

## TAKING EQUIPMENT OUT OF SERVICE TRANSVERTERS NO. 1 CROSSBAR OFFICES ARRANGED FOR AMA

### 1. GENERAL

1.01 This section covers the method to be followed when taking transverters out of service in No. 1 crossbar offices arranged for AMA. Part 3 of this section covers the method of taking transverters and individual pieces of apparatus associated with these circuits out of service. Part 4 covers the precautions to be followed when working on the apparatus associated with these circuits.

1.02 This section is reissued to add a caution note in 3.01, 3.02, add relays requiring other precautions in Table A, and to add 4.30 to 4.33.

### 2. APPARATUS

2.01 No. 322A (make busy) plugs, as required.

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

3.01 **Transverter:** Make the transverter busy by inserting a make-busy plug into its TV-MB (transverter make busy) jack at the transverter trouble indicator frame.

*Caution: If both special transverters (ODN feature) are made busy, ODN type calls will not be served and this traffic will be sent to the traffic service positions with calling number identification failures. In addition, a major alarm sounds.*

3.02 **ATB, CBR, CBS, CBT and RB Relays:** Make the transverter busy to all transverter connectors by inserting make busy plugs into the CB- (connector busy) jacks for this transverter at the transverter trouble indicator frame. Remove the plug from the TV-MB jack at

the transverter trouble indicator frame, if one is inserted.

*Caution: If both special transverters are made busy in this manner, no alarm will sound and ODN type calls will not be served and will be handled as covered in 3.01.*

3.03 **DA1 and DA2 Relays:** Make the transverter busy as outlined in 3.01. To isolate these relays, block nonoperated the TMS2 relay of the transverter to prevent a trouble alarm and trouble indication, and then block operated any one of the transverter connector TS- relays associated with the transverter.

3.04 **All Relays Not Specified in 3.02 or 3.03:** Make the transverter busy as outlined in 3.01.

### 4. PRECAUTIONS TO BE FOLLOWED WHEN WORKING ON THE APPARATUS

4.01 Before working on any individual piece of apparatus of the transverter except the TIB relay, insert a make busy plug into the TV-TIB (transverter trouble indicator busy) jack at the transverter trouble indicator frame. This prevents registering a trouble record and makes the trouble indicator available for registering troubles on service calls.

4.02 When working on any relay, except the ATB, CBR, CBS, CBT and RB relays, make the transverter busy by inserting a make busy plug into the TV-MB jack for this transverter at the transverter trouble indicator frame.

4.03 When working on the relays listed in Table A, observe the precautions covered in 4.04 to 4.33 inclusive, as indicated in this table.

TABLE A

## Relays Requiring Other Precautions

RELAY	SEE PARAGRAPH	RELAY	SEE PARAGRAPH
2L	4.04	CT1	4.04
→ 5LB	4.04	CT2	4.04
A1	4.04	CT4	4.04
A2	4.04	CT7	4.04
A4	4.04	→ CTH	4.32
A5	4.04	CTM	4.10
→ ATA	4.34	CU0	4.04
ATB	4.05	CU1	4.04
B1	4.04	CU2	4.04
B2	4.04	CU4	4.04
B4	4.04	CU7	4.04
B5	4.04	↗ CV1	4.04
BBF	4.07	CV2	4.04
↗ BV1	4.04	CV4	4.04
BV2	4.04	CV5	4.04
BV4	4.04	CZA	4.04
↘ BV5	4.04	C4FA	4.04
C0A	4.04	C4FB	4.04
C0B	4.04	C4FC	4.04
C0C	4.04	C5FA	4.04
C1	4.04	C5FB	4.04
C2	4.04	C5FC	4.04
C4	4.04	C5Z	4.04
C5	4.04	DA1	4.11
C1A	4.04	DA2	4.11
C1B	4.04	DK	4.10
C2A	4.04	↘ DL	4.08
C2B	4.04	EA	4.04
C2C	4.04	F1	4.04
C3A	4.04	F2	4.04
C3B	4.04	F4	4.04
C3C	4.04	F5	4.04
C4A	4.04	FR	4.04
C4B	4.04	FTA	4.04
C4C	4.04	FTB	4.04
→ C4Z	4.04	HN0	} 4.04
CBR	4.05,4.06	through	
CBS	4.05,4.06	HN9	} 4.04
CBT	4.05,4.06	IC	
CH0	4.04	ICB	4.04
CH1	4.04	ICK	4.04
CH2	4.04	→ IDOK	4.31
CH4	4.04	→ INF	4.04
CH7	4.04	LA	4.04
CK6	4.09	MI0	4.04
CK8	4.09	MI1	4.04
→ CK9	4.09	MI2	4.04
CT0	4.04	MI4	4.04

TABLE A (Cont)

RELAY	SEE PARAGRAPH	RELAY	SEE PARAGRAPH
MI7	4.04	TM2	4.10
MSR	4.07	TM3	4.20
NCH	4.04	TM4	4.21
→ ODN	4.30	TM6	4.20
OF	4.12	TOK	4.04
OF1	4.12	TOM	4.10
OFF0	} 4.04	TP	4.04
through			
OFF9	} 4.04	TR	4.22
OT			
P5	4.13	TS0	} 4.23
RB	4.05	through	
RK	4.14	TS99	
RL	4.12	U0	} 4.04
RP	4.04	through	
RTR	4.04	U9	
SDT1	4.15	UMG	4.24
SDT3	4.15	VF0	4.04
SDTA	4.15	VF1	4.04
SDTB	4.04	VF2	4.04
→ SDTC	4.04	VF4	4.04
SP	4.08	VF7	4.04
ST0	} 4.16	X	4.25
through			
ST19	} 4.17	XDC	4.26
STM			
STMR	4.16	XDC1	4.27
T0	} 4.04	XDK	4.10
through			
T9	} 4.10	XET	4.28
TBL			
→ TCS0-3	4.33	XG	4.28
TE	4.18	XICK	4.26
TEA	4.04	XL	4.26
TEB	4.04	XNL	4.26
TH0	} 4.04	XP	4.26
through			
TH9	} 4.19	XP1	4.27
TIB			
TID	4.04	XRБ	4.26
		XRL	4.26
		XST	4.10
		XT	4.29
		XTB	4.26
		XTL	4.28
		XTST	4.10
		XTU	4.10

**4.04** Block operated the CKG relay to prevent sounding an alarm. This also prevents lighting the TI lamp at the transverter trouble indicator frame and the TA lamp at the transverter frame.

**4.05** Make the transverter busy to all transverter connectors by inserting make-busy plugs into the CB- jacks for that transverter at

the transverter trouble indicator frame. Remove the plug from the TV-MB jack at the transverter trouble indicator frame, if one is inserted.

**4.06** Insulate the 3T contact of the RB relay to prevent sounding the major alarm and lighting the TA lamp at the transverter frame.

**4.07** Local instructions should be followed with reference to recording any register operations caused by working on these relays.

**4.08** Block nonoperated the SDTB and TM5 relays and block operated the SDTA relay. This prevents sounding the major alarm and operating the TTR register at the transverter trouble indicator frame. Insulate the 6T contact of the TR relay to prevent sounding the minor or major alarm and lighting the TI lamp at the transverter trouble indicator frame.

**4.09** Block operated the EXT and CKG relays to prevent bringing in an alarm and a trouble indication.

**4.10** Block nonoperated the DL relay to prevent bringing in an alarm and a trouble indication.

**4.11** Block nonoperated the TMS2 relay to prevent bringing in an alarm and a trouble indication. Then block operated any one of the transverter connector TS- relays associated with this transverter.

**4.12** Block operated the TBC3 relay to prevent bringing in an alarm and a trouble indication.

**4.13** Block operated the IR relay to prevent bringing in an alarm and a trouble indication.

**4.14** Block operated the RGL relay to prevent bringing in an alarm and a trouble indication.

**4.15** Block nonoperated the SDTB and TM5 relays to prevent bringing in an alarm and a trouble indication.

**4.16** Block nonoperated the XST relay to prevent bringing in an alarm and a trouble indication. If the associated recorder is made busy, also block nonoperated the XRB relay.

**4.17** Insulate the 7B contact of the STM relay to prevent a false start of the maintenance recorder.

**4.18** Block operated the CKG relay and block nonoperated the DL relay. This prevents sounding an alarm and lighting the TI lamp at the transverter trouble indicator frame. It also prevents lighting the TA lamp at the transverter frame.

**4.19** Remove the plug from the TV-TIB jack at the transverter trouble indicator frame, if one is inserted.

**4.20** Block nonoperated the TM4 relay to prevent sounding the major alarm and lighting the TA lamp at the transverter frame.

**4.21** Insulate the 3T contact of the TM4 relay to prevent the relay from locking to ground on the AR key and to avoid interference when applying a current flow test to the relay. The major alarm will sound and the TA lamp will light at the transverter frame while the relay is operated.

**4.22** Block nonoperated the SDTB and TM5 relays and block operated the SDTA relay. This prevents sounding the major alarm from the transverter long timeout and operating the TTR register at the transverter trouble indicator frame. The minor or major alarm will sound, and the TI lamp will light at the transverter trouble indicator while the relay is operated.

**4.23** Block nonoperated the XTST relay to prevent bringing in an alarm and a trouble indication. If the associated translator is made busy, also block nonoperated the XTB relay.

**4.24** Block nonoperated the XTU relay to prevent bringing in an alarm and a trouble indication.

**4.25** Block nonoperated the TM5 and DL relays to prevent bringing in an alarm and a trouble indication.

**4.26** Block nonoperated the TM5 relay to prevent bringing in an alarm and a trouble indication.

**SECTION 216-437-301**

**4.27** Block nonoperated the X and TM5 relays to prevent bringing in an alarm and a trouble indication.

**4.28** Block nonoperated the X relay to prevent bringing in an alarm and a trouble indication.

**4.29** Block nonoperated the XTU relay to prevent bringing in an alarm and a trouble indication.

**4.30** Insulate 2B CO3 relay to prevent bringing in an alarm and a trouble indication.

**4.31** Insulate 7T CO3 relay to prevent bringing in an alarm and a trouble indication.

**4.32** Insulate 5T CO8 relay to prevent bringing in an alarm and a trouble indication.

**4.33** Block nonoperated the XTST relay to prevent bringing in an alarm and a trouble indication. If the associated AIOD translator is made busy, also block nonoperated the TMB relay.

**4.34** Block operated the ATA alarm relay in the Transverter Trouble Indicator.

**5. REPORTS**

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

**5.02** Where required, the record of register operations caused by working on the apparatus should be forwarded according to local instructions.