TAKING EQUIPMENT OUT OF SERVICE
MAJOR UNITS OF EQUIPMENT
NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section covers the action to be taken to remove units of equipment from service in No. 1 crossbar offices.

1.02 The removal from service of individual pieces of apparatus associated with units covered in this section is covered by other sections or by the circuit drawing.

1.03 Information concerning the removal of equipment units from service is presented in Table 1. The table is divided into four columns; the circuit to be removed from service, the action to be taken to make the circuit busy, the make-busy location, and the functions of the make-busy together with additional information.

1.04 Local instructions should be followed with reference to notifying all interested departments when equipment is removed from service.

2. APPARATUS

2.01 No. 322A (or the replaced No. 275A) (make-busy) Plugs.

2.02 No. 349A (or the replaced No. 298A) (make-busy) Plugs.

2.03 No. 351C (or the replaced No. 325C) (make-busy) Plugs.

2.04 No. 258C (or the replaced No. 258B) (make-busy) Plugs.

2.05 No. 508A (relay-blocking) Tools.

2.06 No. 560A (or the replaced No. 530A) (make-busy) Tool.

2.07 No. 558A (or the replaced No. 542A) (armature-blocking) Tool.

3. METHOD

3.01 Use Table 1 for taking equipment out of service.

Note: In cases where equipment is removed from service by the application of a holding tool or grounding of a lead, it must be first ascertained that the lead involved is free of ground or that the associated equipment is normal before the make busy is applied.

4. REPORTS

4.01 Where required, the record of the equipment removed from service should be entered on the proper form in accordance with local instructions.

Table 1

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTIONS AND REMARKS
COIN SUPERVISORY LINK AND CONTROLLER			
Controller	349A Plug in MB Jack	Link and Controller Frame	Makes controller busy to district junctors.
Primary Switch	349A Plug in MB Jack of Associated Controller	Link and Controller Frame	Removes two primary switches from service.
	Await release of all hold magnets of the primary switch to be removed from service, then insert 351C Plugs in vertical unit jack of each hold magnet. Remove plug from controller MB Jack.	Link Frame	Removes one primary switch from service.
Secondary Switch	Block operated pair of associated GB- relays.	Controller	Removes secondary switch from service.
Link	Follow procedure above for one primary switch but insert 351C Plug in hold magnet of only the link desired. Note: If A or B primary hold magnet is open insulate 1 and 2 off-normal contacts.	Link Frame	Makes one link busy.
COIN SUPERVISORY CIRCUIT	349A Plug in MB- Jack	Misc-Frame	Makes supervisory circuit busy to controller.
DISTRICT JUNCTOR FRAME	Make busy all types of district junctors associated with frame.		
Subscriber District Junctors	349A Plug in each associated group MB- Jack.	Subscriber Sender Link Frame	Makes all subscriber junctors on frame busy.
Dial and Keypulse District Junctors (13C, 13D, 15C, or 15D Switchboard)	Patch each associated OGT Jack to an MB Jack. Caution: Test each OGT jack for circuit being idle before patching cord is placed.	"A" Switchboard	Makes dial or keypulse district junctors busy individually.
Dial and Keypulse District Junctors (3C or 3CL Switchboard)	258C Plug in each associated outgoing trunk circuit MB- Jack.	Relay Rack-	Makes dial or keypulse district junctors busy individually.
DISTRICT JUNCTOR			
Subscriber	349A Plug in MB- Jack	District Junctor Frame	Makes individual subscriber district junctor busy.
Dial and Keypulse (13C, 13D, 15C, or 15D Switchboard)	Patch associated OGT Jack to an MB Jack.	"A" Switchboard	Makes individual dial or keypulse district junctor busy.
Dial and Keypulse (3C or 3CL Switchboard)	258C Plug in associated outgoing trunk circuit MB- Jack.	Relay Rack-	Makes individual dial or keypulse district junctor busy.

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTIONS AND REMARKS
DISTRICT LINK FRAME	Make busy the associated District Junctor Frame	Subscriber Sender Link Frame - "A" Switchboard - Relay Rack -	Removes district link frame from service.
Primary Switch	Make busy each of the associated district junctors.	District Junctor Frame - "A" Switchboard - Relay Rack -	Removes primary switch from service.
Secondary Switch	349A Plug in MB- Jack	District Link Frame	Makes secondary switch busy.
District Link	349A Plug in MB- Jack of Associated Primary Switch.	Sender Link Frame	Makes two primary switches busy.
	351C Plug in district link PH magnet vertical unit jack of link to be made busy then remove plug from primary switch MB- Jack.	District Link Frame	Makes one link busy.
Office Junctor	349A Plug in MB- Jack of associated district secondary switch.	District Link Frame	Makes busy secondary switch containing office junctor.
	With 558A tool block associated office junctor PH magnet nonoperated.	Office Link Frame	Wait for release of office PH magnet if operated on service call.
	351C Plug in vertical unit jack of office junctor SH magnet then remove plug from secondary switch MB- Jack.	District Link Frame	Makes one office junctor busy.
INCOMING TRUNK FRAME	Have all trunks on frame made busy.	Originating Offices	In approved manner.
INCOMING TRUNK	Make busy at originating end.	Originating Office	In approved manner.
INCOMING LINK FRAME	Make busy associated Incoming Trunk Frame.	Originating Offices	Removes incoming link frame from service.
Primary Switch	Have associated incoming trunks made busy.	Originating Offices	Removes primary switch from service.
Secondary Switch	349A Plug in associated MB- Jack.	Incoming Link Frame	Makes secondary switch busy.
Incoming Link	351C Plug in PH magnet vertical unit jack of link to be made busy. Caution: Plug to be placed while no select magnets are operated.	Incoming Link Frame	Makes one link busy.
Line Junctor	349A Plug in MB- Jack of associated secondary switch.	Incoming Link Frame	Removes all junctors on switch from service.
	351C Plug in SH magnet vertical unit jack of junctor to be made busy then remove plug from secondary switch MB- Jack.	Incoming Link Frame	Makes one line junctor busy.

Table 1 (Con't)

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTIONS AND REMARKS
INTERRUPTER	Make busy circuits that are served by interrupter.	Circuit Make Busy	Determine from office records circuits that use interrupter.
LINE CHOICE CONNECTOR	349A Plug in TMB- Jack Caution: This stops all terminating traffic to the subscribers in this line choice, hence, should be resorted to only in extreme emergency.	Line Choice Connector Frame	Makes line choice busy to all terminating traffic.
LINE LINK FRAME			
Primary Switch	This switch can not be removed from service without denying service to a group of subscribers. Therefore, trouble in this equipment must be cleared immediately.	Line Link Frame	Provide emergency service in accordance with local practice for any line on which service cannot be interrupted while trouble is being cleared.
Secondary Switch	349A Plug in SS- Jack	Line Link Frame	Makes secondary switch busy.
Line Link	560A Tool on HG- relay spring associated with link.	Line Link Frame	Makes one line link busy.
Controller	349A Plug in Controller MB Jack	Line Link Frame	Transfers calls to mate controller.
MARKER - ORIGINATING	322A Plug in DB- Jack	Originating Trouble Indicator Frame	Makes marker busy to all connectors.
MARKER CONNECTOR - ORIGINATING	322A Plug in associated sender GB- Jack.	Originating Trouble Indicator Frame	Makes all senders associated with marker connector busy.
To a Particular Marker	322A Plug in CB- Jack	Originating Trouble Indicator Frame	Makes a particular marker busy to the connector.
MARKER - TERMINATING	322A Plug in DB- Jack	Terminating Trouble Indicator Frame	Makes terminating marker busy to all connectors.
MARKER CONNECTOR - TERMINATING	322A Plug in associated sender GB- Jack.	Terminating Trouble Indicator Frame	Makes all senders associated with marker connector busy.
To a Particular Marker	322A Plug in CB- Jack	Terminating Trouble Indicator Frame	Makes a particular marker busy to the connector.
MULTIFREQUENCY CURRENT SUPPLY	Operate SWO or SWE Key.	Supply Frame	Transfers load to other supply, odd to even or even to odd.
NUMBER GROUP CONNECTOR	349A Plug in TMB- Jack Caution: This stops all terminating traffic to the subscribers in this number group, hence, should be resorted to only in extreme emergency.	Number Group Connector Frame	Makes number group busy to all terminating traffic.

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTION AND REMARKS
OFFICE LINK FRAME	349A Plug in OMB Jack	Office Link Frame	Makes office frame of a pair busy.
Primary Switch	349A Plug in PMB- Jack	Office Link Frame	Removes primary switch from service.
Secondary Switch	349A Plug in SMB- Jack	Office Link Frame	Removes secondary switch from service.
Office Junctor	349A Plug in PMB- Jack of associated office primary switch.	Office Link Frame	Removes primary switch containing office junctor from service.
	With 558A Tool block associated office junctor SH magnet nonoperated.	District Link Frame	Wait for release of district SH magnet if operated on service call.
	351C Plug in vertical unit jack of office junctor PH magnet then remove plug from primary switch PMB- Jack.	Office Link Frame	Makes one office junctor busy.
Office Link	349A Plug in SMB- Jack of associated office secondary switch (also on extension frame where provided).	Office Link Frame	Removes secondary switch containing office link from service.
	351C Plug in vertical unit jack of office link SH magnet then remove plug from SMB- Jack.	Office Link Frame	Makes one office link busy.
SENDER - ORIGINATING	322A Plug in MB- Jack	Sender Make Busy Frame	Makes one originating sender busy.
SENDER - TERMINATING (All Types)	322A Plug in MB- Jack	Terminating Trouble Indicator Frame	Makes one terminating sender busy.
SENDER LINK FRAME - SUBSCRIBER	349A Plugs in all MB- Jacks	Sender Link Frame	Makes all groups of district junctors associated with frame busy.
Primary Switch	349A Plug in associated MB- Jack	Sender Link Frame	Removes two primary switches from service.
Secondary Switch	Block operated pair of associated GB- relays.	Sender Link Controller	Removes secondary switch from service.
Sender Link	351C Plug in associated vertical unit jack on C switch. Note: Observe that hold magnets on C and D switches operate.	Sender Link Frame	Makes one link busy.
Controller	Make busy the sender link frame.	Sender Link Frame	Removes sender link frame from service by making associated district junctors busy.
	Operate A and B switches to OFF, operate A-EM and B-EM switches to ON. Caution: Only one sender link frame may be connected to the emergency controller at any time. Release sender link frame for service.	Sender Link Frame	Transfers sender link frame to emergency controller.

Table 1 (Con't)

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTION AND REMARKS
SENDER LINK FRAME - SUBSCRIBER (Con't)			
Sender Selector Circuit	322A Plug in associated sender GB- Jack.	Sender Make Busy Frame	Makes associated sender group busy.
"A" SENDER LINK AND CONTROLLER FRAME			
Controller	349A Plug in MB Jack	Link and Controller Frame	Makes controller busy.
Primary Switch	349A Plug in MB Jack of associated controller.	Link and Controller Frame	Removes two primary switches from service.
	Await release of all hold magnets of the primary switch to be removed from service then insert 351C Plug in vertical unit jack of each hold magnet. Remove plug from controller MB Jack.	Link Frame	Removes one primary switch from service.
Secondary Switch	Block operated pair of associated GB- relays.	Link and Controller Frame	Removes one secondary switch from service.
Link	Follow procedure above for removing one primary switch from service but insert 351C Plug only in link desired. Note: If A or B primary hold magnet is open, insulate 1 and 2 off-normal contacts.	Link Frame	Makes one link busy.
SENDER LINK FRAME - TERMINATING	Have all trunks associated with frame made busy.	Originating Offices	Removes frame from service.
Controller	349A Plug in Controller MB Jack.	Link and Controller Frame	Transfers traffic to mate controller.
Primary Switch	Have all associated trunks made busy.	Originating Offices	Removes switch from service.
Secondary Switch	Block operated associated TMB and BMB, or AMB, or BMB relays.	Controller	Removes secondary switch from service.
Link	351C Plug in associated PH magnet vertical unit jack. If primary hold magnet is open, insulate 1 and 2, and the 3 and 4 off-normal contacts.	Link Frame	Check that no select finger is engaged by the hold magnets operated by the 351C plug on the primary or secondary switches.

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTION AND REMARKS
TROUBLE INDICATOR - ORIGINATING	322A Plug in TIB- Jack	Originating Trouble Indicator Frame	Makes indicator busy to a particular originating marker.
TROUBLE INDICATOR - TERMINATING	322A Plug in TIB- Jack	Terminating Trouble Indicator Frame	Makes indicator busy to a particular terminating marker.
TROUBLE INDICATOR - CONTROLLER	322A Plug in TIB- Jack	Controller Trouble Indicator Frame	Makes indicator busy to a particular sender link controller.
ZONE REGISTRATION CIRCUIT	349A Plug in associated MB Jack	Zone Registration Control Frame	Makes one zone registration circuit busy.
Timing Interrupter	Make busy associated zone registration circuits.	Zone Registration Control Frame	Removes timing interrupter from service.
District Connecting Switch	Make busy associated group of district junctors.	District Junctor Frame	Removes switch from service.
Control Circuit	349A Plugs in all associated district junctor group MB- Jacks.	Subscriber Sender Link Frame	Removes control circuit from service by making associated district junctors busy.
AMA EQUIPMENT			
CALL IDENTITY INDEXER	349A Plugs in all associated district junctor group MB- Jacks.	Subscriber Sender Link Frame	Indexer will be out of service when all primary hold magnets on associated district link frame have released.
	If immediate removal from service is necessary: 322A Plug in associated RCDR-MB Jack.	Transverter Trouble Indicator Frame	Removes indexer from service by making associated recorder busy.
MASTER TIMER	Operate CMBE or CMBO key.	Master Timer Frame	Makes associated master timer busy and transfers functions to other master timer, even or odd.
RECORDER AND RECORDER CONNECTOR	349A Plugs in all associated district junctor group MB- Jacks.	Subscriber Sender Link Frame	Makes associated district junctors busy to new traffic.
	When all primary hold magnets on associated district link frame have released, insert a 322A Plug in TN- Jack and restore the district groups to service.	Transverter Trouble Indicator Frame	Transfers district junctor frame to emergency recorder without straddle calls.
	If immediate removal from service is necessary: 322A Plug in TN- Jack	Transverter Trouble Indicator Frame	Transfers district junctor frame to emergency recorder and makes all calls in progress straddle calls.
	If emergency recorder is not available: 322A Plug in RCDR-MB Jack	Transverter Trouble Indicator Frame	Makes recorder busy.
TRANSVERTER	322A Plug in TV-MB Jack	Transverter Trouble Indicator Frame	Makes transverter busy to all connectors.

Table 1 (Con't)

TYPE OF CIRCUIT	METHOD	LOCATION OF MAKE BUSY	FUNCTION AND REMARKS
TRANSVERTER CONNECTOR	322A Plug in associated C-GB Jack	Transverter Trouble Indicator Frame	Makes all senders in connector busy.
To a Particular Transverter	322A Plug in associated CB- Jack	Transverter Trouble Indicator Frame	Makes a particular transverter busy to a particular connector.
TROUBLE INDICATOR - TRANSVERTER			
To Transverter	322A Plug in TV-TIB Jack	Transverter Trouble Indicator Frame	Makes indicator busy to a particular transverter.
To Recorder	322A Plug in RCDR-TIB Jack	Transverter Trouble Indicator Frame	Makes indicator busy to a particular recorder.
TRANSLATOR	322A Plug in TR-MB Jack	Transverter Trouble Indicator Frame	Makes translator busy to all transverters.