

ANALYZING, LOCATING AND CLEARING TROUBLE CONDITIONS
INDEX FOR SECTIONS COVERING TROUBLE CONDITIONS
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section supplements and forms a part of Sections which deal with analyzing, locating and clearing trouble conditions in No. 1 crossbar offices.

1.02 This section is reissued to add sections to the index not previously covered and to make corrections throughout the text.

1.03 The purpose of this section is to provide an index for the use of the maintenance forces in associating related sections with a trouble condition.

1.04 The information in this section is treated under four subdivisions indicative of the manner in which the trouble condition is

brought to the attention of the maintenance forces. The subdivisions are as follows:

- (A) Alarms
- (B) Reports (Subscriber or Employee)
- (C) Tests or Observations
- (D) Trouble Indicator Displays
 - (a) Originating
 - (b) Terminating

1.05 Underlining is employed wherever particular importance is attached to a lamp indication.

1.06 Space has been provided in this section so that future issues of sections may be entered in the index by the local Operating Company.

2. INDEX

(A) Alarms

Alarm	Location of Alarms	Attending Conditions			Trouble	Section
		O.T.I.	T.T.I.	Other		
AL	L.L.F.'s having access to same S.S.L.F.	-	No LOG	No alarm on S.S.L. in trouble	S.S.L. fails to start	216-615-301
AL	One L.L.F.	-	No LOG	S.S.L. alarms	L.L. LR relay X'ed or grd.	216-603-301
AL	L.L.F.'s - Various	-	No LOG	S.S.L.F.	S.S.L. G relay fails to close OG lead	216-619-301
AL	L.L.F.'s - Various	-	Various	T.M. & T.M.C. alarms	T.M. short time out failure	216-647-301
AL	S.S.L.F.'s	-	No LOG	L.L.F. alarms	S.S.L. G relay fails to close OG lead	216-619-301
AL	S.S.L.F.'s - Various	XSMI	-	-	GP relay contacts X'ed	216-611-301
AL	S.S.L.F.'s - Various	XDC	No LOG	-	False operation S.S.L. C relay	216-617-301

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(A) Alarms (Cont'd)

Alarm	Location of Alarms	Attending Conditions			Trouble	Section
		O.T.I.	T.T.I.	Other		
AL	S.S.L.F.'s - Various	-	No LOG	Alarms on one L.L.F.	L.L. IR relay X'ed or grd.	216-603-301
AL	T.S.L.F.'s - Various	-	X, XPS X, XFC	-	FC lead grd. T.S.L.	216-641-301
AL	T.S.L.F.'s - Various	-	-	Alarms recur as rapidly as retired	SM lead grd.	216-643-301
AP	L.L.F.'s - Various	TB5	-	-	Cable failure	216-107-301
BB	T.T.I. (all term. B sdrs. busy)	-	No LOG	L.L.F. alarms. S.S.L. no alarms	S.S.L. fails to start	216-615-301
→ C	O.T.I. (O.M.C. alarm)	XOF XSS	-	-	Ofc. Fr. ST lead X'ed with battery	216-635-301
C	T.T.I. (T.M.C. alarm)	-	Various	T.M. & L.L.F. alarms	T.M. short time out failure	216-516-301
DL	Line Load Control Cabinet (where provided)	-	-	Many stuck sdrs.	Premature re-lease of O.M.	216-627-301
LR	O.T.I. (load lamp)	XOF XSS	-	-	Ofc. Fr. ST lead X'ed with battery	216-635-301
PS	D.L.F.	TB5	-	Many PS	Cable failure	216-107-301
PS	D.L.F.	-	-	L.L.F. double conn.	False continuity A or B lead on DF relay	216-605-301
TA	T.M.	-	Various	T.M.C. alarms. L.L.F. alarms	T.M. short time out failure	216-647-301
TB	T.T.I. (all term. FS sdrs. busy)	-	No LOG	L.L.F.'s alarms. S.S.L. no alarm	S.S.L. fails to start	216-615-301

(B) Reports (Subscriber or Employee)

Report	Attending Conditions			Trouble	Section
	O.T.I.	T.T.I.	Other		
A.R.D.A.	-	-	Inc. X-points not closed	T.M. trouble	216-657-301
Busy Line (false)	(a)	-	<u>For any class sub. line</u>	False continuity A or B lead on DF relay	216-605-301
	(b)	-	<u>For P.B.X. class sub. line</u>	T.M. trouble	216-669-301
	(c)	-	<u>For any class sub. line</u>	False tbl. re-lease from O.M.	216-623-301
Cable Failure	-	-	AP & PS alarms	-	216-107-301
Calls Don't Go Through	-	-	-	False tbl. re-lease from O.M.	216-623-301
Click in Place of D.T.	TB5	-	L.L.F. double connections. PS alarms	False continuity A or B lead on DF relay	216-605-301
Crosstalk	-	X, XS	Dbl. conn. False busy reports	N.G.C. NS lead X'ed or grd.	216-667-309
Double Connections	(a)	XSL No B	-	SS relay contacts X'ed Ofc. Lk. Fr.	216-637-301
	(b)	-	PS - excessive	False continuity A or B lead on DF relay	216-605-301
	(c)	-	X, XS	False busy. Cross-talk reports	N.G.C. NS lead X'ed or grd.
False Busy	(a)	-	<u>For any class sub. line</u>	False continuity A or B lead on DF relay	216-605-301
	(b)	-	<u>For P.B.X. class sub. line</u>	T.M. trouble	216-669-301
	(c)	-	<u>For any class sub. line</u>	False tbl. re-lease from O.M.	216-623-301
	(d)	-	X, XS	Double conn. Crosstalk reports	N.G.C. NS lead X'ed or grd.
False Stuck K.P. Sdr.	-	-	KRI & KRA relays normal	Premature re-lease talk key	216-621-301
Inc. Calls Don't Complete	(a)	-	Various	T.M. & L.L.F. alarms. Steady T.M. MB lamp	216-647-301
	(b)	-	-	T.S.L. alarms	SM lead grd.

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(B) Reports (Subscriber or Employee) (Cont'd)

Report	Attending Conditions			Trouble	Section	
	O.T.I.	T.T.I.	Other			
(c)	-	XPS	-	FC lead grd. inc. trk.	216-659-301	
(d)	-	XF, No LOG	-	Grd. N.G. - RF or TF terminal	216-667-301	
(e)	-	XF Mult. L.C.F.'s	-	RF or TF terminal X'ed in N.G.	216-667-302	
(f)	-	Ring Ck. fails in one N.G.	-	N.G.C. JF lead grd.	216-667-303	
(g)	-	Ring Ck. fails in particular HB of N.G.	-	N.G. HB relay failure	216-667-305	
Inc. Test Fr. Calls Reach Intcpt.	-	-	-	Various	216-671-301	
No D.T.	-	No LOG	Alarms on one L.L.F. and various S.S.L.F.'s	L.L. LR relay X'ed or grd.	216-603-301	
No K.P. Sdr.	-	-	Stuck K.P. sdrs.	Premature re- lease talk key	216-621-301	
No Conn. on Inc. calls	-	No LOG	L.L.F. alarms. S.S.L. no alarm	S.S.L. fails to start	216-615-301	
No Ring	-	-	-	False tbl. re- lease from O.M.	216-623-301	
O.K. Lines Reach Intcpt.	-	-	-	Various	216-671-301	
Orig. Calls Don't Complete	(a)	XSL No B	-	SS relay con- tacts X'ed Ofc. Lk. Fr.	216-637-301	
	(b)	XDC Multi. SW or M	-	Equip. overload orig.	Dist. junct. DC lead grd.	216-607-301
	(c)	-	No LOG	-	T.M. short time out failure	216-647-301
Stuck Sdr. Re- ports from Various offices	-	No LOG	F.S. term. sdrs. all busy. L.L.F. alarms. S.S.L. no alarm	S.S.L. fails to start	216-615-301	
Stuck Sdrs. (K.P. & S.S.)	(a)	-	-	Dist. Lk. X- points not closed	Premature re- lease O.M.	216-627-301
	(b)	CH, TK, SR & <u>CHE</u>	-	-	Open transmit- ting lead	216-633-301

(B) Reports (Subscriber or Employee) (Cont'd)

<u>Report</u>	<u>Attending Conditions</u>			<u>Trouble</u>	<u>Section</u>
	<u>O.T.I.</u>	<u>T.T.I.</u>	<u>Other</u>		
Stuck Sdrs. (K.P. only)	-	-	KRI & KRA relays normal	Premature re- lease of talk key	216-621-301

(C) Tests or Observations

<u>Condition Tested or Observed</u>	<u>Attending Conditions</u>			<u>Trouble</u>	<u>Section</u>
	<u>O.T.I.</u>	<u>T.T.I.</u>	<u>Other</u>		
Cable Failure	TB5	-	Alarms on L.L.F.'s. PS alarms on D.L.F.'s. AP alarms	Cable failure	216-107-301
DL Lamps on Line Load Control Cabi- net (where provided)	-	No LOG	L.L.F.'s alarms. S.S.L. no alarm	S.S.L. fails to start	216-615-301
Double Conn. - L.L.F.	TB5	-	PS alarms. NDT reports. Click instead DT reports	False continuity A or B lead on DF relay	216-605-301

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(C) Tests or Observations (Cont'd)

<u>Condition Tested or Observed</u>	<u>Attending Conditions</u>			<u>Trouble</u>	<u>Section</u>
	<u>O.T.I.</u>	<u>T.T.I.</u>	<u>Other</u>		
Double Conn. O.L.F.	XSL No B	-	Reports of cross- talk	SS relay contacts X'ed Ofc. Lk. Fr.	216-637-301
False Routing to Intcpt.	-	-	-	Various	216-671-301
Orig. Mkr. Only DB Lamp Lights	-	-	Many stuck sdrs. Dist. Lk. X- points not closed	Premature release of O.M.	216-627-301
Sub. Sdr. Lk. does not appear to be serving calls	-	No LOG	Stuck sdr. re- ports from vari- ous ofcs. F.S. Term. Sdr. all busy alarms	S.S.L. fails to start	216-615-301
T.M. MB Lamp Lighted Steady	-	No LOG	Orig. calls don't complete	T.M. short time out failure	216-647-301

(D) Trouble Indicator Displays(a) Originating

<u>Display Lamps</u>		<u>Attending Conditions</u>	<u>Trouble</u>	<u>Section</u>
<u>Lighted</u>	<u>Out</u>			
CH, TK, SR, <u>CHE</u>	TKE, MS	A particular conn. involved	Open transmitting lead	216-633-301
	B	Double conn. on ofc. link	SS relay contacts X'ed Ofc. Lk. Fr.	216-637-301
TL	OF	A particular ofc. link involved	MP relay failure	216-639-301
TB5, PSI	(a)	Cable failure	-	216-107-301
	(b)	Double conn. L.L.F.'s	-	216-605-301
TM6	OF	O.M.C. time alarms - LR lamp	Ofc. Lk. Fr. ST lead X'ed with battery	216-635-301
<u>XDC</u>		S.S.L. AL alarms. Stuck sub. sdrs. No LOG term.	False Oprn. S.S.L. C relay	216-617-301
<u>XDC, MS</u> When MS is with CF, CN, SN	(a)	One O.M. involved in various O.M.C.'s and various O.M.'s in one O.M.C.	O.M. receiving lead permanently closed at DMA relay	216-631-301
	(b)	All sdrs. but one in a particular conn.	O.M. receiving lead permanently closed at SA relay	216-631-301
<u>XDC-XSMI</u>	(a)	One O.M. involved in various O.M.C.'s and various O.M.'s in one O.M.C.	False continuity O.M. DC lead	216-629-301
	(b)	Involving a particu- lar D.L.F.	S.S.L. DC lead grd.	216-613-301
<u>XDC & many</u> <u>SW & M</u>		LR lamp	Dist. Junct. DC lead grd.	216-607-301
<u>XOF, XSS or</u> <u>XOF, XSS, XXI</u> & <u>XOB</u>		O.M.C. alarms	Ofc. Fr. ST lead X'ed with battery	216-635-301
<u>XSL</u>	(a)	Involving one mkr.	X'ed mkr. SL leads	216-625-301
	B (b)	Involving various mkrs.	Ofc. Lk. SS relay contacts X'ed	216-637-301
<u>XSL, TW</u>		Involving one sdr.	Open shunt path OF relay	216-609-301
<u>XSMI with</u> same <u>DF</u>		S.S.L. alarms	S.S.L. GP relay con- tacts X'ed	216-611-301

(D) Trouble Indicator Displays (Cont'd)(b) Terminating

	<u>Display Lamps</u>		<u>Attending Conditions</u>	<u>Trouble</u>	<u>Section</u>
	<u>Lighted</u>	<u>Out</u>			
		MKO, SL	-	Inc. Lk. RS relay fails to operate	216-649-301
FCG			Term. & orig. overload	Cross or ground on channel	216-651-301
	LOG		Alarm on one L.L.F. & various S.S.L.F.'s	L.L. LR relay X'ed or grd.	216-603-301
	LOG		L.L.F.'s alarms. Stuck sdr. reports from various offices. Term. sdrs. all busy	S.S.L. fails to start	216-615-301
	LOG		S.S.L. AL alarms. Stuck sdrs.	False oprn. S.S.L. C relay	216-617-301
	LOG		AL alarms on L.L.F.'s & S.S.L.F.'s	S.S.L. G relay fails to close OG lead	216-619-301
	RC, RV, RP		One N.G. involved	N.G.C. JF lead grd.	216-667-303
	TBK		One HB involved	N.G.C. HB relay fails to operate	216-667-305

(D) Trouble Indicator Displays (Cont'd)(b) Terminating (Cont'd)

<u>Display Lamps</u>		<u>Attending Conditions</u>	<u>Trouble</u>	<u>Section</u>
<u>Lighted</u>	<u>Out</u>			
LE, XF Same LFC	L	A particular N.G. involved	Grd. N.G. RF or TF terminal	216-667-301
	NGC & TBK LOG & FC, AK, IF & FC	L.L.F. AL alarms T.M. and T.M.C. alarms	T.M. short time out failure	216-647-301
NGC (same) LCF (same two)		Calls to a particu- lar line choice do not complete	X'ed N.G. RF and TF terminals	216-667-302
(ALL) TH, H, F, TR2, RO	U	A particular sdr. subgrp. involved	D lead grd.	216-645-301
<u>TE, SL</u> IF (same)		Different L.C.'s	OR-9R or OL-9L grd.	216-661-301
(ALL) TH1, TH2, UL-U5, or (ALL) TH4, TH8, T1-T5, TR2 or (ALL) HL-H5, F1-F10, DA8, RO		(a) One T.M. involved in various T.M.C.'s and various T.M.'s in one T.M.C. (b) All sdrs. but one in a particular conn.	T.M. receiving lead permanently closed at TM re- lay T.M. receiving lead permanently closed at S relay	216-653-301 216-653-301
<u>X, XC</u> U (same)		Terminating overload during busy hours	X'ed NS and NC leads	216-667-308
<u>X, XF</u> NGC (same) LCF (many)		Terminating overload during busy hours	Falsely operated N.G.C. TB relay	216-667-306
<u>XC, NGC</u> (same) LLG-a particu- lar one with others		Terminating overload during busy hours	N.G.C. C lead grd.	216-667-307
<u>X, XF, XS</u> DR (one TM with various NGC-other TM with a partic- ular NGC) LCF (many)		Terminating overload during busy hours	Falsely operated N.G.C. MCB or MCC relay	216-667-304
<u>X, XPS, XFC</u> IF (various) LC (many)		Terminating overload during busy hours. Double connections	T.S.L. FC lead grd.	216-641-301

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(D) Trouble Indicator Displays (Cont'd)

(b) Terminating (Cont'd)

<u>Display Lamps</u>		<u>Attending Conditions</u>	<u>Trouble</u>	<u>Section</u>
<u>Lighted</u>	<u>Out</u>			
<u>XPS</u> IF (same) LC, M (many)		Terminating overload during busy hours. Inc. Trks. affected unable to complete	Inc. Trk. FC lead grd.	216-659-301
<u>XPS, XFC</u> IF (same) LC, M (many)		Calls involved may not complete	T.S.L. FC lead grd.	216-644-301
<u>X, XS</u>		Dbl. conn., false busy or crosstalk reports	N.G.C. NS lead X'ed or grd.	216-667-309
→ <u>XF</u>		Terminating overload during busy hours. Failure to complete through equipment affected	X'ed NF leads	216-667-310
<u>XRL</u>		Terminating overload during busy hours. False release of calls	Falsely grounded RL or TRL lead	216-655-301
<u>X, XHG</u> All TM to one LC, only one CA or CB and one LLG ↳		Terminating traffic fails to complete to a specific line choice	Grounded or crossed TK lead or KO-K9 res.'s	216-673-301