

TERMINATING SENDER LINK ALARMS DUE TO FALSE GROUND ON THE SM LEAD NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers methods to be followed in connection with terminating sender link frame alarms caused by false ground on the secondary select magnet lead SM.

1.02 This section is reissued to correct the relay designations in 4.03 and to differentiate between the 100 and the 160-trunk type frames.

2. INDICATIONS OF TROUBLE CONDITION

2.01 Terminating sender link alarms occur on a number of frames served by the same subgroups of senders. The alarms may reappear on these frames as rapidly as they are released.

2.02 Trouble cannot be cleared by making the sender subgroups busy one at a time.

3. REACTIONS DUE TO TROUBLE

3.01 The completion of terminating traffic is generally affected by this trouble condition. The holding time of the terminating sender link controller circuits involved in the trouble condition will be increased due to blocking. This may result in stuck originating senders with consequent delay to subscribers in receiving dial tone.

3.02 Incoming trunks appearing on the terminating sender link frame in trouble will be unable to complete calls.

4. IMMEDIATE PROCEDURE TO FOLLOW

4.01 For 100-trunk type frames (SD-25028-01) proceed as follows: At each of the terminating sender link controllers, on which alarms are received, make a check to determine the particular link frame in trouble by observing the operation of the HM and SS relays. In the particular link frame in trouble the HM relay will operate at the start of a call and the SS relay will remain unoperated (see Note under 4.02). Proceed as in 4.03.

4.02 For 160-trunk type frames (SD-25459-01) proceed as follows: At each of the terminating sender link controllers, on which

alarms are received, momentarily block operated the CA relay and manually operate the lower half of the HC relay. The HM relay, on the link frame in trouble, will immediately operate. Proceed as in 4.03.

Note: From a circuit standpoint, the method of determining the particular link frame in trouble, as outlined in 4.02, may also be used on the 100-trunk type frame. However, as the HC relay on the 100-trunk type frame is located at the top of the unit, this method of locating the terminating sender link in trouble would require two switchmen.

4.03 At the terminating sender link controller in trouble determine the particular sender subgroup involved in the trouble condition as follows:

(a) Check for a falsely operated secondary select magnet. If one is found operated, block it normal.

(b) Check for a false closure of contacts 1 and 2 on all secondary select magnets. Insulate contacts that are falsely closed.

(c) Test for the presence of false ground on armature contact 43 of the HC relay. If ground is present open the SM lead multiple wiring at the number 2 contact of the secondary select magnets to locate and isolate the trouble condition.

When the sender subgroup involved in the trouble has been determined make it busy in the sender link in trouble by blocking operated the associated TMB and BMB relays for 100-trunk type frames, or the associated AMB and BMB relays for 160-trunk type frames. This will leave the sender subgroup available to other sender link frames and should tend to reduce reactions in high traffic due to too many senders being out of service.

4.04 Prime all originating stuck senders until the trouble condition is cleared.

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5. ANALYSIS OF TROUBLE

5.01 The terminating sender link controller SM lead is normally grounded, after sender selection has been completed, by the operation of a secondary select magnet. The HM relay is operated by the SM lead ground over a circuit through the HC relay operated (contact 43) and the FG relay normal. The operating path for the SS relay (sender selected) is through normal contacts of relay HM. A false ground on the SM lead will result in the HM relay operating before sender selection is completed thus preventing the operation of relay SS. Relay SS failing to operate prevents the C (0-2) relay from operating with the result that the associated SGE relay does not operate. Failure to operate the SGE relay after a sender

subgroup has been selected permits any other terminating sender link controller frame to attempt to select a sender in the same subgroup. The LL (0-2) relay chain blocks the call in the second terminating sender link controller causing it to time out. Until the sender subgroup SGE relay is operated attempts may be made by a number of terminating sender link controller circuits to select a sender within the subgroup affected by the trouble condition.

6. SUGGESTED PROCEDURE FOR LOCATING AND CLEARING TROUBLE

6.01 Procedures for locating and clearing this trouble condition are outlined under 4.01 to 4.03.

7. TROUBLE CONDITIONS CAUSING REACTIONS MAY BE LISTED BELOW

- 7.01 Grounded secondary select magnet.
- 7.02 Cross in off-normal springs of secondary select magnet on terminating sender link controller.
- 7.03 Binding select bar on terminating link secondary switch.
- 7.04 Terminating sender link secondary switch off-normal spring cover improperly placed.
- 7.05 Secondary select magnet contacts 1-2 welded.
