

**NUMBER GROUP CIRCUITS
WIRE-SPRING-RELAY TYPE
TESTS
NO. 5 CROSSBAR OFFICES**

1. GENERAL

PAGE

1.01 This section is reissued for the following reasons:

- (a) To revise tests A, B, C, F, and G to include procedures for testing wideband features
- (b) To revise the selection of circuits and test conditions at the master test frame (MTF) in accordance with Section 218-106-301
- (c) To make minor changes as required.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 This issue affects Equipment Test Lists.

1.03 The tests covered are:

PAGE

A. Sleeve Lead Check: This test checks the continuity of the assigned sleeve leads through the SC- relays to the markers. **4**

B. Tens Block Advance—Terminal Hunting Block Hunt Numbers: This test checks the ability of the number group to function with the marker to advance hunting to the next tens block when the lines in the preceding tens block test busy. **6**

C. Tens Block Advance—Terminal Hunting Block Select Numbers—Nonallotted Hunting Groups: This test checks the ability of the number group to function with the marker to advance hunting to a tens block with

idle lines when lines in the first tens block test busy. **8**

D. Tens Block Busy Indication and Advance—Allotted Hunting Groups: This test checks the subgroup busy indication for each tens block of allotted hunting groups. It also checks the block select feature for each number group of the hunting group. **18**

E. Number Group Preference—Allotted Hunting Groups: This test checks the ability of the number group to function with the marker and PBX allotter to determine which number groups of an allotted hunting group have idle lines. **20**

F. XSC Relay Check: This test checks that the XSC relay will operate when two or more SC- relays, that are associated with the same tens block, operate at the same time. **22**

G. Two-Line Number: This test checks the ability of the number group to function with the marker to route a call to a second number in the same tens block, if the first number is busy, without the use of an SC- relay.

1.04 All connecting leads between the marker and the number group, except those covered herein are tested by the marker during the normal progress of a service call. By using the MTF, calls that simulate all types of number group translations may be put through the marker and the results checked on the test frame lamps and the trouble recorder cards. No tests are provided

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for checking the leads that are checked by the marker.

1.05 All tests covered in this section should be made during periods of light traffic.

Caution: *Tests C, D, and E deny incoming service to line under test.*

1.06 Whenever it is necessary to take a number group frame out of service, the traffic department should be advised in accordance with local instructions.

1.07 For Tests C, D, and E an assistant is required at number group frame associated with the tens block of hunting group under test.

1.08 For Tests C and D an assistant is required at the line link frame associated with the tens block of hunting group under test.

1.09 *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.

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

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

2. APPARATUS

All Tests

2.01 Master test control circuit SD-25800-01.

Tests C, D

2.02 351C (make-busy) plug.

Tests C, D, E

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

2.04 Two 52-type head telephone sets.

Test E

2.05 32A test set.

Test F

2.06 322A (make-busy) plug.

2.07 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord) and two 419A (test connector) tools (for connecting to relay springs).

3. PREPARATION

Test A

3.01 Consult office records for numbers of all nonwideband and wideband lines in the terminal hunting group. For nonwideband allotted hunting groups, also determine which number groups correspond to designations A through H in the PBX allotter.

Test B

3.02 Consult office records for numbers of all nonwideband and wideband lines in the block hunting terminal hunting group. Also, determine which are the first, intermediate, and last tens blocks of the group.

Test C

3.03 Consult office records for the following information for each nonallotted block select hunting group under test:

- (a) Number of all nonwideband and wideband lines in the terminal hunting group

- (b) The first, intermediate, and last tens blocks of the group
- (c) The TBT- relay for each tens block
- (d) The BYP- relays and auxiliary line circuit arranged for multilevel preemption associated with each PTB-relay.

Test D

3.04 Consult office records for the following information for each allotted hunting group under test:

- (a) Number of all lines in the hunting group
- (b) The number groups that correspond to designations A through H in the PBX allotter
- (c) The first, intermediate, and last tens blocks of the group if a number group contains more than one tens block associated with the hunting group
- (d) The ABT- or TBT- relay for each tens block in each number group
- (e) The B- relays and auxiliary line circuits associated with each ABT- and TBT- relay.

Test E

3.05 Consult office records for number groups that correspond to designations A through

H in the PBX allotter for the allotted hunting group under test. Also, determine which ABT- and TBT- relays are associated with the hunting group in each number group. If the hunting group is distributed over 3, 5, 6, or 7 number groups, determine the NNG terminal cross-connections in the PBX allotter.

Test F

3.06 Consult office records for both nonwideband and wideband lines for the following information:

- (a) A tens block associated with more than one terminal hunting group
- (b) Two numbers, one each in separate hunting group within the selected tens block
- (c) The terminals on the marker translator and route relay frame corresponding to the units digits of the selected two numbers.

Test G

3.07 Consult office records for both nonwideband and wideband lines for first line number and line link location of the second line for the 2-line number being tested.

3. PREPARATION (Cont)

STEP	ACTION	VERIFICATION
All Tests		
1	At MTF— Restore all keys and switches.	
2	Momentarily operate RL key.	All lamps extinguished.
3	Select INC class of test.	
4	Select trunk link frame.	
5a	If 4-wire line is selected— Operate 4W key.	

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STEP	ACTION	VERIFICATION
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Sleeve Lead Check

Nonwideband Lines

- | | | |
|-----|---|--|
| 6 | Operate REC, PBXH keys. | |
| 7 | Select marker. | |
| 8b | If lines are in nonallotted hunting group—
Select A- through D-digits as required to direct call to lowest number in first tens block. | |
| 9c | If lines are in allotted hunting group—
Select A- through D-digits as required to direct call to lowest number in tens block other than directory number tens block. | |
| 10 | Select units digit of line in tens block selected. | |
| 11 | Select incoming class of call and translator indication as required for local completion. | |
| 12 | Select incoming trunk class as required for local completion. | |
| 13 | Momentarily operate ST key. | |
| 14 | Momentarily operate RL key. | |
| 15 | Select units digit for each remaining line in selected tens block and perform Steps 13 and 14 as required. | |
| 16d | If hunting group has more than one tens block—
Repeat Steps 8b or 9C through 15 for each remaining tens block. | |

LK2, MRL lamps lighted.
Trouble record taken.
FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location of sleeve lead under test.

Note: If BY or TRL lamps are lighted instead of LK2 lamp, it *may* indicate that line is busy or sleeve lead is open or falsely grounded.

All lamps extinguished.

STEP	ACTION	VERIFICATION
17c	If lines are in allotted hunting group— Operate NGT, NG- keys for all but selected number group frame.	
18c	Select A- through D-digits as required to direct call to directory number of allotted hunting group.	
19c	Select units digit corresponding to directory number selected in Step 18c.	
20c	Repeat Steps 13 and 14.	
21c	Select units digit for each remaining line in selected tens block and perform Steps 13 and 14 as required.	
22	Restore all keys and switches not required in next test.	

Wideband Lines

23	Operate REC, PBXH keys.	
24	Select marker 0 or 1.	
25	Operate WBT key.	
26	Operate WBT- key as required to select class of wideband call.	
27	Select A- through G-digits as required to direct call to lowest number in first tens block.	
28	Select units digit of wideband line in tens block selected.	
29	Select incoming class of call and translator indication as required for wideband local completion.	
30	Select incoming trunk class as required for wideband local completion.	
31	Momentarily operate ST key.	

LK2, MRL lamps lighted.
 Trouble record taken.
 FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating wideband line location of sleeve lead under test.

Note: If BY or TRL lamps are lighted instead of LK2 lamp, it *may* indicate that

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STEP	ACTION	VERIFICATION
		wideband line is busy or sleeve lead is open or falsely grounded.
32	Momentarily operate RL key.	All lamps extinguished.
33	Select units digit for each remaining wideband line in selected tens block and perform Steps 31 and 32 as required.	
34d	If hunting group has more than one tens block— Repeat Steps 27 through 32 for each remaining tens block.	
35	Restore all keys and switches.	

B. Tens Block Advance—Terminal Hunting Block Hunt Numbers

Nonwideband Lines

6	Operate REC, EBH keys.	
7	Select marker.	
8	Select A- through D-digits as required to direct call to lowest number in first tens block in block hunting group.	
9	Select units digit of line in next tens block of hunting group.	
10	Select incoming class of call and translator indication as required for local completion.	
11	Select incoming trunk class as required for local completion.	
12	Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in next tens block as determined by selecting units digit.

Note: If perforations on trouble recorder card are for line location in a succeeding tens block instead of next tens block, it may indicate that lines in next tens block and any intermediate tens blocks are busy or that sleeve connections are open or falsely grounded. If all lines corresponding to selected units digit in each

STEP	ACTION	VERIFICATION
		succeeding tens block are busy or in trouble, BY lamp instead of LK2 lamp will be lighted.
13	Momentarily operate RL key.	All lamps extinguished.
14	Repeat Steps 8 through 13 for each remaining tens block until each tens block in each hunting group has been selected.	
15	Restore all keys and switches not required in next test.	

Wideband Lines

16	Operate REC, PBXH keys.	
17	Select marker 0 or 1.	
18	Operate WBT key.	
19	Operate WBT- key as required to select class of wideband call.	
20	Select A- through G-digits as required to direct call to lowest number in first tens block in block hunting group.	
21	Select units digit of wideband line in next tens block of hunting group.	
22	Select incoming calls and translator indication as required for wideband local completion.	
23	Select incoming trunk class as required for wideband local completion.	
24	Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating wideband line location in next tens block as determined by selected units digit.

Note: If perforations on trouble recorder card are for wideband line location in a succeeding tens block instead of next tens block, it may indicate that wideband lines in next tens block and any intermediate tens blocks are busy or that sleeve connections are open or falsely grounded. If all wideband lines corresponding to selected units digit in each succeeding tens block are busy or in

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STEP	ACTION	VERIFICATION
		trouble, BY lamp instead of LK2 lamp will be lighted.
25	Momentarily operate RL key.	All lamps extinguished.
26	Repeat Steps 21 through 25 for each remaining tens block until each tens block in each hunting group has been selected.	
27	Restore all keys and switches.	
C. Tens Block Advance—Terminal Hunting Block Select Numbers—Nonallotted Hunting Groups.		
Nonwideband and Wideband Lines		
6b	If lines in second tens block of hunting group are associated with B- relays in TBT- relay chain— At relay rack frame for sleeve-busy relay unit of number group associated with directory number of hunting group— Insert plug of first telephone set into TEL jack.	
7b	At number group frame— Request assistant to insert plug of second telephone set into TEL jack.	
8b	At relay rack frame for sleeve-busy relay unit— Block operated all B- relays of second tens block of hunting group.	At number group frame— TBT- relay operated for second tens block.
9b	At relay rack frame for sleeve-busy relay unit— Remove and replace blocking tool from lowest numbered B- relay.	If line is idle— B- relay momentarily released. At number group frame— TBT- relay momentarily released.
10b	Repeat Step 9b for each remaining B- relay in tens block.	
11b	Remove blocking tools from all B- relays.	If any line in second tens block is busy— Associated B- relay remains operated.
12b	At line link frame associated with directory number of hunting group— Request assistant to insert plug of second telephone set into TEL jack.	
13b	When hold magnet associated with directory number is released—	At relay rack frame for sleeve-busy relay unit—

STEP	ACTION	VERIFICATION
	Request assistant to momentarily insert make-busy plug into line vertical unit jack.	Corresponding B- relay momentarily operated.
14b	Repeat Steps 12b and 13b to test each remaining line in second tens block. In repeating, substitute line under test for directory number.	
15c	If lines in second tens block of hunting group are associated with auxiliary lines which are arranged for a subgroup-busy indication over the TBT- relay chain— At relay rack frame for auxiliary line unit associated with directory number of hunting group— Insert plug of first telephone set into TEL jack.	
16c	At number group frame— Request assistant to insert plug of second telephone set into TEL jack.	
17c	At relay rack frame for auxiliary line unit— Block operated all SR- or S- relays of second tens block of hunting group.	At number group frame— TBT- relay operated for second tens block.
18c	At relay rack frame for auxiliary line unit— Remove and replace blocking tool from lowest numbered SR- or S- relay.	If line is idle— SR- or S- relay released. At number group frame— TBT- relay momentarily released.
19c	Repeat Step 18c for each remaining SR- or S- relay in tens block.	
20c	Remove blocking tools from all SR- or S-relays	If any line in second tens block is busy— Associated SR- or S- relay remains operated.
21c	Repeat Steps 17c through 20c, using S2 relay instead of SR- or S- relay.	
22d	If there is more than one tens block in hunting group in a number group— Repeat Steps 6b through 21c for each remaining tens block in hunting group.	
23e	If lines in second tens block of multilevel preemption hunting group are associated with BYP- relays in PTB- relay chain— At relay rack for auxiliary line unit associated with directory number of multilevel preemption hunting group—	

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STEP	ACTION	VERIFICATION
	Insert plug of first telephone set into TEL jack.	
24e	Block operated all BYP- relays of second tens block.	At number group frame— PTB- relay released for second tens block.
25e	At relay rack frame for auxiliary line unit— Remove and replace blocking tool from lowest numbered BYP- relay.	If line is idle— BYP- relay momentarily released. At number group frame— PTB- relay momentarily operated.
26e	Repeat Step 25e for each remaining BYP- relay in tens block.	
27e	Remove blocking tools from all BYP-relays.	If any line in second tens block is busy— Associated BYP- relay remains operated.
28e	At line link frame with line in second tens block of hunting group— Request assistant to insert plug of second telephone set into TEL jack.	
29e	When hold magnet associated with directory number is released— Request assistant to momentarily insert make-busy plug into line vertical unit jack.	At relay rack frame for auxiliary line unit— Corresponding BYP- relay momentarily operated.
30e	Repeat Steps 28e and 29e to test each remaining line in second tens block.	
31e	Repeat Steps 23e through 30e for each remaining tens block in hunting group.	

PBX Block Selection Hunting, Test Control Not Provided—(NGBS Key Not Furnished)

32	At MTF— Insert plug of first telephone set into TEL jack. (When it is desired to talk, operate LOC FR L key.)	
33	Operate REC, EBH keys.	
34f	If number selected is associated with nonwideband service— Select A- through D-digits as required to direct call to directory number of hunting group.	
35f	Select marker.	
36g	If number selected is associated with wideband service—	

STEP	ACTION	VERIFICATION
	Select A- through G-digits as required to direct call to directory number of hunting group.	
37g	Select marker 0 or 1.	
38g	Operate WBT key.	
39g	Operate WBT key as required to select class of wideband call.	
40	Select units digit in second tens block in hunting group as required.	
41	Select incoming class of call and translator indication as required for local completion.	
42	Select incoming trunk class as required for local completion.	
43	When TBT- relay of second tens block is released— At MTF— Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in second tens block as determined by selected units digit.
		<i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that called line is busy or sleeve lead is open or falsely grounded.
44	Momentarily operate RL key.	All lamps extinguished.
45	Select units digit of line in next succeeding tens block of hunting group as required.	
46	At number group frame— Request assistant to block operated all TBT-relays of tens block previously tested.	
	Caution: <i>Blocking operated TBT- relays denies terminating traffic to all lines within the associated tens block. Therefore, block operated TBT- relays for as short a time as possible.</i>	
47	When TBT- relay of tens block associated with Step 45 is released— At MTF— Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in second tens block as determined by selected units digit.

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STEP	ACTION	VERIFICATION
		<i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that called line is busy or sleeve lead is open or falsely grounded.
48	At number group frame— Request assistant to remove blocking tools from all TBT- relays.	If all lines in tens block are busy— TBT- relay remains operated.
49	At MTF— Momentarily operate RL key.	All lamps extinguished.
50	Repeat Steps 45 through 49 for each remaining tens block until each tens block in hunting group has been tested.	
51	Momentarily operate RL key.	All lamps extinguished.
52	Restore all keys and switches not required in next test.	
53	Remove plug of first telephone set from TEL jack.	
54	At number group frame— Request assistant to remove plug of second telephone set from TEL jack.	

PBX Block Select Hunting, Test Control Provided—(NGBS Key Furnished)

55	At MTF— Operate REC, EBH, NGBS keys.	
56	Set TBT-, TBU- switches corresponding to TBT- or PTB- relay of second tens block of hunting group.	
57f	If number selected is associated with nonwideband service— Select A- through D-digits as required to direct call to directory number of hunting group.	
58f	Select marker.	
59g	If number selected is associated with wideband service— Select A- through G-digits as required to direct call to directory number of hunting group.	

STEP	ACTION	VERIFICATION
60g	Select marker 0 or 1.	
61g	Operate WBT key.	
62g	Select WBT- key as required to select class of wideband call.	
63e	If testing 4-wire multilevel preemption— Operate CPT1 and or CDT1 keys as required to select precedence control digits ten and control digits ten.	
64e	Set CDU-, CDPU-, CDA- switches as required to select control digits units.	
65	Select units digit of line in second tens blocks of hunting group as required.	
66	Select incoming class of call and translator indication as required for local completion.	
67	Select incoming trunk class as required for local completion.	
68	Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in tens block as determined by selected units digit.
		<i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that line is busy or sleeve lead is open or falsely grounded.
69	Momentarily operate RL key.	All lamps extinguished.
70	Set TBT-, TBU- switches corresponding to next succeeding tens block of hunting group.	
71	Select units digit of line in next succeeding tens block of hunting group as required.	
72	Repeat Steps 68 and 69.	
73	Repeat Steps 70 through 72 for each remaining tens block until each tens block in hunting group has been selected.	
74	Restore all keys and switches.	

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STEP	ACTION	VERIFICATION
D. Tens Block Busy Indication and Advance—Allotted Hunting Groups		
All Nonwideband Lines		
6b	If lines in first tens block of hunting group are associated with B- relays in ABT- relay chain— At relay rack frame for sleeve-busy relay unit of number group associated with directory number of hunting group— Insert plug of first telephone set into TEL jack.	
7b	At number group frame— Request assistant to insert plug of second telephone set into TEL jack.	
8b	At relay rack frame for sleeve-busy relay unit— Block operated all B- relays of first tens block of hunting group.	At number group frame— ABT- relay operated for first tens block.
9b	At relay rack frame for sleeve-busy relay unit— Remove and replace blocking tool from lowest numbered B- relay.	If line is idle— B- relay momentarily released. At number group frame— ABT- relay momentarily released.
10b	Repeat Steps 9b for each remaining B- relay in tens block.	
11b	At relay rack frame for sleeve-busy relay unit— Remove blocking tools from all B- relays.	If any line in first tens block is busy— Associated B- relay remains operated.
12b	At line link frame associated with directory number of hunting group— Request assistant to insert plug of second telephone set into TEL jack.	
13b	When hold magnet associated with directory number is released— Request assistant to momentarily insert make-busy plug into line vertical unit jack.	At relay rack frame for sleeve-busy relay unit— Corresponding B- relay momentarily operated.
14b	Repeat Steps 11b and 12b to test each remaining line in first tens block. In repeating, substitute line under test for directory number.	
15c	If lines in first tens block of hunting group are associated with auxiliary lines which are	

STEP	ACTION	VERIFICATION
	<p>arranged for a subgroup-busy indication over ABT- relay chain— At relay rack frame for auxiliary line unit associated with directory number of hunting group— Insert plug of first telephone set into TEL jack.</p>	
16c	<p>At number group frame— Request assistant to insert plug of second telephone set into TEL jack.</p>	
17c	<p>At relay rack frame for auxiliary line unit— Block operated all SR- or S- relays of first tens block of hunting group.</p>	<p>At number group frame— ABT- relay operated for first tens block.</p>
18c	<p>At relay rack frame for auxiliary line unit— Remove and replace blocking tool from lowest numbered SR- or S- relay.</p>	<p>If line is idle— SR- or S- relay released. At number group frame— ABT- relay momentarily released.</p>
19c	<p>Repeat Step 18c for each remaining SR- or S- relay in tens block.</p>	
20c	<p>Remove blocking tools from all SR- or S- relays.</p>	<p>If any line in first tens block is busy— Associated SR- or S- relay remains operated.</p>
21c	<p>Repeat Steps 17c through 20c using S2 relay instead of SR- or S- relay.</p>	
22d	<p>If there is more than one tens block in hunting group in a number group— Repeat Steps 6b through 21c for each remaining tens block in hunting group. When repeating Steps 6b through 21c, substitute TBT- relay for ABT- relay and tens block under test as first tens block.</p>	
23	<p>Repeat Steps 6b through 22d for each remaining number group in hunting group.</p>	
24	<p>At relay rack frame for auxiliary line unit— Remove plug of first telephone set from TEL jack.</p>	
<p>Block Select Hunting Group, Test Control Not Provided—(NGBS Key Not Furnished)</p>		
25	<p>At MTF— Insert plug of first telephone set into TEL jack. (When it is desired to talk, operate LOC FR L key.)</p>	

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STEP	ACTION	VERIFICATION
26	Operate REC, EBH keys.	
27	Select marker.	
28	Operate NGT, NG- keys for each selected number group frame.	
29	Select A- through D-digits as required to direct call to directory number of hunting group.	
30	Select units digit of line in second tens block of hunting group.	
31	Select incoming class of call and translator indication as required for local completion.	
32	Select incoming trunk class as required for local completion.	
33	At number group frame— Request assistant to block operated ABT- relay of first tens block of hunting group.	
34	When TBT- relay of second tens block is released— At MTF— Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in second tens block as determined by selected units digit.
		<i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that called line is busy or sleeve lead is open or falsely grounded.
35	Momentarily operate RL key.	All lamps extinguished.
36	Select units digit of number in next succeeding tens block of hunting group.	
37	At number group frame— Request assistant to block operated all TBT-relays of tens block previously tested.	
	<i>Caution: Blocking operated TBT- relays denies terminating traffic to all lines within the associated tens block. Therefore, block operated TBT- relays for as short a time as possible.</i>	
38	When TBT- relay of tens block associated with Step 33 is released—	LK2, MRL lamps lighted. Trouble record taken.

STEP	ACTION	VERIFICATION
	At MTF— Momentarily operate ST key.	FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in second tens block as determined by selected units digit. <i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that line is busy or sleeve lead is open or falsely grounded. All lamps extinguished.
39	At number group frame— Request assistant to remove blocking tools from all ABT-, TBT- relays.	If any line in first tens block is busy— Associated ABT- or TBT- relay remains operated.
40	At MTF— Momentarily operate RL key.	All lamps extinguished.
41	Repeat Steps 36 through 40 for each remaining tens block until each tens block in hunting group has been tested.	
42	Restore NGT, NG- keys.	
43	Repeat Steps 28 through 42 for each remaining number group that has more than one tens block.	
44	Momentarily operate RL key..	All lamps extinguished.
45	Restore all keys and switches not required in next test.	
46	Remove plug of first telephone set from TEL jack.	
47	At number group frame— Request assistant to remove plug of second telephone set from TEL jack.	

Block Select Hunting Group, Test Control Provided—(NGBS Key Furnished)

48	At MTF— Operate REC, EBH, NGBS keys.	
49	Select marker.	
50	Operate NGT, NG- keys for all but selected number group frame.	

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STEP	ACTION	VERIFICATION
51	Set TBT-, TBU- switches corresponding to TBT- relay of second tens block of hunting group.	
52	Select A- through D- digits as required to direct call to directory number of hunting group.	
53	Select units digit of line in second tens block of hunting group.	
54	Select incoming class of call and translator indication as required for local completion.	
55	Select incoming trunk class as required for local completion.	
56	Momentarily operate ST key.	LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated indicating line location in second tens block as determined by selected units ditit.
		<i>Note:</i> If BY or TRL lamps are lighted instead of LK2 lamp, it <i>may</i> indicate that line is busy or sleeve lead is open or falsely grounded.
57	Momentarily operate RL key.	All lamps extinguished.
58	Set TBT-, TBU- switches corresponding to next succeeding tens block of hunting group.	
59	Select units digit in next succeeding tens block of hunting group.	
60	Repeat Steps 56 and 57.	
61	Repeat Steps 58 through 60 for each remaining tens block until each tens block in hunting group has been selected.	
62	Restore all keys and switches.	
E. Number Group Preference—Allotted Hunting Groups		
All Nonwideband Lines		
6	Select A- through D-digits as required to direct call to directory number of hunting group.	

STEP	ACTION	VERIFICATION
7	Select marker.	
8	Select units digit of number in second tens block of hunting group.	
9	Select incoming class of call and translator indication as required for local completion.	
10	Select incoming trunk class as required for local completion.	
11	At PBX allotter frame associated with marker used in test— Insert plug of first telephone set into TEL jack.	
12	At number group frame— Request assistant to insert plug of second telephone set into TEL jack.	
13	Request assistant to block operated all ABT-, TBT- relays associated with hunting group in approximately half of associated number groups.	
	Caution: Do not block ABT-, TBT- relays for all number groups associated with hunting group since this would deny terminating traffic to all lines in hunting group.	
14	At PBX allotter frame associated with marker used in test— Insert plug of 32A test set into RC jack.	
15	Momentarily operate white (ST) button of 32A test set.	NGT- relays momentarily operated corresponding to number groups A through H which have ABT-, TBT- relays blocked operated. If hunting group is distributed over 3, 5, 6 or 7 number groups— NGT- relays also momentarily operated in accordance with PBX allotter cross-connections for the NNG terminal.
16	Momentarily operate red (RL) button of 32A test set.	
17	Repeat Steps 14 through 16 for each combined or completing marker by selecting a different marker.	

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STEP	ACTION	VERIFICATION
18	At number group frame— Request assistant to remove blocking tools from ABT-, TBT- relays.	
19	Repeat Steps 13 through 18 with ABT-, TBT-relays blocked operated in remaining number groups associated with hunting group.	
20	Request assistant to remove plug of second telephone set from TEL jack.	
21	At PBX allotter frame associated with marker used in test— Remove plug of 32A test set from RC jack.	
22	Remove plug of first telephone set from TEL jack.	
23	At MTF— Momentarily operate RL key.	All lamps extinguished.
24	Remove all keys and switches.	

F. XSC Relay Check

Nonwideband Lines

- 6 Operate PBXH key.
- 7 Select marker.
- 8 Select two numbers, one each in separate terminal hunting groups in same tens block.
- 9 Select A- through D- digits corresponding to lower number selected.
- 10 Select units digit corresponding to lower number selected.
- 11 Select incoming class of call and translator indication as required for local completion.
- 12 Select incoming trunk class as required for local completion.
- 13 Insert make-busy plug into MB- jack associated with selected marker.
- 14 At marker made busy—
Connect together terminals of two leads

STEP	ACTION	VERIFICATION
	corresponding to units digits of selected numbers.	
	<i>Note:</i> For U and Y markers, terminals are located on U section of terminal strip AD on the translator and route relay frame. For wire-spring-relay type markers, terminals are located on U section of terminal strip TP on the translator and code treatment frame.	
15	At MTF— Momentarily operate ST key.	TRL lamp lighted. Trouble record taken. XSC, FTT-, FUT-, HGT-, VFT- designation perforated. VFT-, RCT- <i>not</i> perforated.
16	Momentarily operate RL key.	TRL lamp extinguished.
17	At marker made busy— Remove test connection from terminal strip terminals.	
18	At MTF— Remove make-busy plug from MB- jack.	
19	Restore all keys and switches not required in next test.	

Wideband Lines

- | | | |
|----|--|--|
| 20 | Operate PBXH key. | |
| 21 | Select marker 0 or 1. | |
| 22 | Operate WBT key. | |
| 23 | Operate WBT- key as required to select class of wideband call. | |
| 24 | Select two numbers, one each in separate terminal hunting groups in same tens block. | |
| 25 | Select A- through G- digits as required to direct call to lowest number in first tens block. | |
| 26 | Select units digit of wideband line corresponding to lower number selected. | |
| 27 | Select incoming class of call and translator indication as required for wideband local completion. | |

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STEP	ACTION	VERIFICATION
28	Select incoming trunk class as required for wideband local completion.	
29	Insert make-busy plug into MB- jack associated with selected marker.	
30	At marker made busy— Connect together terminals of two leads corresponding to units digits of selected numbers. <i>Note:</i> Terminals are located on U section of terminal strip TP on the translator and code treatment frame.	
31	At MTF— Momentarily operate ST key.	TRL lamp lighted. Trouble record taken. XSC, FTT, FUT, HGT, VFT, designation perforated. VFT, RCT- <i>not</i> perforated.
32	Momentarily operate RL key.	TRL lamp extinguished.
33	At marker made busy— Remove test connection from terminal strip terminals.	
34	At MTF— Remove make-busy plug from MB- jack.	
35	Restore all keys and switches.	

G. Two-Line Number

Nonwideband Lines

6	Operate LBL, REC keys.	
7	Select marker.	
8	Select A- through D- digits to direct call to first line of 2-line number.	
9	Select incoming class of call and translator indication as required for local completion.	
10	Select incoming trunk class as required for local completion.	
11	Momentarily operate ST key.	DIS1, LK2, MRL lamps lighted. Trouble record taken.

STEP	ACTION	VERIFICATION
		FTT-, FUT-, VGT-, HGT-, VFT-, 2LN designations perforated.
12	Momentarily operate RL key.	All lamps extinguished.
13	Restore LBL key.	
14	Operate LB key.	
15	Momentarily operate ST key.	DIS1, BY, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated.
16	Momentarily operate RL key.	All lamps extinguished.
17	Restore all keys and switches not required in next test.	

Wideband Lines

18	Operate LBL, REC keys.	
19	Select marker 0 or 1.	
20	Operate WBT key.	
21	Operate WBT- key as required to select class of wideband call.	
22	Select A- through G- digits to direct call to first line of 2-line number.	
23	Select incoming class of call and translator indication as required for wideband local completion.	
24	Select incoming trunk class as required for wideband local completion.	
25	Momentarily operate ST key.	DIS1, LK2, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT-, 2LN designations perforated.
26	Momentarily operate RL key.	All lamps extinguished.
27	Restore LBL key.	
28	Operate LB key.	

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STEP	ACTION	VERIFICATION
29	Momentarily operate ST key.	DIS1, BY, MRL lamps lighted. Trouble record taken. FTT-, FUT-, VGT-, HGT-, VFT- designations perforated.
30	Momentarily operate RL key.	All lamps extinguished.
31	Restore all keys and switches.	