BSM # 821B

LINE CONCENTRATOR NO. 1A
PROCEDURE FOR RELEASING PERMANENT SIGNALS FROM LINE CONCENTRATOR TRUNKS

1. GENERAL

1.01 This section covers the procedures to be followed to release permanent signals from No. 1A line concentrator trunks.

1.02 When a permanent signal condition on a customer line is holding a concentrator trunk busy, it may be considered desirable to release the trunk to avoid an all trunks busy condition.

1.03 From the office records determine the concentrator line terminal appearance number for the customer line associated with the trunk to be released.

1.04 Determine which trunk is connected to the customer line that has the permanent signal condition, by checking the concentrator control unit for crosspoints closed on the line appearance.

(a) To locate the crosspoints of a particular customer line, it is necessary to know whether the line appearance is in the left or right half of the crossbar switches and on which horizontal and steering levels the crosspoints will be closed.

(b) Customer line terminal appearances 0 to 49 appear on horizontals of the left half of the crossbar switches and are served by trunks (verticals) 0 to 9. Lines 50 to 99 appear on horizontals of the right half of the switches and are served by trunks (verticals) 10 to 19. Like numbered verticals are multipled so that each trunk can serve the three switches. Two customer lines appear on each horizontal of switch A (0 to 9 horizontals), B (0 to 9 horizontals), and C (0 to 4 horizontals). Horizontals 8 and 9 of switch C are used as steering levels. Two sets of crosspoints must be closed to connect a trunk to a customer line: a set at the horizontal for the customer line and a set at one of the two steering levels. If crosspoints are closed on the 8 level, the trunk is connected to an even-numbered line; if they are closed to the 9 level, the connection is to the odd-numbered line.

(c) Knowing a line number and using the following table, the switch appearance can be determined.

LINE NUMBER	SWITCH	HORIZONTAL	STEERING LEVEL
0	A left	0	8
19	A "	9	9
20	B "	0	8
39	B "	9	9
40	C "	0	8
49	C "	4	9
50	A right	0	8
69	A "	9	9
70	B "	0	8
89	B "	9	9
90	C "	0	8
99	C "	4	9

Example: A customer line terminal appearance number 67 would appear on switch A, right half, horizontal 8, and steering level 9 crosspoints would be used.

1.05 On completion of the steps outlined in Part 3, the control unit SL- relay associated with the customer's line must remain blocked nonoperated. This is necessary to prevent a terminating call to the line from restoring the concentrator line equipment. A call terminating to a line with a blocked SL- relay will receive audible ring. If it is desired to make the line appear busy, and eliminate possible "bell rings-no answer" reports, a procedure may be established locally to make the line appear busy after the permanent signal is released.

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1.06 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 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.

2. APPARATUS

2.01 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord) and one or two 624B (terminal connector) tools (for making test connection on terminal strip or from terminal strip to dry reed relay test terminal).

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

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3. RELEASING CUSTOMER LINE

STEP	ACTION	VERIFICATION
	Note: In the following steps, a key and relays are numbered with a "0" or "1". These numbers refer to the group in which the line appears. Lines 0 to 49 are in group 0, so the key and relays designated with a 0 are used. Lines 50 to 99 are in group 1, so the key and relays designated with a 1 are used.	
1a	If customer's line is in step-by-step office — At terminal strip on unit — Connect test terminal A69 to sleeve terminal associated with line to be released.	
2b	If customer's line is in crossbar office — Connect test terminal A69 of terminal strip on unit to test terminal of contact 3 of CO- relay associated with line to be released.	
3b	Insulate DIS- relay back contact in operating circuit of the SL- relay associated with the line.	

SL-RELAY	DIS-RELAY	CONTACT NO.
00-11	DIS00	1-12
12-23	DIS01	1-12
24-35	DIS02	1-12
36-47	DIS03	1-12
48-49	DIS04	7,8
50-61	DIS10	1-12
62-73	DIS11	1-12
74-85	DIS12	1-12
86-97	DIS13	1-12
98-99	DIS14	7,8

STEP	ACTION	VERIFICATION
4	***Caution: The blocking of the SRP- relay prevents any service request (dial tone) calls from completing in the particular group.*** Block SRPO or 1 relay nonoperated.	
5	Manually release and block nonoperated TB- relay associated with trunk.	Associated hold-magnets release (see Step 6c).
6c	If hold-magnets do not release — Block operated DPO or 1 relay.	Trunk and line release.
7c	Remove blocking tool from DP- relay.	
8	Remove blocking tool from TB- relay.	
9	When no other calls are being handled by control unit — Operate and hold TO or 1 key until COK lamp lights, then proceed ***immediately*** to Step 10.	
10	Remove blocking tool from SRP- relay.	
11	Block nonoperated SL- relay corresponding to line released (see Paragraph 1.05).	
12b	If customer's line is in crossbar office — Remove insulator from DIS- relay contact.	
13b	Remove test connection from A69 terminal and CO- relay test terminal.	
14a	If customer's line is in step-by-step office — Remove test connection from A69 terminal and sleeve terminal.	
15	Notify the responsible craftsman that the SL- relay is blocked. ***Caution: The customer line is now out of service. No calls may be completed to or from this line.*** *Note:* If it is necessary to set up a test call to the line, the blocking tool must be removed from the SL- relay. When the test is completed and if the line is still to be held out of service, the method of releasing the line from the trunk must be repeated (Steps 1 through 15).	

4. RESTORING CUSTOMER LINE TO SERVICE

STEP	ACTION	VERIFICATION
	When the condition causing the permanent signal has been cleared on the customer line, the line should be restored to service immediately. The customer cannot receive dial tone until the concentrator line equipment is restored.	
1	Remove blocking tool from SL- relay associated with line.	
2	Terminate a call to customer's line. ***Note:*** It is not necessary to ring on customer's line.	