PERMANENT SIGNAL HOLDING TRUNK, CONCENTRATING, TIMING, AND ASSOCIATED AUXILIARY TRUNK CIRCUITS TESTS USING TRUNK TEST CIRCUIT SD-25918-01 NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing nonwire-spring-relay, SD-25761-01, SD-25929-01, and wire-spring-relay, SD-26134-01, type permanent signal holding trunk (PSHT) circuits and nonwire-spring-relay type concentrating SD-25766-01, timing SD-25870-01, and associated auxiliary trunk circuits SD-25574-01, SD-25742-01, SD-25814-01, SD-99329-01 in No. 5 crossbar offices equipped with a master test frame (MTF).

1.02 This section is reissued for the reasons listed below. Revision arrows are used to emphasize the more significant changes. This reissue does not affect Equipment Test Lists.

(a) Paragraph 1.01 has been modified to add SD- numbers of circuits covered in this section.

(b) Paragraph 1.12 has been added.

(c) Test A Steps 16, 17, 18 are modified to include 600 ms open verification, of permanent signal holding trunk.

(d) Other minor changes as necessary.

1.03 The tests covered are:

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to a line control of DSA SWBD if provided. (2) Ability of PSHT and concentrating circuit to respond to a signal indicating connection to a long-loop customer. (3) Ability of concentrating circuit to disregard signal (from DSA SWBD if provided) to connect howler or receiver off-hook tone circuit to a PBX line. (4) Facilities used by maintenance personnel to monitor on the connection from the master test frame. 12

F. Time-Out — Monitor and Alarm Indication — Coin Class: The following features are checked: (1) Ability of PSHT to flash type-of-line lamp at 120 ipm when signaled to do so by timing circuit. (2) Ability of PSHT to bring in alarm at end of timed interval or upon operator disconnect. (3) Ability of trunk to flash type-of-line lamp at 60 ipm after monitoring. 15

G. Concentrating Circuit — Timed Release: This test checks the ability of the concentrating circuit to time out, transfer its start lead to succeeding concentrating circuit, and to give an audible and visual alarm if the CO relay fails to operate in 13 to 32 seconds. . 17

H. Timing — Noncoin: This test checks the ability of the timing circuit to supply timing interval for PSHT. . 18

I. Trunk-Busy: The following features are checked: (1) Seizure by master test frame when PSHT is made busy. (2) Busy condition to service call when PSHT is made busy. 18

J. Manual Release Feature — PST Key: This test checks the ability of the PSHT to release when ground is removed from PST lead at master test frame. 19

K. False-Busy and False-Idle Conditions: This test checks for continuity and crosses on the F, BT, and FT leads of PSHT circuits. . 20

1.04 The PSHT circuits are tested in conjunction with the associated concentrating, timing, and auxiliary trunk circuits.

1.05 Tests A through G require an assistant at the DSA SWBD if provided.

1.06 Test E requires verification at relay rack location of the associated concentrator circuit.

1.07 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 4 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.08 The manner of selecting some circuits and test conditions at the master test frame (MTF) and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

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

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

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

1.11 When the trunk under test is arranged for ETS, the first completed test call from the MTF will cause the TST bit to be set in the trunk register associated with the selected trunk, enabling trunk scanning to be repeated on the FT lamp at the MTF trunk test circuit. As long as the TST

bit is set in the trunk register, scanning will continue to be repeated on the lamp, even on service calls. The TST bit will remain set in the trunk register until (1) a test call is made from the MTF to another trunk, or (2) the command ***STOP:TRK TST*** is entered at the maintenance TTY.

1.12 ▶On issue 76D of SD-25800-01 a group of 18 "class of test" lamps was replaced by a single "start test" lamp designated STT. Since the designation given to the lamp is not specific, the lamp will not be called out in the section, as well as the 18 discontinued lamps, DT, ORIG, ITDO, ITNP, OGT, INC, OR, SDR, IR, MISC, IAO, MLV, LT, IMS, PTT, TVT, ATNT, and IMT.◀

2. APPARATUS

Tests A Through J

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

2.02 Trunk test circuit, SD-25918-01.

2.03 MTF telephone, key, and lamp circuit, SD-25744-01.

2.04 MTF voltmeter test circuit, SD-25792-01.

2.05 Miscellaneous MTF circuit, SD-25748-01.

2.06 322A (make-busy) plugs as required.

Tests E and F

2.07 Patching cord, P3F cord, 6 feet long, equipped with one 309 plug and one 310 plug (3P12E cord) (for making test connection of voltmeter circuit and PSHT being tested).

Tests G and J

2.08 KS-3008 stopwatch or equivalent.

Test K

2.09 1A fault locator test set, SD-95616-01.

2.10 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and two KS-6278 (connecting clip) tools (for making test connections to terminal strip terminals.

3. PREPARATION

STEP	ACTION	VERIFICATION
	Tests A Through G, I, and J	
	Note: Refer to paragraphs 1.04 through 1.12.	
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select MISC class of test.	
4	Select originating class of call and LT translator indication.	
5	Select comp marker.	
6	Select PSHT under test.	
7	Select route advance for access to route of trunk under test. No route advance release of seized at PS display	

40 trks
10 In 49

10	0	43A	21	9	33A
40	0	73A	22	9	43A
41	0	83A	23	10	33A
11	1	43A	24	10	43A
42	1	73A	25	11	33A
43	1	83A	26	11	43A
12	2	43A	27	12	33A
44	2	83A	28	12	43A
13	3	43A	29	13	43A
34	3	73A	30	14	83A
35	3	83A	31	14	93A
14	4	33A	32	15	63A
45	4	43A	33	15	73A
46	4	63A			
15	5	33A			
48	5	43A			
47	5	63A			
16	6	33A			
36	6	73A			
37	6	83A			
17	7	33A			
18	7	43A			
49	7	83A			
19	8	33A			
20	8	43A			
38	8	73A			
39	8	83A			

STEP	ACTION	VERIFICATION
8	Operate APS/NPS key to NPS position.	
9a	If ETS provided— Operate PCS, PTS keys.	
Tests A Through G and J		
10	Operate FS, TS keys.	
11	Select PS auxiliary originating translator indication.	
Tests A Through G		
12	Operate TLK key.	
13	Insert make-busy plugs into all PSCMB_ jacks except jack associated with concentrating circuit to be tested in conjunction with PSHT. ***Note:*** Select a different concentrating circuit for each PSHT under test until all concentrating circuits have been selected and tested. On subsequent cycles of tests, vary the combination of PSHT circuits with concentrating circuits so that eventually all PSHT circuits will have been tested with each concentrating circuit.	PSC_ lamps lighted for all concentrating circuits except one selected for test.
14b	If switchboard provided— Insert plug of operator telephone set into TEL jack.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Seizure		
15	At MTF— Select class of service and rate treatment as required for non-PBX, noncoin line.	
16c	▶If verification of 600 ms open feature of permanent signal trunk is being tested— Operate CRV key. ***Note:*** Means are provided in the permanent signal holding trunk to prevent improperly operated customer key equipment from causing permanent signals. One method causes a T and R short, preventing line current from flowing (M.D.). The other method causes a	

STEP	ACTION	VERIFICATION
	600 ms, minimum open of the line (standard). In either case above, the hold relay of improperly operated customer key equipment that may have caused a permanent signal, will release.◀	
17	Momentarily operate ST key.	▶If 600 ms open feature is being tested— PK lamp flashes once and then remains lighted.◀ If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. NC lamp lighted. If DSA switchboard is provided— At switchboard— NC lamp lighted. If receiver off-hook announcement and tone feature is provided— At MTF— Receiver off-hook announcement heard followed by receiver off-hook tone for approximately 50 seconds. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. NC lamp lighted. If DSA switchboard is provided— At switchboard— NC lamp lighted.
18c	▶If verification of 600 ms open feature of permanent signal trunk is being tested— Restore CRV key.	PK lamp extinguished.◀
19d	If receiver off-hook announcement without receiver off-hook tone to PBX attendant feature is provided— At MTF— Momentarily operate RL key.	All lamps extinguished except PSC_ lamps lighted in Step 13.
20d	Select class of service and rate treatment as required for PBX line.	

STEP	ACTION	VERIFICATION
21d	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. Receiver off-hook announcement heard ***not*** followed by receiver off-hook tone. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. PB lamp lighted. If DSA switchboard is provided— At switchboard— PB lamp lighted.
22	Insert front cord plug into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
23b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
24	At MTF— Remove plugs from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.
25	At MTF— Dial digit 0.	AS lamp remains lighted.
26	Momentarily operate RL key.	All lamps extinguished.
27	Restore all keys and switches.	
28	Operate APS/NPS key to normal operating position.	
29b	If DSA switchboard is provided— Disconnect cord circuit and operator telephone set.	
30b	Restore Talk key.	

B. Line Signal Indication

15	At MTF— Select class of service as required for coin line.	

STEP	ACTION	VERIFICATION
16c	If PSHT being tested is not arranged for coin return after disconnect— Operate CNR key.	
17	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. C, NC, or PBX lamp lighted, depending on class of service. If DSA switchboard is provided— At switchboard— C, NC, or PBX lamp lighted, depending on class of service. If receiver off-hook announcement ~~and tone~~ is provided— At MTF— Receiver off-hook announcement heard followed by receiver off-hook tone for approximately 50 seconds. If receiver off-hook announcement without receiver off-hook tone to PBX attendant feature is provided— Receiver off-hook announcement heard ***not*** followed by receiver off-hook tone. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. C, NC, or PBX lamp lighted. If DSA switchboard is provided— At switchboard— C, NC, or PBX lamp lighted.
18	Insert front cord plug into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
19b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
20b	Disconnect cord circuit.	C, NC, or PBX lamp extinguished. At MTF— AS lamp remains lighted.
21	Momentarily operate RL key.	All lamps extinguished.
22	Restore all keys and switches.	

STEP	ACTION	VERIFICATION
23	Repeat Step 12 through 22 using a different class of service until each type-of-line indication has been checked.	
24	Operate APS/NPS key to normal operating position.	
25	Remove plug from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.
26b	If DSA switchboard is provided— At switchboard— Disconnect cord circuit and operator telephone set.	
27b	Restore Talk Key.	
C. Ringing and False Ground Check		
15	At MTF— Select class of service and rate treatment as required for non-PBX, noncoin line.	
16	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. NC lamp lighted. If DSA switchboard is provided— At switchboard— NC lamp lighted. If receiver off-hook announcement and tone feature is provided— At MTF— Receiver off-hook announcement heard followed by receiver off-hook tone for approximately 50 seconds. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. NC lamp lighted. If DSA switchboard is provided—

STEP	ACTION	VERIFICATION
		At switchboard— NC lamp lighted.
17	Insert cord into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
18b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
19	At MTF— Remove plugs from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.
20b	If DSA switchboard is provided— At switchboard— Restore Talk key.	
21	Momentarily operate RING key.	NC lamp momentarily extinguished. At MTF— R- lamp momentarily lighted while ringing current applied. Ringing tone momentarily heard while ringing current applied.
22b	If DSA switchboard is provided— At switchboard— Operate RG key.	NC lamp extinguished.
23b	Momentarily operate RING key.	NC lamp extinguished. At MTF— R- lamp extinguished.
24b	If DSA switchboard is provided— At switchboard— Restore RG key.	NC lamp lighted.
25	At MTF— Momentarily operate RL key.	All lamps extinguished.
26	Restore all keys and switches.	
27	Operate APS/NPS key to normal operating position.	
28b	If DSA switchboard is provided— At switchboard— Disconnect cord circuit and operator telephone set.	

STEP	ACTION	VERIFICATION
D. Coin Control Feature		
15	At MTF— Select class of service as required for coin line.	
16c	If PSHT being tested is not arranged for coin return after disconnect— Operate CNR key.	
17	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. C lamp lighted. If DSA switchboard is provided— At switchboard— C lamp lighted. If receiver off-hook announcement and tone feature is provided— At MTF— Receiver off-hook announcement heard followed by receiver off-hook tone for approximately 50 seconds. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. C lamp lighted. If DSA switchboard is provided— At switchboard— C lamp lighted.
18	Insert front cord into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
19b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
20	Remove plugs from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.

STEP	ACTION	VERIFICATION
21	At MTF— Operate CN key.	
22d	If office is arranged for coin service improvements (dial-tone-first)— Operate DTNF key.	
23	Collect coin.	C lamp extinguished while coin collect battery is applied. If DSA switchboard provided— At switchboard— Coin present lamp lighted. At MTF— CND lamp lighted. If office is arranged for positive coin collect battery— PK lamp momentarily lighted in unison with CC lamp. If office is arranged for coin service improvements (dial-tone-first)— OLF lamp ***does not*** light.
24b	If DSA switchboard is provided— At switchboard— Collect coin.	Coin present lamp not lighted.
25	At MTF— Restore CN key.	CND lamp extinguished.
26	Operate CN key.	
27	Return coin.	C lamp extinguished while coin return battery is applied. If DSA switchboard provided— At switchboard— Coin present lamp lighted. At MTF— CR lamp momentarily lighted. CND lamp lighted. If office is arranged for positive coin return battery— PK lamp momentarily lighted in unison with CR lamp. If office is arranged for coin service improvements (dial-tone-first)— OLF lamp ***does not*** light.
28b	If DSA switchboard is provided— At switchboard— Return coin.	Coin present lamp not lighted.

STEP	ACTION	VERIFICATION
29	At MTF— Restore CN key.	CND lamp extinguished.
30	Operate CN key.	
31	At MTF— Restore TLK key.	CR lamp momentarily lighted. CND lamp lighted. AS lamp extinguished. If DSA switchboard provided— At switchboard— Coin present lamp lighted.
32b	If DSA switchboard provided— At switchboard— Disconnect cord circuit and operator telephone set.	
33	Restore Talk key.	
34	At MTF— Momentarily operate RL key.	All lamps extinguished.
35	Restore all keys and switches.	
36	Operate APS/NPS key to normal operating position.	
E. Howler or Receiver Off-Hook Tone — Monitoring		
15	At MTF— Select class of service and rate treatment as required for non-PBX, noncoin line.	
16c	If range extension for unigauge cabling feature is under test— Operate LOLL key.	
17	Momentarily operate ST key.	If ETS provided— FT lamp provided. AS, RA_, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. NC lamp lighted. If DSA switchboard is provided— At switchboard— NC lamp remains lighted. If receiver off-hook announcement and tone feature is provided— At MTF— Receiver off-hook announcement heard followed by receiver off-hook tone for

STEP	ACTION	VERIFICATION
		approximately 50 seconds. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. NC lamp lighted. If DSA switchboard is provided— At switchboard— NC lamp lighted.
18	Insert front cord into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
19b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established. If range extension for unigauge cabling feature is under test— At PSHT under test— LOLP relay operated. At concentrator circuit associated with PSHT under test— LOLP, LOLPA relays operated.
20	At MTF— Remove plugs from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.
21b	If DSA switchboard is provided— At switchboard— Restore Talk key.	SUPV lamp flashes at 120 ipm.
22c	If office is not arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Operate HLR key.	At MTF— Howler tone heard. H lamp flashes at 60 or 120 ipm.
23d	If office is arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Operate ROHT key.	At MTF— Receiver off-hook tone heard. H lamp flashes at 60 to 120 ipm.
24	Patch T1 jack of voltmeter test panel to T jack of PSHT being tested.	BY1 lamp lighted.
25	Operate T key.	Howler or receiver off-hook tone heard.
26	When tone cycle is completed (H lamp extinguished)— Remove patching cord.	BY1 lamp extinguished.
27	Restore T key.	

STEP	ACTION	VERIFICATION
28c	If office is not arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Momentarily restore HLR key.	SUPV lamp flashes at 120 ipm.
29d	If office is arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Momentarily restore ROHT key.	SUPV lamp flashes again at 120 ipm.
30	When flashing SUPV lamp changes to a steadily lighted condition— Disconnect cord circuit.	At MTF— Howler or receiver off-hook tone heard.
31c	If range extension for unigauge cabling feature is under test— Patch T1 jack of voltmeter test panel to T jack of PSHT being tested.	BY1 lamp lighted.
32c	Operate PSM key.	
33c	Operate T key.	Receiver off-hook tone heard at 60 ipm.
34c	Restore PSM key.	Receiver off-hook tone silenced.
35c	Restore T key.	
36c	Remove patching cord.	BY1 lamp extinguished.
37c	At MTF— Restore LOLL key.	
38c	Operate NOLL key.	
39c	Repeat Steps 17, 18.	
40b	If DSA switchboard provided— Operate Talk key.	Talking circuit established. At PSHT under test— LOLP relay not operated. At concentrator circuit associated with PSHT under test— LOLP, LOLPA relays not operated.
41b	Repeat Steps 20 through 24.	
42b	Operate T key.	Receiver off-hook tone heard.
43	Repeat Steps 26 through 29.	
44	Before H lamp is extinguished— Restore TLK key.	If ETS provided— FT lamp extinguished. AS lamp extinguished.

STEP	ACTION	VERIFICATION
45	Momentarily oprate RL key.	All lamps extinguished.
46	Repeat Steps 11 through 20 using a PBX class of service.	
47b	If DSA switchboard provided— Restore Talk key.	
48c	If office is not arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Momentarily restore HLR key.	SUPV lamp not lighted.
49d	If office is arranged for receiver off-hook announcement and tone feature— At switchboard if provided— Momentarily restore ROHT key.	SUPV lamp not lighted.
50	Restore howler or ROHT key.	
51	At MTF— Momentarily operate RL key.	All lamps extinguished.
52	Restore all keys and switches.	
53	Operate APS/NPS key to normal operating position.	
F. Time-Out — Monitor and Alarm Indication — Coin Class		
15	At MTF— Select class of service as required for coin line.	
16c	If PSHT being tested is not arranged for coin return after disconnect— Operate CNR key.	
17	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA, MRL lamps lighted. If permanent signal expanded routing feature is provided— ROH lamp lighted. C lamp lighted. If DSA switchboard is provided— At switchboard— C lamp lighted. If receiver off-hook announcement and tone feature is provided— At MTF—

STEP	ACTION	VERIFICATION
		Receiver off-hook announcement heard, followed by receiver off-hook tone for approximately 50 seconds. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. C lamp lighted. If DSA switchboard is provided— At switchboard— C lamp lighted.
18	Insert front cord into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
19b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
20	Remove plugs from PSCMB_ jacks.	All PSC_ lamps extinguished except PSC_ lamp associated with concentrating circuit being tested.
21d	If PSHT is arranged for immediate alarm after operator disconnect— At switchboard if provided— Disconnect cord circuit.	C lamp flashes at 120 ipm. Minor alarm sounds.
22d	Restore Talk key.	
23e	If PSHT is not arranged for immediate alarm after operator disconnect— At switchboard if provided— Disconnect cord circuit.	
24e	Restore Talk key.	
25e	At MTF— Momentarily operate PS1, PS2 keys.	C lamp flashes at 120 ipm. Minor alarm sounds.
26	Patch T1 jack of voltmeter test panel to T_ jack of PSHT being tested.	C lamp flashes changed from 120 ipm to 60 ipm. Minor alarm silenced.
27	Remove patching cord.	C lamp continues to flash at 60 ipm. Minor alarm does not sound.
28	Momentarily operate RL key.	All lamps extinguished.
29	Restore all keys and switches.	

STEP	ACTION	VERIFICATION
30	Operate APS/NPS key to normal operating position.	
G. Concentrating Circuit — Timed Release		
15	At MTF— Select class of service and rate treatment as required for non-PBX, noncoin line.	
16	At relay rack frame— Block nonoperated CO relay of concentrating circuit to be tested.	
17	At MTF— Momentarily operate ST key. When AS lamp lights, ***start timing.***	If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted. In approximately 13 to 32 seconds— Minor alarm sounds. At relay rack frame— AL lamp lighted.
18	At MTF— Remove plugs from PSCMB_ jacks.	If receiver off-hook announcement and tone is provided— Receiver off-hook announcement and tone heard. Permanent signal high tone heard. If 1 minute interrupter provided— Within 1 minute— Permanent signal high tone momentarily interrupted. If DSA switchboard is provided— At switchboard— NC lamp lighted.
19	Insert front cord into jack associated with permanent signal.	At MTF— Permanent signal high tone not heard.
20b	If DSA switchboard is provided— At switchboard— Operate Talk key.	Talking circuit established.
21	At MTF— Momentarily operate RL key.	All lamps extinguished.
22	Restore all keys and switches.	
23b	If DSA switchboard is provided— At switchboard— Disconnect cord circuit.	
24b	Restore Talk key.	

STEP	ACTION	VERIFICATION
25	At relay rack frame— Remove blocking tool from CO relay.	
26	Momentarily operate AR key.	AL lamp extinguished. Minor alarm silenced.

H. Timing — Noncoin

1	At relay rack frame— Operate MB switch to MB position on PSHT associated with timing circuit being tested.	MB lamp lighted.
2	When ST relay of timing circuit being tested is normal— Block operated S2 relay, ***start timing.***	At MTF— Depending upon timing interval provided for trunk— NC lamp flashes at 120 ipm in:

NOMINAL TIMING INTERVAL	MIN TO MAX TIMING INTERVAL
15 minutes	12 to 38 minutes
22 minutes	18 to 49 minutes
33 minutes	27 to 73 minutes
46 minutes	38 to 103 minutes

3	At relay rack frame— Remove blocking tool from S2 relay.	
4	Restore MB switch.	MB lamp extinguished.

I. Trunk Busy

10	At relay rack frame— Operate MB switch of PSHT being tested to MB position.	MB lamp lighted.
11	At MTF— Insert make-busy plugs into all PSCMB_ jacks.	All PSC_ lamps lighted.
12	Operate NTFS, NTTS, PS keys.	
13	Select class of service and rate treatment as required for non-PBX, noncoin line.	
14	Operate TLK key.	
15	Momentarily operate ST key.	If ETS provided— FT lamp lighted. AS, RA_, MRL lamps lighted.

STEP	ACTION	VERIFICATION
16	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
17	Operate TS key.	
18	Momentarily operate ST key.	TB lamp lighted. AS lamp not lighted.
19	Momentarily operate RL key.	All lamps extinguished. If ETS provided— FT lamp remains lighted.
20	Restore all keys and switches.	
21	Remove plug from PSCMB_ jacks.	PSC_ lamps extinguished.
22	Operate APS/NPS key to normal operating position.	
23	At relay rack frame— Operate MB switch of PSHT being tested to N position.	MB lamp extinguished. If ETS provided— At MTF— FT lamp extinguished.
J. Manual Release Feature — PST Key		
12	At MTF— Insert make-busy plugs into all PSCMB_ jacks.	All PSC_ lamps lighted.
13	Select class of service and rate treatment as required for non-PBX, noncoin line.	
14	Operate TLK key.	
15	Momentarily operate ST key.	If ETS provided— FT lamp lighhted. AS lamp lighted.
16	Momentarily operate PST key.	If ETS provided— FT lamp extinguished. AS lamp extinguished.
17	Momentarily operate RL key.	All lamps extinguished.
18	Restore all keys and switches.	
19	Operate APS/NPS key to normal operating position.	
20	Remove plug from PSCMB_ jacks.	PSC_ lamps extinguished.

STEP	ACTION	VERIFICATION
K. False-Busy and False-Idle Conditions		
1	At relay rack frame— Connect 110-volt ac supply to 1A fault locator.	Whistle heard.
2	Operate W-T switch to W position, HR-LRT switch to HR position.	
3	Connect WT jack of fault locator to terminal of terminal strip on unit as follows: Nonwire-spring-relay type PSHT— Terminal A10. Wire-spring-relay type PSHT— Terminal A45.	Whistle not heard.
4	Operate MB switch of PSHT being tested and then MB switches of all other trunks using the same route on same trunk link frame.	Whistle heard. MB lamp lighted.
5	When PSHT being tested is idle— Momentarily restore MB switch.	Whistle not heard while MB switch restored.
6	Block operated S2 relay.	
7	Restore MB switch of PSHT being tested.	Whistle heard.
8	Restore other MB switches operated in Step 4.	Whistle not heard.
9	Connect HRG (high resistance ground) terminal to terminal of terminal strip on unit as follows: Nonwire-spring-relay type PSHT— Terminal A9. Wire-spring-relay type PSHT— Terminal A55.	
10	Disconnect WT jack of fault locator from terminal A45 or 110, and connect to terminal as follows: Nonwire-spring-relay type PSHT— Terminal A11. Wire-spring-relay type PSHT— Terminal A15.	Whistle heard.
11	Remove blocking tool from S2 relay.	Whistle not heard.
12	Remove test connections from terminal strip.	