FAILURE OF NUMBER GROUP CONNECTOR HB RELAY
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers methods to be followed in connection with troubles due to failure of an HB relay in a number group connector.

2. INDICATIONS OF TROUBLE CONDITION

2.01 Terminating trouble indicator records.

3. REACTIONS DUE TO TROUBLE

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

3.02 Service to one hundred lines will be affected.

4. IMMEDIATE PROCEDURE TO FOLLOW

4.01 Analyze trouble indicator records.

4.02 Insert make-busy plugs into all the TRO (trouble reorder) jacks on the terminating trouble indicator.

4.03 Connect the secondary winding provided if necessary.

5. ANALYSIS OF TROUBLE

5.01 With an open winding of an HB relay all calls to the hundred numbers associated with the relay will be denied service and the marker will be forced to time out.

6. SUGGESTED PROCEDURE FOR LOCATING AND CLEARING TROUBLE

6.01 Check the operation of the HB relay.

7. TROUBLE CONDITIONS CAUSING REACTIONS MAY BE LISTED BELOW

7.01 Open winding of HB relay.

7.02 Loose connection at winding terminal of HB relay.
### Terminating Trouble Indicator Record

**Crossbar Offices**

| INL | LIN | LIT | T1 | IT | ITF | T2 | T2F | T2P | T3 | T3F | T3P | T4 | T4F | T4P | T5 | T5F | T5P | T5G | T5H | T5I | T5J | T5K | T5L | T5M | T5N | T5O | T5P | T5Q | T5R | T5S |
|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 2   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 3   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 4   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| 5   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |

**Columns**

- **Column A**: Trouble indication.
- **Columns B and C**: Any marker or sender.
- **Column D**: Any number in hundred block.
- **Column Z**: NDC-O lamp and no TRK lamp in column W indicates an open circuit in the HB operating path.
- **Columns F, G, H, I**: Have no significance.

**Analysis of Indication**

With the number group connected and no TRK lamp on numbers spanning 100 an open circuit in the path to operate an HB relay is indicated.

**Immediate Procedure to Follow**: Plug TRK jacks to prevent back up of terminating traffic.

**Procedure for Locating and Clearing Trouble**: Check operating path of HB relay. If relay is open, connect emergency winding of relay, if required.

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**Section 216-667.305**