
21	At OTF — Operate ST key.	Overflow tone heard. *Note:* Above tone set up by originating register.
22	Restore ST key.	Tone removed.
23	Restore all keys.	

STEP	ACTION	VERIFICATION
24	At relay rack — Restore MB switches of tone and common overflow trunks made busy in Steps 16 and 20.	
25	At jack, lamp and key circuit — Remove patch cords from 0 to 9 and OGT-MB jacks.	
Coin Routes		
26	At OTF — Select from office records an outgoing originating coin route having no alternate routes.	
27	Operate COTL and MCB keys.	
28	Operate CN key momentarily.	CN lamp lights.
29	Operate A- through G- DIAL switches for outgoing trunk route selected and any test number in called office.	
30	Operate MKR- key to select marker under test.	
31	Operate REC key.	
32	While a trunk in original route is idle — Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying trunk in original route. Call completes to test line number.
33	Restore ST key.	At OTF — CR or CC lamp lights momentarily. CN lamp extinguished. Connection released.
34	Operate CN key momentarily.	CN lamp lights.
35	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
36	At jack, lamp and key circuit — Patch from 0 to 9 jacks in MB1 field to the OGT-MB jacks of all trunks associated with route selected.	

STEP	ACTION	VERIFICATION
37	At OTF — While coin tone trunk is idle — Operate ST key.	At OTF — Overflow tone heard. At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying coin tone trunk.
38	Restore ST key.	At OTF — CR lamp lights momentarily. CN lamp extinguished. Tone removed.
39	Operate CN key momentarily.	CN lamp lights.
40	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
41	At OTF — Operate FS- key to select a trunk link frame having at least one coin tone trunk.	
42	At relay rack — Operate MB switches asosciated with all coin tone trunks on trunk link frame selected.	
43	At OTF — Operate ST key.	At OTF — Overflow tone heard. ***Note:*** Above tone set up by originating register.
44	Restore ST key.	CR lamp lights momentarily. CN lamp extinguished. Tone removed.
45	Restore all keys.	
46	At relay rack — Restore MB switches of coin tone trunks made busy in Step 42.	
47	At jack, lamp and key circuit — Remove patch cords from 0 to 9 and OGT-MB jacks.	
Unauthorized 10-digit DDD Calls		
48	At OTF — Select from office records a DDD route.	
49	Operate OTL, TLK and MCB keys.	

STEP	ACTION	VERIFICATION
50	Operate CL- key depending on route selected.	
51	Operate A-, B- and C- DIAL switches to select foreign area code having access to route selected.	
52	Operate D- DIAL switch to 0.	
53	Operate E- DIAL switch to any position other than 0 or 1.	
54	Operate F- through K- DIAL switches to any position.	
55	Operate MKR- key for marker under test.	
56	Operate REC key.	
57	While a trunk in selected route is idle — Operate ST key.	Call completes to trunk used to intercept unauthorized calls. At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying intercept trunk.
58	Restore ST key.	At OTF — Connection released.
59	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
60	At OTF — Operate D- DIAL switch to 1.	
61	Repeat Steps 57 through 59.	Same as Step 57 through 59.
62	Operate D- DIAL switch to any position other than 0 or 1.	
63	Operate E- DIAL switch to 0.	
64	Repeat Steps 57 through 59.	Same as Step 57 through 59.
65	Operate E- DIAL switch to 1.	
66	Repeat Steps 57 through 59.	Same as Step 57 through 59.

STEP	ACTION	VERIFICATION
	AD. Route Advance Feature — Tandem Route	
2	At OTF — Select from office records an incoming DP or MF tandem trunk and have made busy at distant office.	
3	Select from office records a tandem outgoing route having no alternate route.	
4	At relay rack — Patch from ITT jack to T jack of trunk selected.	
5	At OTF — Operate ITT, ITT1, MCB keys, and MKR- key for marker under test.	
6a	If trunk selected is FM — Operate MF key.	
7b	If trunk selected has short conductor loop — Operate SLP key.	
8c	If trunk selected is by-link — Operate BL key.	
9c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
10c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
11d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
12e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
13	Operate A- through K- DIAL switches, as required, to select an office code having access to route selected and any test line number in called office.	

STEP	ACTION	VERIFICATION
14	Operate -D key depending on incoming class of trunk selected.	
15	Operate REC key.	
16	While a trunk in original route is idle — Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV-, FAK or FBK lamps light identifying trunk in original route. At OTF — Call completes to test line number.
17	Restore ST key.	Connection released.
18	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
19	At jack, lamp and key circuit — Patch from 0 to 9 jacks in MB1 field to the OGT-MB jacks of all trunks associated with route selected.	
20	At OTF — Operate ST key.	At OTF — Overflow tone heard.
21	Restore ST key.	Tone removed.
22	At jack, lamp and key circuit — Remove patching cords from 0 to 9 and OGT-MB jacks.	
23c	If trunk selected is by-link — Remove patching cord from SP and TM jacks.	
24	At relay rack — Remove patching cords from ITT, T, SP jacks and from unit terminal strip.	
25	Have trunk restored to service at distant office.	

AE. Transfer of Start Lead Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB of marker under test.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key.	

STEP	ACTION	VERIFICATION
5	Operate A- through G- DIAL switches to select any office code and test line number.	
6	Operate MKR- key for marker under test.	
7	At marker — Connect ground to 2M contact terminal of CON1 relay.	
8	Block nonoperated HTR relay. Operate ST key.	
9	At OTF — Operate ST key.	At TIC bay — Display registered. DR- and TRS lamps light. A 2/5 through G 2/5 lamps light identifying test line number. At OTF — Call completes to test line number.
10	Restore ST key.	Connection released.
11	At TIC bay — Operate RLS key momentarily.	Display released.
12	At marker under test — Remove test connection from CON1 relay.	
13	Remove blocking tool from HTR relay.	
14	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

AF. Blank and Unequipped Number Feature

Intraoffice Call

2	At OTF — Operate OTL, 7D, TLK and MCB keys.	
3	Operate CL- key.	
4	Operate A- through G- DIAL switches to select intraoffice code and any blank or unequipped number.	
5	Operate MKR- key for marker under test.	
6	Operate ST key.	Call completes to intercept.

STEP	ACTION	VERIFICATION
7	Restore ST key.	Connection released.
8	Restore all keys.	
Incoming Call		
9	Select from office records an incoming DP or MF trunk, and have made busy at distant office.	
10	At relay rack — Patch from ITT jack to T jack of trunk selected.	
11	At OTF — Operate ITT, ITT1, MCB keys, and MKR-key for marker under test.	
12a	If trunk selected is MF — Operate MF key.	
13b	If trunk selected has short conductor loop — Operate SLP key.	
14c	If trunk selected is by-link — Operate BL key.	
15c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
16c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
17d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
18e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
19	At OTF — Operate A- through G- DIAL switches, as required, to select any blank or unequipped number.	

STEP	ACTION	VERIFICATION
20	Operate -D key depending on incoming class of trunk selected.	
21	Operate ST key.	Call completes to intercept.
22	Restore ST key.	Connection released.
23c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from TM and SP jacks.	
24	At relay rack — Remove patching cords from ITT, T, SP jacks and from unit terminal strip.	
25	Have trunk restored to service at distant office.	

AG. Number Series Discrimination or Office Discrimination (Physical, Theoretical, and Extheo)

Intraoffice Call

2	At OTF — Operate OTL, 7D, TLK and MCB keys.	
3	Operate MKR- key for marker under test.	
4	Operate CL- key.	
5	Operate A-, B-, and C- DIAL switches to select intraoffice code.	
6	Operate D- DIAL switch to select thousand digit of a directory number served by a number group serving two or more number series or office codes.	
7	Operate E- through G- DIAL switches to select the remaining digits representing a working line number associated with an intraoffice code other than the one selected in Step 5.	
8	Operate ST key.	Call completes to intercept.
9	Restore ST key.	Connection released.
10	Repeat Step 5 through 9 for all other combinations of unmatched office codes and numericals.	
11	Restore all keys.	

STEP	ACTION	VERIFICATION
Incoming Call		
12	Select from office records an incoming DP or MF trunk and have made busy at distant office.	
13	At relay rack — Patch from ITT jack to T jack of trunk selected.	
14	At OTF — Operate 1TT, 1TT1 and MCB keys.	
15a	If trunk selected is MF — Operate MF key.	
16b	If trunk selected has short conductor loop — Operate SLP key.	
17c	If trunk selected is by-link — Operate BL key.	
18c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
19c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
20d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
21e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
22	At OTF — Operate A- through G- DIAL switches, as required, to cause a mismatch between the incoming office class (OA, OB) and working line number called.	
23	Operate -D key depending on incoming class of trunk selected.	

STEP	ACTION	VERIFICATION
24	Operate MKR- key for marker under test.	
25	Operate ST key.	Call completes to intercept.
26	Restore ST key.	Connection released.
27	Repeat Steps 22, 25 and 26 for all combinations of unmatched incoming office class and line number called.	Same as Steps 25 and 26.
28c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from TM and SP jacks.	
29	At relay rack — Remove patch cords from ITT, T, SP jacks, and from unit terminal strip.	
30	Have trunk restored to service at distant office.	

AH. Line Busy Test Feature

Intraoffice Call

2	At OTF — Operate OTL, 7D, MCB, and TLD keys.	
3	Operate CL- key.	
4	Operate A- through G- DIAL switches to select intraoffice code and terminating test line (TTL) number.	
5	Operate MKR- key for marker under test.	
6	At line link of TTL — While line switch associated with TTL is idle — Insert 351C plug into vertical unit jack of TTL.	
7	At OTF — Operate ST key.	Busy tone heard.
8	Restore ST key.	Tone removed.
9	Restore all keys.	

STEP	ACTION	VERIFICATION
Incoming Call		
10	Select from office records an incoming DP or MF trunk and have made busy at distant office.	
11	At relay rack — Patch from ITT jack to T jack of trunk selected.	
12	At OTF — Operate ITT, ITT1 and MCB keys.	
13a	If trunk selected is MF — Operate MF key.	
14b	If trunk selected has short conductor loop — Operate SLP key.	
15c	If trunk selected is by-link — Operate BL key.	
16c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
17c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
18d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	
19e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
20	At OTF — Operate A- through G- DIAL switches, as required, to select TTL.	
21	Operate -D key depending on incoming class of trunk selected.	
22	Operate MKR- key for marker under test.	
23	Operate ST key.	Busy tone heard.

STEP	ACTION	VERIFICATION
24	Restore ST key.	Tone removed.
25	At line link of TTL — Remove 351C plug.	
26	At relay rack — Remove patch cord from ITT, T, SP jacks and from unit terminal strip.	
27c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from TM and SP jacks.	
28	Have trunk restored to service at distant office.	

AI. Nonallotted PBX Recycle Feature

2	At jack, lamp and key circuit — Insert make-busy into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key.	
5	Operate A- through G- DIAL switches to select intraoffice code and a test line number which is the first line of a hunting group.	
6	Operate MKR- key for marker under test.	
7	Operate REC key.	
8	At line link of first test line number — Insert 351C plug into line equipment of line vertical jack.	
9	At horizontal MDF — Remove line equipment number group sleeve of selected first test line of hunting group and reconnect to a spare line equipment.	
10	At OTF — Operate ST key.	At TIC bay — Display registered. DR-, FTT-, FUT-, VGT-, HGT- and VFT-lamps light identifying other than second line in hunting group unless it is the only line idle. If all lines are busy — Busy tone heard.

STEP	ACTION	VERIFICATION
11	Restore ST key.	
12	At TIC bay — Operate RLS key momentarily.	Display released.
13	At line link of first test line number — Remove 351C plug from line vertical jack.	
14	At horizontal MDF — Reconnect number group sleeve to first test line number.	
	AJ. Service Call Feature	
2	At OTF — Operate TLK and MCB keys.	
3a	If noncoin route is to be tested — Operate OTL and CL- keys.	
4b	If coin route is to be tested — Operate COTL key.	
5b	Operate CN key momentarily.	At OTF — CN lamp lights.
6	Operate MKR- key for marker under test.	
	X11 Service Codes	
7	Operate A-, B-, and C- DIAL switches to select X11 service code.	
8	Operate 3D key.	
9	Operate ST key.	Call completes to trunk serving X11 code. If coin class of service is being used and initial coin retention is not equipped — CR lamp lights momentarily. CN lamp extinguished.
10	Restore ST key.	Connection released. If coin class of service is being used and coin retention feature is provided — CR lamp lights momentarily. CN lamp extinguished.
11	Restore 3D key.	
	11X Service Code	
12	Operate A-, B-, and C- DIAL switches to select 11X service code.	

STEP	ACTION	VERIFICATION
13	Operate 3D key.	
14	Operate ST key.	Call completes to trunk serving 11X code. If coin class of service is being used and initial coin retention is not equipped — CR lamp lights momentarily. CN lamp extinguished.
15	Restore ST key.	Connection released. If coin class of service is being used and coin retention feature is provided — CR lamp lights momentarily. CN lamp extinguished.
16	Restore 3D key.	
Zero Operator Code		
17	Operate A- DIAL switch to select 0 operator.	
18	Operate O key.	
19	Operate ST key.	Call completes to trunk serving 0 operator code. If coin class of service is being used — CR lamp lights momentarily. CN lamp extinguished.
20	Restore ST key.	Connection released.

AK. Intraoffice Call Feature

2	At OTF — Operate 7D and MCB keys.	
3a	If noncoin route is being tested — Operate OTL and CL- keys.	
4b	If coin route is being tested — Operate COTL key.	
5b	Operate CN key momentarily.	At OTF — CN lamp lights.
6	Operate A- through G- DIAL switches to select intraoffice code and any test line number.	
7	Operate MKR- key for marker under test.	

STEP	ACTION	VERIFICATION
8	Operate REC key.	
9	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FBK lamps light identifying intraoffice trunk for class of service used. If AMA class of service is being used — AMA lamp lights. At OTF — Call completes to test line number.
10	Restore ST key.	Connection released. If coin class of service is being used — CR or CC lamp lights momentarily. CN lamp extinguished.
11	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
	AL. Subscriber Outgoing Call Feature	
2	At OTF — Operate 7D and MCB keys.	
3a	If noncoin route is to be tested — Operate OTL and CL- keys.	
4b	If coin route is to be tested — Operate COTL key.	
5b	Operate CN key momentarily.	At OTF — CN lamp lights.
6	Operate A- through G- DIAL switches to select an outgoing route and any test line number.	
7	Operate MKR- key for marker under test.	
8	Operate REC key.	
9	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying outgoing trunk in route selected. If AMA class of service is being used — AMA lamp lights. At OTF — Call completes to test line number.

STEP	ACTION	VERIFICATION
10	Restore ST key.	Connection released. If coin class of service is being used — CR or CC lamp lights momentarily. CN lamp extinguished.
11	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.

AM. Subscriber Class Screening Features

2	Select from office records an originating route which is not accessible to all subscriber classes.	
3	At OTF — Operate -D, TLK and MCB keys.	
4a	If noncoin route is being tested — Operate OTL and CL- keys to select class of service having access to selected route.	
5b	If coin route is being tested — Operate COTL key.	
6b	Operate CN key momentarily.	At OTF — CN lamp lights.
7	Operate A- through K- DIAL switches, as required, to select office code served by route selected and any test line number.	
8	Operate MKR- key for marker under test.	
9	Operate REC key.	
10	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying trunk in route selected. At OTF — Call completes to test line number.
11	Restore ST key.	Connection released. If coin class of service is being used — CR or CC lamps light momentarily. CN lamp extinguished.
12	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.

STEP	ACTION	VERIFICATION
13a	At OTF — If noncoin route is being tested — Restore CL- key.	
14a	Operate CL- key to select class of service denied access to selected route.	
15a	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying coin tone or operator trunk. At OTF — Call completes to coin tone or operator trunk.
16a	Restore ST key.	Connection released.
17a	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
18a	At OTF — Restore OTL and CL- keys.	
19a	Operate COTL key.	
20a	Operate CN key momentarily.	At OTF — CN lamp lights.
21a	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying coin tone or operator trunk. At OTF — Call completes to coin tone or operator trunk. CR lamp lights momentarily. CN lamp extinguished.
22a	Restore ST key.	Connection released.
23a	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
24b	At OTF — If coin route is being tested — Restore COTL.	
25b	Operate OTL and CL- keys to select class of service denied access to selected route.	

STEP	ACTION	VERIFICATION
26b	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying tone or operator trunk. At OTF — Call completes to tone or operator trunk.
27b	Restore ST key.	Connection released.
28b	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.

AN. Incoming Call Feature

2	Select from office records an incoming DP or MF trunk.	
3	Have trunk selected made busy at distant office.	
4	At relay rack — Patch from ITT jack to T jack of trunk selected.	
5	At OTF — Operate ITT, ITT1 and MCB keys.	
6a	If trunk selected is MF — Operate MF key.	
7b	If trunk selected has short conductor loop — Operate SLP key.	
8c	If trunk selected is by-link — Operate BL key.	
9c	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
10c	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
11d	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	

STEP	ACTION	VERIFICATION
12e	If trunk selected has A relay ground shunt — At OTF — Operate GS key.	
13	At OTF — Operate A- through G- DIAL switches, as required, to select any test line number.	
14	Operate -D key depending on incoming class of trunk selected.	
15	Operate MKR- key for marker under test.	
16	Operate ST key.	Call completes to test line number.
17	Restore ST key.	Connection released.
18	At relay rack — Remove patching cords from ITT, T, SP jacks, and from unit terminal strip.	
19c	If trunk selected is by-link — At jack, lamp and key circuit — Remove patching cord from TM and SP jacks.	
20	Have trunk restored to service at distant office.	

AO. Station Ringer Test Feature

2	At OTF — Operate 7D and MCB keys.	
3a	If noncoin class of service is being used — Operate OTL and CL- keys.	
4b	If coin class of service is being used — Operate COTL key.	
5b	Operate CN key momentarily.	CN lamp lights.
6	Operate A- through G- DIAL switches to select station ringer code and originating test line (OTL) number.	
7	Operate MKR- key for marker under test.	
8	Operate REC key.	

STEP	ACTION	VERIFICATION
9	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV-, and FBK lamps light identifying station ringer test trunk. At OTL — High tone heard.
10	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
11	At OTF — Restore ST key.	At OTF — Connection released. If coin class of service is being tested — CR lamp lights momentarily. CN lamp extinguished.

AP. Heavy Traffic Timing Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack for marker under test.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key to select a non-PBX class of service.	
5	Operate A- through G- DIAL switches to select intraoffice code and any test line number.	
6	Operate MKR- key for marker under test.	
7	At marker — Insert plug of 32A test set into RC jack.	
8	Operate white key on 32A test set momentarily and when HTR relay operates, ***start timing.***	At marker — Within 1.5 seconds — HTR relay releases.
9	Operate red key on 32A test set momentarily.	
10	Block operated OAT1 relay and when HTR relay operates, ***start timing.***	In not less than 2 seconds HTT relay operates.
11	Remove blocking tool from OAT1 relay, ***start timing.***	In 1 to 1.5 seconds — HTR relay releases.
12	Remove 32A test set from RC jack.	

STEP	ACTION	VERIFICATION
13	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	AQ. Timing Features	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack for marker under test.	
3	At TIC bay — Insert make-busy plug into TIC-MB jack for marker under test.	
4	At marker —— Insert plug of 32A test set into RC jack.	
5	At OTF — Operate MCB key.	
6	Operate MKR- key for marker under test.	
Work Timer		
7	At OTF — Operate OTL and 7D keys.	
8	Operate CL- key.	
9	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
10	At marker — Block operated SP relay.	
11	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — Within 1 second — WT relay operates. At TIC bay — DL- lamp lights for marker under test.
12	Operate red key on 32A test set momentarily.	
13	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
14	At marker — Remove blocking tool from SP relay.	

STEP	ACTION	VERIFICATION
15a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
16a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
17	At marker — Remove 32A test set from RC jack.	
	Short-delay Timer for Number Group Frame Seizure	
18	At OTF — Operate OTL and 7D keys.	
19	Operate CL- key.	
20	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
21	At marker — Block nonoperated SNG2 and NGK relays.	
22	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
23	Operate red key on 32A test set momentarily.	
24	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
25	At marker — Remove blocking tools from SNG2 and NGK relays.	
26a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
27a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

STEP	ACTION	VERIFICATION
28a	At marker — Remove 32A test set from RC jack.	
	Short-delay Timer for Trunk Link Frame Seizure — IAO Call	
29	At OTF — Operate OTL and 7D keys.	
30	Operate CL- key.	
31	Operate FSO key.	
32	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
33	At marker — Block nonoperated FSO relay and all equipped FTC- relays except FTC0.	
34	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
35	Operate red key on 32A test set momentarily.	
36	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
37	At marker — Remove blocking tools from FSO and all FTC- relays.	
38	At OTF — Restore ST key.	
39a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
40a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
41a	At marker — Remove 32A test set from RC jack.	

STEP	ACTION	VERIFICATION
	Short-delay Timer for Line Link Frame Seizure — IAO Call	
42	At OTF — Operate OTL and 7D keys.	
43	Operate CL- key.	
44	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
45	At marker — Insulate 1M contact of LLC2 relay.	
46	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
47	Operate red key on 32A test set momentarily.	
48	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
49	At marker — Remove insulator from LLC2 relay.	
50a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
51a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
52a	At marker — Remove 32A test set from RC jack.	
	Short-delay Timer for Sender Connector Frame Seizure — Outgoing Call	
53	At OTF — Operate OTL and 7D keys.	
54	Operate CL- key.	
55	Operate A- through K- DIAL switches, as required, to select an outgoing route requiring senders.	

STEP	ACTION	VERIFICATION
56	At marker — Block nonoperated SKA, SKB and TK relays.	
57	At OTF — Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
58	Operate red key on 32A test set momentarily.	
59	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
60	At marker — Remove blocking tools from SKA, SKB and TK relays.	
61a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
62a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
63a	At marker — Remove 32A test set from RC jack.	

Short-delay Timer for Trunk Link Frame Seizure — Outgoing Call Requiring Senders

64	At OTF — Operate OTL and 7D keys.	
65	Operate CL- key.	
66	Operate FSO key.	
67	Operate A- through K- DIAL switches, as required, to select an outgoing route requiring senders.	
68	At marker — Block nonoperated FSO relay and all equipped FTC- relays except FTC0.	

STEP	ACTION	VERIFICATION
69	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
70	Operate red key on 32A test set momentarily.	
71	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
72	At marker — Remove blocking tools from FSO and all FTC- relays.	
73	At OTF — Restore FSO key.	
74a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
75a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
76a	At marker — Remove 32A test set from RC jack.	

Short-delay Timer for Line Link Frame Seizure — Outgoing Call Requiring Senders

77	At OTF — Operate OTL and 7D keys.	
78	Operate CL- key.	
79	Operate A- through K- DIAL switches, as required, to select an outgoing route requiring senders.	
80	At marker — Insulate 1M contact of LLC2 relay.	
81	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.

STEP	ACTION	VERIFICATION
82	Operate red key on 32A test set momentarily.	
83	At TIC bay — Operate TIR-AR key.	DL- lamp extinguished.
84	At marker — Remove insulator from LLC2 relay.	
85a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
86a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
87a	At marker — Remove 32A test set from RC jack.	
	Over-all Time-out Timing	
88	At OTF — Operate OTL and 7D keys.	
89	Operate CL- key.	
90	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
91	At marker — Block nonoperated SFT, WT, and all equipped FTC- relays.	
92	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 9.8 to 15.4 seconds — TA lamp lights. Major alarm sounds.
93	Operate red key on 32A test set momentarily.	
94	At marker — Operate AR key.	TA lamp extinguished. Major alarm retired.
95	Remove blocking tools from SFT, WT and all FTC- relays.	

STEP	ACTION	VERIFICATION
96	At OTF — Restore OTL, 7D and CL- keys.	
97a	If no more timing tests are to be checked — At TIC bay — Remove make-busy plug from TIC-MB jack.	
98a	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
99a	At marker — Remove 32A test set from RC jack.	

Short-delay Timer for Trunk Link Frame Seizure -— Incoming Call

100	Select from office records an incoming DP or MF trunk.	
101	Have trunk selected made busy at distant office.	
102	At relay rack — Patch from ITT jack to T jack of trunk selected.	
103	At OTF — Operate ITT and ITT1 keys.	
104b	If trunk selected is MF — Operate MF key.	
105c	If trunk selected has short conductor loop — Operate SLP key.	
106d	If trunk selected is by-link — Operate BL- key.	
107d	At jack, lamp and key circuit — Patch from TM jack to SP jack using P3E cord.	
108d	At relay rack — Patch W3M cord to SP jack and connect sleeve to punching 42 on trunk unit terminal strip.	
109e	If trunk selected does not require a dial start signal — At OTF — Operate ONHK key.	

STEP	ACTION	VERIFICATION
110f	If trunk selected has A relay ground shunt — At OTF —— Operate GS key.	
111	At OTF — Operate A- through G- DIAL switches, as required, to select any test line number.	
112	Operate -D key depending on incoming class of trunk selected.	
113	At marker — Block nonoperated TFK3 relay.	
114	Operate white key on 32A test set momentarily and when OAT1 relay operates, ***start timing.***	At marker — In 2.6 to 4.0 seconds — SDT relay operates. At TIC bay — DL- lamp lights for marker under test.
115	Operate red key on 32A test set momentarily.	
116	Remove blocking tool from TFK3 relay.	
117	Remove 32A test set from RC jack.	
118	At TIC bay — Operate TIR-AR key momentarily.	DL- lamp extinguished.
119	At relay rack — Remove patch cord from ITT, T, SP jacks and from unit terminal strip.	
120	At TIC bay — Remove make-busy plug from TIC-MB jack.	
121	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
122d	If trunk selected is by-link — Remove patching cord from TM and SP jacks.	
123	Have trunk restored to service at distant office.	

AR. Vacant Code Feature

2	At OTF — Operate -D, TLK and MCB keys.	

STEP	ACTION	VERIFICATION
3a	If noncoin class of service is being used — Operate OTL and CL- keys.	
4b	If coin class of service is being used — Operate COTL key.	
5b	Operate CN key momentarily.	At OTF — CN lamp lights.
6	Operate A- through K- DIAL switches, as required, to select vacant code and any other digits required to satisfy originating register.	
7	Operate MKR- key for marker under test.	
8	Operate REC key.	
9	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying vacant code or tone trunk. At OTF — Call completes to vacant code or tone trunk.
10	Restore ST key.	Connection released. If coin class of service is being used — CR lamp lights momentarily. CN lamp extinguished.
11	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.

AS. Sender Group Release Feature

2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key.	
5	Operate A- through G- DIAL switches to select route associated with a sender group served by sender group release circuit and any test number.	
6	Operate MKR- key for marker under test.	

STEP	ACTION	VERIFICATION
7	At marker — Block nonoperated SIA and SIB relays.	
8	At sender group release circuit — Insert plug of 32A test set into RC jack.	
9	Operate white key of 32A test set momentarily.	At sender group release circuit — PR relay operates momentarily.
10	Operate red key of 32A test set momentarily.	
11	Remove 32A test set from RC jack.	
12	At marker — Remove blocking tool from SIA and SIB relays.	
13	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	
	AT. Dual Voltage Hold Magnet Operation Feature	
2	At jack, lamp and key circuit — Insert make-busy plug into M-C-MB jack of marker under test.	
3	At OTF — Operate OTL, 7D and MCB keys.	
4	Operate CL- key.	
5	Operate A- through G- DIAL switches to select an intraoffice code and any test line number.	
6	Operate MKR- key for marker under test.	
7	At marker — Connect the free end of the 10,000 ohm resistor of the surge tester to —48 volt test terminal.	
8	Insert plug of 32A test set into RC jack.	
9	Connect the free terminal of the surge tester to 5 fixed contact of the LXP1 relay.	
10	Operate white key of 32A test set momentarily.	At marker — NE-5 lamp lights momentarily. *Note:* Disregard all other subsequent flashes.

STEP	ACTION	VERIFICATION
11	Operate red key of 32A test set momentarily.	
12	Remove connection from LXP1 relay.	
13	Repeat Steps 9 through 12 connecting in turn the surge tester to 1 fixed and 2 fixed contacts of LXP1 relay.	Same as Step 10.
14	Remove surge tester from LXP1 relay and —48 volt test terminal.	
15	Remove 32A test set from RC jack.	
16	At jack, lamp and key circuit — Remove make-busy plug from M-C-MB jack.	

AU. Diverted Route Feature

2	At OTF — Operate MCB and TLK keys.	
3a	If noncoin route is being tested — Operate OTL and CL- keys to select class of service having access to diverted route.	
4b	If coin route is being tested — Operate COTL key.	
5b	Operate CN key momentarily.	At OTF — CN lamp lights.
6	Operate A- through K- DIAL switches, as required, to select diverted route and any test line number when required.	
7	Operate -D key depending on number of digits to be dialed as determined in Step 6.	
8	Operate MKR- key for marker under test.	
9	Operate REC key.	

STEP	ACTION	VERIFICATION
10	Operate ST key.	At TIC bay — Display registered. DR-, FS-, LC-, LV- and FAK or FBK lamps light identifying trunk in diverted route. At OTF — Call completes.
11	Restore ST key.	Connection released. If coin class of service is being used — CR or CC lamps light momentarily. CN lamp extinguished.
12	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.