

**TAKING EQUIPMENT OUT OF SERVICE  
TERMINATING SENDER LINK AND CONTROLLER CIRCUIT  
TERMINATING, "B", DIAL PULSING AND MF KEY PULSING SENDERS  
NO. 1 CROSSBAR OFFICES**

1. GENERAL

1.01 This section covers the methods to be followed in taking a terminating sender link frame out of service. It also covers the method of taking a controller circuit, sender links, terminating, "B", dial pulsing, MF key pulsing senders and individual pieces of apparatus out of service.

1.02 This section is reissued to cover an additional link and controller and dial pulsing and MF key pulsing senders.

2. APPARATUS

2.01 No. 275A (make busy) plugs.

2.02 No. 298A (make busy) plugs.

2.03 No. 322A (make busy) plugs.

2.04 No. 325C (vertical unit make busy) plug or the replaced D-99544 plugs.

2.05 No. 558A (armature blocking) tools (or the replaced D-99604 tools).

3. METHOD OF TAKING EQUIPMENT OUT OF SERVICE

(A) Terminating Sender Link Frame

3.01 Make busy at the originating offices all the trunks associated with the sender link frame to be removed from service.

(B) Controller Circuit Relays

3.02 Insert a No. 298A plug into the associated controller MB jack at the terminating sender link frame.

(C) Start Circuit

3.03 To make busy the A half of the start circuit insert a No. 298A plug into the EB jack associated with the start circuit on the terminating sender link frame.

3.04 To make busy the B half of the start circuit, insert a No. 298A plug into the EA jack associated with the start circuit on the terminating sender link frame.

Note: Do not insert plugs into both the EA and EB jacks simultaneously as this nullifies the make busy feature of both jacks.

(D) Primary Switch

3.05 During periods of light traffic a primary switch may be removed from service by making busy the associated 40 incoming trunks appearing on the switch.

(E) Secondary Switch

3.06 Block operated the associated TMB and BMB relays of SD-25028-01 or the AMB or BMB relays of SD-25459-01.

(F) Sender Link

3.07 Make sure the associated hold magnets are not operated on a call and then insert a No. 325C plug into the vertical unit jack associated with the link to be made busy.

3.08 Observe that no select finger is engaged on the primary or secondary switches by the primary or secondary hold magnets that are operated by the No. 325C plug.

3.09 If the winding of the primary hold magnet is open, insulate the 1-2 and 3-4 contacts of the associated hold off normal combination.

(G) LR Relay

3.10 Proceed as outlined in 3.06.

(H) Group Circuit

3.11 Make busy at the originating office the incoming trunks associated with the group circuits to be removed from service.

(I) Controller Connector Circuit

3.12 H and HC Relays: Remove the A half of the start circuit from service as outlined in 3.03.

3.13 M and MC Relays: Remove the B half of the start circuit from service as outlined in 3.04.

3.14 SC1 and SC2 Relays: Make busy the associated trunks at the originating office in the approved manner.

↖ (J) TGB, AGB, BGB, TGB1, TGB2, AGB1, AGB2, BGB1, BGB2, GMB and SGE Relays

3.15 All Relays: Make busy the associated senders by inserting a No. 275A plug into the associated MB jack at the terminating trouble indicator.

3.16 TGB and BGB Relays (SD-25028-01): If the winding of the TGB or BGB relay is open, block operated the TGB and BGB relays. Check that the associated TMB and BMB relays are operated. If the normally closed contacts of the BGB relay are short circuited, block operated the associated SGE relay.

3.17 TGB1, TGB2, BGB1 and BGB2 Relays (SD-25028-01): If the winding of the TGB1 or TGB2 relay or the BGB1 or BGB2 relay is open, block operated the TGB2 or the BGB2 relay respectively.

3.18 GMB Relay (SD-25028 and SD-25459-01): If the winding of the GMB relay is open, block operated the GMB relay.

3.19 AGB and BGB Relays (SD-25459-01): If the winding of the AGB or BGB relay is open, block operated the AGB and BGB relays. Check that the associated AMB and BMB relays are operated. If the normally closed contacts of the BGB relay are short circuited, block operated the associated SGE relay.

3.20 AGB1, AGB2, BGB1 and BGB2 Relays (SD-25459-01): If the winding of the AGB1 or AGB2 relay or the BGB1 or BGB2 relay is open, block operated the AGB2 or the BGB2 relay respectively.

↖ (K) GBT Relay

3.21 Block operated the associated BGB relay.

(L) GTT and GAT Relays

↖ 3.22 Block operated the associated TGB relay of SD-25028-01 or the AGB relay of SD-25459-01.

(M) C and LL Relays

↖ 3.23 Block operated the associated TMB and BMB relays of SD-25028-01 or the associated AMB and BMB relays of SD-25459-01.

3.24 If the contacts of the C relay are short-circuited, remove the group of associated sender circuits as outlined in 3.15. If the contacts of the C relay become falsely grounded, remove the sender link frame from service as outlined in 3.01, or remove the group of associated senders as outlined in 3.15 depending upon which contact spring becomes falsely grounded.

3.25 If the normally closed contacts of the LL relay are open, short-circuit the contacts. If the normally open contacts of the LL relay are short-circuited, removed from service the associated terminating sender circuits as outlined in 3.15. If the contacts of the LL relay become falsely grounded, remove from service the entire sender link frame as outlined in 3.01 or remove the associated terminating sender circuits as outlined in 3.15 depending upon which contact becomes falsely grounded.

(N) S and SB Relays

3.26 Insert a No. 275A plug into the MB jack of the associated sender at the terminating trouble indicator frame.

3.27 If the winding of the SB relay is open, then block operated the SB relay. If the normally closed or normally open contacts of the SB relay are short-circuited, remove from service the group of associated sender circuits as outlined in 3.15. If there is a ground on any of the contacts of the SB relay that would affect all the sender circuits in the subgroup, remove from service the associated sender circuits as outlined in 3.15. If the preference lead contacts on any operated SB relay are open, short-circuit the contacts.

3.28 If any of the contacts of the S relay become short-circuited or falsely grounded so as to affect all the senders of the subgroup, remove the associated group of senders as outlined in 3.15. If any contact on the S relay becomes falsely grounded and operates the fuse, block operated the associated TMB and BMB relays of SD-25028-01 or the AMB and BMB relays of SD-25459-01.

→ (O) TMB, AMB and BMB Relays

3.29 Block operated the relay.

3.30 If any of the normally closed contacts become short-circuited, insulate the 3 and 4 off-normal contacts of the associated primary hold magnets.

(P) B Relay

3.31 Cancel sender testing using the OGT test board.

→ (Q) Terminating, "B", Dial Pulsing and MF Key Pulsing Sender Circuits

3.32 Insert a No. 275A plug into the associated MB jack at the terminating trouble indicator frame.

4. GENERAL PRECAUTIONS WHEN WORKING ON THE APPARATUS

(A) Terminating Sender Link Frame

→ 4.01 Make busy the terminating sender link frame in accordance with 3.01. Wait

approximately 20 seconds for the associated senders to become idle.

(B) Controller Circuit Relays

4.02 Take the controller circuit out of service as outlined in 3.02. In the case of the MB relay, take the A half of the associated home start circuit out of service in accordance with 3.03 and the B half of the associated mate start circuit as outlined in 3.02.

(C) Start Circuit Relays

4.03 Take the corresponding A or B half of the start circuit out of service as outlined in 3.03 or 3.04.

4.04 If an FA or FB relay is removed from the circuit, short-circuit the leads controlling the FB or FA relay in the mate frame.

4.05 If a CA or DA relay is removed from the circuit, insert a No. 298A plug into the associated home control circuit.

4.06 If a CB or DB relay is removed from the circuit, insert a No. 298A plug into the associated mate control circuit.

4.07 If the MA relay is either electrically or manually operated, the major alarm will be sounded and the M lamp will light at the terminating sender link frame. The alarm will be silenced and the lamp extinguished when the TR key is operated.

4.08 If the AL relay is either electrically or manually operated the major alarm will be sounded and the AL lamp lighted at the terminating sender link frame. The alarm will be silenced and the lamp extinguished when the TR key is operated.

(D) Primary Switch

4.09 Remove the primary switch from service as outlined in 3.05 and await the release of all hold magnets which may be operated in service.

Note: If a current flow test is to be made on a primary switch PH magnet, block the associated SH magnets on the secondary switch non-operated.

(E) Secondary Switch

4.10 Remove the secondary switch from service as outlined in 3.06. Make busy the senders or the group of senders which would be affected by the work to be performed on the secondary switch as outlined in 3.32 or 3.15.

(F) Sender Link

Primary Hold Magnet

4.11 Make busy the associated group of trunks as outlined in 3.11. Take

care not to have a select magnet operated while a call is in progress. Block non-operated the associated secondary hold magnet.

Secondary Hold Magnet

4.12 Proceed as outlined in 4.11 and block non-operated the associated primary hold magnet.

(G) LR Relay

4.13 Block operated the associated TMB and BMB relays associated with SD-25028-01 or the AMB and BMB relays associated with SD-25459-01, and wait approximately 20 seconds before starting to work on the relay.

(H) Group Circuit G, GST and TG Relays

4.14 When working on the G, GST and TG relays, make busy the associated ten incoming trunks at the originating office in the approved manner.

4.15 Work on the TG relay should be done during periods of light traffic. Avoid operating the relay and grounding or shorting the springs during the time the circuit is handling a call.

(I) C Relay

4.16 Make busy the associated group of senders as outlined in 3.15.

4.17 Work on this relay should be done during periods of light traffic. Avoid operating the relay and grounding or shorting the springs during the time the circuit is handling a call.

(J) S, SB, SGE, GTT, GAT, GBT and LL Relays

4.18 Make busy the associated group of senders as outlined in 3.15. Wait approximately 20 seconds for the senders to become normal.

(K) TGB, AGB, BGB and GMB Relays

4.19 Block operated the associated TMB and BMB relays associated with SD-25028-01 or the AMB and BMB relays associated with SD-25459-01.

(L) TMB, AMB, BMB, AGB1, AGB2, TGB1, TGB2, BGB1 and BGB2 Relays

4.20 Make busy the associated senders by inserting a No. 275A plug into the associated MB jack at the terminating trouble indicator.

4.21 Work on these relays should be done during periods of light traffic. Avoid operating the relays and grounding or shorting the springs during the time the circuit is handling a call.

(M) H and HC Relays

4.22 Make busy the home control circuit as outlined in 4.02.

4.23 Work on these relays should be done during periods of light traffic. Avoid operating the relays and grounding or shorting the springs during the time the circuit is handling a call.

(N) M and MC Relays

4.24 Make busy the mate control circuit as outlined in 4.02.

4.25 Proceed as in 4.23.

5. REPORTS

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