FALSELY GROUNDED TERMINATING SENDER FC LEAD
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers methods to be followed in connection with troubles due to a falsely grounded FC lead in the terminating sender.

2. INDICATIONS OF TROUBLE CONDITION

2.01 Terminating trouble indicator records.

2.02 Terminating sender link alarms.

3. REACTIONS DUE TO TROUBLE

3.01 During busy-hour periods this trouble causes a backup of terminating traffic.

3.02 Double connections may result.

4. IMMEDIATE PROCEDURE TO FOLLOW

4.01 Analyze trouble indicator records.

4.02 Observe terminating sender link control circuit to determine the sender when alarms occur.

4.03 Check the sender lamp on the trouble indicator frame. It will remain lighted for a longer period than others.

4.04 Start the terminating sender test frame.

4.05 When the sender in trouble has been determined, remove it from service.

5. ANALYSIS OF TROUBLE

5.01 False ground on the FC lead causes an F relay of an incoming trunk to be operated falsely as soon as the sender is selected. This causes the marker setting up the connection on this frame at the same time to release and give a trouble indication. Due to the time elements involved these indications may be an XPS (crossed PS lead) or XFC (crossed FC lead) lamp. Depending upon the position of the call being completed at the time the F relay in the incoming trunk is operated falsely, double connections may or may not be set up. If they are, indications showing false SL (SL relay) lamps may be received. The ground on the FC lead will also operate the SPL relay in the terminating sender falsely. If no calls are being completed at this time and this sender connects to a marker, indications showing SPL, (special), X, (cross), and XFC lamps may be received.

6. SUGGESTED PROCEDURE FOR LOCATING AND CLEARING TROUBLE

6.01 Test the sender involved by means of the sender test frame.

7. TROUBLE CONDITIONS CAUSING REACTIONS MAY BE LISTED BELOW

7.01 Contact 11 bottom of the ON1 relay in the terminating sender grounded.

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TERMINATING TROUBLE INDICATOR RECORD
CROSSBAR OFFICES

OFFICE _____

DATE _____ SHEET NO. ____

NO.	TI	CT	DT	GR	DR	DL	CF	CN	SN	TH	H	T	U	F	TR2	RO	OAB	NGC	HB	HP	L	JF	JC	AL1	AL2	LCF	LLG	LOG	HF	RF	TF	CA	CB	IF	LC	M	CH	LJ	JPN	JP	JG	FS	MAN	TOL	CN	RC	RV	RP	TC
1	✓				2	0	1	1	2	4	7	9	6	0				3	2	8	16			✓		1	D	✓			✓		1	0	1,2,4	8	3	3	✓		A	✓				✓			
2	✓				0	1,2	2	2	2	9	2	2	9	6				2	2	8				✓						✓		4		6	1,3	0		6	✓		A	✓				✓			
3	✓				2	1	1	2	2	9	9	5	9	1					19	4				✓																								
4	✓				0	2	1	2	2	0	9	0	4	2				0	9	0					✓		A							2	5	3		2	✓		A	✓				✓			
5	✓				1		2	1	3	2	2	2	2	4				1	7	2	2			✓		1	D	✓				3		4	1	2	0	3	✓		A	✓				✓			
6																																																	
7																																																	
8																																																	
9																																																	
10																																																	

Column A - Trouble indication.
Column B - Any marker.
Column C - Sender in trouble is associated with XFC lamp in column S and SPL lamp in column J. Sender with XPS lamp in column S or SL lamp in column O is not in trouble.
Column E - Any number group. Absence of NGC lamp indication on display 3 resulted because XPS relay operated as marker was completing its function. XPS operates XX1 which opens circuit to HG causing line to appear as open sleeve intercept.
Column J - SPL lamp indication with no L lamp in column E and LE lamp in column M and NC, NT or NH lamp in column J indicates false operation of SPL relays in senders. SPL relay in marker operating opens circuit for operating L relay.
Column O - False SL lamp indicates incoming trunk was reseized while it still was being held by a trunk with which it was double connected.
Columns D and G - Any number or incoming.
Columns F,H,I,K,L,N,P,Q,R - Have no significance.

A B C D E F G H I

NO.	LIN	LT1	TIN	TT1	OF	BB	SPL	NC	NT	NTX	NH	NHX	NN	NNX	NTT	GS	IP	IT	IPT	PN	TN	PTN	CKG	K1	K2	K3	TBK	LE	FC	AK	TK	LIL	RIL	TE	BC	GJ	SL	GC	GLH	CON	GT2	RL	PG	MKO	MK1	FL	NFL	AL	NAL	LTR	HTR	SDT	TCT	TRL	FCG	X	TIME
1																							✓	✓	✓	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓													✓						X, XPS	10:02
2	✓																						✓	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓		✓											✓						X, XPS	10:05
3							✓																✓	✓	✓	✓		✓	✓																					✓						X, XFC	10:07
4							✓																✓	✓	✓	✓	✓	✓	✓	✓				✓																								10:10
5																							✓	✓	✓	✓	✓		✓	✓	✓	✓																											10:15
6																																																										
7																																																										
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Analysis of Indication: The indications of double operations of incomings on any frame indicate a grounded FC lead in the senders which are common since this operates the SPL relay in the sender involved. The sender indicated by the display showing SPL lamp must be the one involved in the trouble.

Immediate Procedure to Follow: Sender can be determined by noting sender lamp as the one connected to sender in trouble will remain lighted longer. Also start sender test circuit immediately. Make sender busy when determined.

Procedure for Locating and Clearing Trouble: Test the sender in trouble by means of the sender test circuit.

J K L M N O P Q R S