1. **GENERAL**

1.01 This section covers methods to be followed in connection with troubles due to a cross of the common NS lead and an individual NC lead in a number group connector circuit.

2. **INDICATIONS OF TROUBLE CONDITION**

2.01 Terminating trouble indicator records.

3. **REACTIONS DUE TO TROUBLE**

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

3.02 One-twentieth of the lines in a number group connector may be affected.

4. **IMMEDIATE PROCEDURE TO FOLLOW**

4.01 If this trouble causes a backup of terminating traffic insert plugs into the TRO (trouble recorder) jacks on the terminating trouble indicator frame.

4.02 Open the S lead on the number group involved.

5. **ANALYSIS OF TROUBLE**

5.01 When the marker attempts to complete a connection to any line having a unit digit corresponding to the NS lead in trouble it will give an indication showing LIN, (local intercept), GLH (ground to line hold magnet), X, (cross), and XC (cross on HGA-D or NC leads) lamps. This results because, when the sleeve lead is grounded to operate the line hold magnet, it will cause the XC relay in the marker to operate. This in turn will operate the XXI relay which will open the operating circuit of the HG relay. When this occurs and the TLH relay releases it will appear as an open sleeve intercept to the marker and the LIN relay will operate.

6. **SUGGESTED PROCEDURE FOR LOCATING AND CLEARING TROUBLE**

6.01 By use of two receivers test for:

(a) Crosses between the NS and NC leads.

(b) Crosses between the NS and all HG punchings on the cross-connection field.

7. **TROUBLE CONDITIONS CAUSING REACTIONS MAY BE LISTED BELOW**

7.01 Wire clipping cross between armature 22 and contact 12 on TB relay.
### TERMINATING TROUBLE INDICATOR RECORD CROSSBAR OFFICES

#### Column A - Trouble indication.

#### Column B - Any marker.

#### Column D - Any number in number group 0 requiring SS lead.

#### Column E - LTR lamp in column J indicates attempt to set up to intercept. With LTR lamp in column R and XC lamp in column S, a crossed SS and C lead is indicated. XC operates when SS lead is grounded operating XXL which opens circuit for NS and simulates an open sleeve intercept. NOC-O lamp with HTR lamp in column R and XC lamp in column S indicates a crossed S and C lead in number group 0. Check SS lamp in column F should show C lead crossed with SS.


<table>
<thead>
<tr>
<th>No.</th>
<th>H</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
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</thead>
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#### Analysis of Indication:

XC lamp indicates a cross on the SS lead. If HTR lamp does not come in, indications will only show SS lead crossed with some C lead. HTR lamp indicates C lead with which it is crossed.

#### Immediate Procedure to Follow:

Open SS lead on number group 0.

#### Procedure for Locating and Clearing Trouble:

If C lead is not indicated use two receivers and test for cross between NS and NC leads and NS lead and No PUNISHMENTS.