FALSE OPERATION OF SUBSCRIBER
SENDER LINK C RELAY
NO. 1 CROSSBAR OFFICES

1. GENERAL
1.01 This section covers procedures to be fol­lowed in connection with trouble result­ing from false operation of the subscriber sender link C relay due to a false ground or cross in its operating path.

2. INDICATIONS OF TROUBLE CONDITION
2.01 Subscriber sender link alarms attended by line link alarms.
2.02 Originating trouble indicator displays attended by the XDC lamp.
2.03 Stuck subscriber senders.
2.04 Terminating trouble indicator displays of line link lockout.

3. REACTIONS DUE TO TROUBLE
3.01 The completion of originating and terminat­ing traffic is affected by this trouble condition. During periods of peak traffic, subscribers may experience delays in the comple­tion of calls.

4. IMMEDIATE PROCEDURE TO FOLLOW
4.01 Determine the particular subscriber send­ er link involved in the trouble by ana­lyzing the originating trouble indications re­ceived. The particular sender link in trouble will reappear on originating trouble indications attended by the XDC lamp.
4.02 Insert a make-busy plug in the hold jack of the subscriber sender link determined in 4.01.

Note: When the common hold jack circuit (SD-25522-01) is in use the sender link in trouble will be held on the first appearance of the trouble.

4.03 When the sender link again blocks de­termine the two C relays that are oper­ated. One of the C relays is falsely operated and may be determined by observing the associ­ated SG relay which will be normal.

4.04 Remove from service the sender group as­sociated with the falsely operating C re­lay.

4.05 At the sender link involved in the trouble block the falsely operated C relay in the non-operated position in the approved manner and then remove the make-busy plug from the hold jack.

4.06 Release all stuck originating senders.

5. ANALYSIS OF TROUBLE
5.01 The subscriber sender link C relays serve as a means for connecting certain leads, common to a group of subscriber senders, from a particular subscriber sender link to a partic­ular group of subscriber senders. The cor­responding stationary contacts of all C relays associated with a particular subscriber sender group are multiplied together. The C relay armature contacts, associated with the secondary select magnet leads, multiple to correspond­ing contacts of the C relay associated with the subscriber sender group appearing on the same secondary switch. All other C relay arma­ture contacts on a particular subscriber sender link multiple to corresponding contacts of all C relays associated with the sender link.

5.02 Under normal operation in the subscriber sender link only one C relay is operated at a time. A false operation of a subscriber sender link C relay, during a service call, will result in extending the information supplied the subscriber sender group selected for the call to the subscriber sender group associated with the falsely operated C relay. If the subscriber sender group associated with the falsely operated C relay is engaged on a call from some other subscriber sender link, the information from both subscriber sender links is extended to both sender groups through the C relay multiple wiring. This will cause both subscriber sender links to block and time out.

5.03 The subscriber sender link primary select magnet associated with a particular sender group is operated from the ground that op­erates the C relay. If two subscriber sender link C relays operate, two primary select mag­nets will operate and a double connection will occur involving two subscriber senders in dif­ferent sender groups. The subscriber sender, associated with the falsely operated C relay, may be at any stage in the completion of a call when the double connection occurs. The various trouble indications, in 2.01 to 2.04 inclusive, may be received due to the trouble condition.
6. SUGGESTED PROCEDURE FOR LOCATING AND CLEARING TROUBLE

6.01 At the OC relay insulate the contacts in the operating path of the falsely operating C relay in the approved manner. This should indicate whether the C relay is operating from the OC or PS lead. Determine the normal operating circuit for the C relay associated with the lead in trouble. By means of tests and visual inspection locate and clear trouble.

7. TROUBLE CONDITIONS CAUSING REACTIONS MAY BE LISTED BELOW

7.01 A cross in the multiple wiring of contacts 0 to 9 inclusive and 10 to 19 inclusive at a G relay. A cross between contacts 9 and 19, for example, will result in the false operation of relay C-9.

7.02 A cross between 6 and 7 top contacts of an SG relay causing the false operation of the associated C relay.
ORIGINATING TROUBLE INDICATOR RECORD
CROSSBAR OFFICES

| MO. | TI | CT | OF | BR | GO | G6 | SL | GL | GD | CT | SN | OF | TL | HEL | HEL | K6R | K6F | G6 | ST2 | ST3 | CS | OF | SW | M | IC | F | CH4 | CH6 | 2 | ZK2 | ZL | Z3 | PS | MC | ET1 | ET2 | T12 | TP1 | TP4 | TP4 | TPN | ZN | A | B | C | D | F | AR |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 2   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 3   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 4   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 5   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 6   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 7   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 8   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 9   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |

12. Column B, C, D and E - Any marker, sender, trunk or trunk group.
13. Column F and G - The XDC, XX and XDC lamps appearing with any district junctor on district link frame 2 only, indicate trouble on district link frame 2.
15. Column I - Many D and F lamps on lines 2 & 4 indicate a cross or false ground on the associated leads (in this case due to a falsely operated C relay).
16. Indication on lines 2 & 4 attended by terminating line link lock-out indications and originating sender and subscriber sender link alarms on various frames.

### Procedure to Follow:
Determine if the condition can be eliminated by transferring the controller to emergency. If the condition is not cleared make the frames busy.

### Procedure for Locating and Clearing Troubles:
Test for a cross between G relay contacts 0-9 and 10-19; if these contacts test clear test the top 6-7 contacts of the 90 relays for a cross.