

## TAKING EQUIPMENT OUT OF SERVICE INCOMING LINK FRAME NO. 1 CROSSBAR OFFICES

### 1. GENERAL

1.01 This section covers the methods to be followed in taking an incoming link frame out of service. It also covers the method of taking line junctors, incoming links, and individual pieces of apparatus out of service.

### 2. APPARATUS

- 2.01 No. 298A (make busy) Plugs.
- 2.02 No. 325C Plugs (for making a vertical unit busy).
- 2.03 No. 558A Tools (for blocking a hold magnet non-operated).

### 3. METHOD OF TAKING EQUIPMENT OUT OF SERVICE

#### (A) Incoming Link Frame

3.01 Have the entire incoming link frame made busy by making busy the associated incoming trunk frame.

- (a) Have all the associated incoming trunks made busy in the approved manner at the originating office.

#### (B) Primary Switch

3.02 Have the associated ten incoming trunks made busy.

#### (C) Secondary Switch

3.03 Insert the 298A Plug into the associated MB Jack.

#### (D) Link Connector LC Relay

3.04 Make busy the associated primary switch in accordance with 3.02.

#### (E) Incoming Links

3.05 Insert a 325C Plug into the incoming link PH magnet sleeve ground jack when no select magnet on the switch is operated.

#### (F) Line Junctors

3.06 Insert a 298A Plug into the MB jack of the secondary switch containing a line junctor to be removed from service.

3.07 Await the release of a line junctor SH magnet if it is operated on a service call.

3.08 Insert a 325C Plug into the sleeve grounding jack of the line junctor SH magnet.

3.09 Restore the remainder of the secondary switch to service by removing the 298A Plug from the secondary switch MB Jack.

#### (G) Marker Connector MC Relays

3.10 Make busy the associated terminating marker in the approved manner.

- (a) If the contacts of the relay are crossed, the associated lead in the marker may be insulated.

- (b) If the contacts of the relay are falsely grounded, the false ground should be cleared immediately.

#### (H) Marker Preference MP Relays

3.11 The MP relays are out of service if the TR1-6 relays are operated. If the TR1-6 relays are normal, momentarily operate the MTR key, this will cause the TR1-6 relays to operate. To silence the alarm operate the SA key if it is normal, or restore it to normal if it is operated.

#### (I) Marker Preference E Relays

3.12 The E relays are out of service if the TR1-6 relays are operated. If the TR1-6 relays are operated, momentarily operate the MTR key. This will cause the TR1-6 relays to release. To silence the alarm, operate the SA key if it is normal, or restore it to normal if it is operated.

#### (J) Trouble Indicator TI Relays

3.13 Make busy the terminating trouble indicator in the approved manner.

#### (K) Transfer TR1 Relay

3.14 If the TR1 relay is operated, block it operated, if non-operated, block it unoperated. If the trouble necessitates the removal from service of the associated terminating marker, remove it in the approved manner. If necessary, block all the TR2-6 relays in the same position as the TR1 relay is blocked.

Note: When the TR1 relay is blocked operated or unoperated, the connector alarm and its associated lamps are out of service. Therefore, prompt action is necessary to restore this relay to service in order to reduce

to a minimum the elapsed time that the connector alarm is out of service.

(L) Transfer TR2 and CH Relays

3.15 If the TR2 relay is operated, block it operated, if it is non-operated, block it non-operated. See Note under 3.14.

(M) Transfer TR3 to TR6 Relays

3.16 Block all the TR3-6 relays operated or non-operated as in 3.14 so as to give service without removing any markers from service if possible, otherwise make busy the affected marker. Clear the trouble as soon as traffic will permit the removal of the associated marker from service.

(N) RS, ES, FP, FE and TR Relays

3.17 If one of the RS, ES, FP, FE and TR relays fails it should be replaced immediately since a failure of the RS or FP relay will cause the calls to this frame to time out and go through on second trial thus increasing the marker holding time. If the ES, FE or TR relay fails, all second trial calls will time out thus increasing the marker holding time.

4. GENERAL PRECAUTIONS WHEN WORKING ON THE APPARATUS

4.01 Due to multiple wiring and common equipment, it is desirable when working on the individual pieces of apparatus to make busy equipment and take other precautions as indicated below.

(A) Primary Switch

4.02 Remove the primary switch from service in accordance with 3.02 and await the release of all hold magnets which may be operated in service.

(B) Secondary Switch

4.03 Insert a 298A Plug into the associated MB jack and await the release of the hold magnets which may be operated in service. Insulate the sleeve contact of the operated crosspoint used to provide a load for the hold magnet under current flow test.

Note: When current flow tests are being made on the secondary switch SH magnets, the current flow as shown on the current flowmeter will increase while the marker is making channel tests.

(C) Link Connector LC Relays

4.04 Make busy the incoming link frame in accordance with 3.01, and allow

approximately 10 seconds for establishing talking connections on all incomings which were connected to the senders at the time they were made busy.

(D) Incoming Links

4.05 Make busy the primary switch on which is located the incoming link in accordance with 3.02.

(E) Line Junctors - SH Magnet

4.06 Proceed as in 4.03.

(F) Marker Connector MC Relays

4.07 Make busy the associated terminating marker in the approved manner. Work on the MC relay shall only be performed during periods of light traffic when momentary interference to all terminating calls to the incoming link will not cause serious reaction.

Caution: Crossing or grounding any of the associated leads or the contacts may cause the frame to be tied up and provide a trouble indication.

(G) Marker Preference MP Relays

4.08 Transfer the circuit to the E relays in accordance with 3.11.

(H) Marker Preference E Relays

4.09 Transfer the circuit to the MP relays in accordance with 3.12.

(I) Trouble Indicator TI Relays

4.10 Make busy the terminating trouble indicator in the approved manner.

(J) Transfer TR1, TR3-6 Relays

4.11 Make busy the associated terminating marker in the approved manner.

4.12 If the TR1-6 relays are operated, block all the TR1-6 relays operated. If these TR relays are non-operated, block them non-operated. See note under 3.14.

4.13 On the current flow test of the TR1-6 relays, block all these relays non-operated as outlined in 4.12, then remove the blocking tool from the relay under test. This is done to prevent interference with other calls going through this link frame.

(K) Transfer TR2 and Check CH Relays

4.14 Remove the CH or TR2 relay from service in accordance with 3.15. On the current flow test of the TR2 relay proceed in accordance with 4.13.

4.15 If the connections on the winding of the TR2 relay are to be opened then proceed in accordance with 4.12.

Note: While working or putting a current flow test on the TR2 relay, the connector alarm and its associated lamps may operate momentarily.

(L) RS, ES, FP and FE Relays

4.16 Remove the associated frame from service in accordance with 3.01.

(M) TR Relays

4.17 Remove the associated odd and even frames from service in accordance with 3.01.

5. REPORTS

5.01 Any required records of equipment removed from service should be entered on the proper form.

