

**AUXILIARY TRANSVERTER LINK
MISCELLANEOUS TESTS
NO. 1 CROSSBAR OFFICES**

1. GENERAL

1.01 This section describes the method of making miscellaneous tests on the auxiliary transverter link in No. 1 crossbar offices arranged for AMA.

1.02 The tests covered are:

A. Transverter Lockout: This test checks that the transverter lockout chain allows only one connection at a time to be in the process of being set up.

B. False Transverter Lockout: This test checks that the false operation or failure to release by any relay in the lockout chain will cause a trouble indication.

C. Link Time-Out: This test checks that an unusual delay in setting up a connection after a transverter has gained control of the lockout chain will result in a trouble indication and release of the lockout chain.

1.03 Test A requires that two transverters at a time be made busy, and Tests B and C require that one transverter at a time be made busy.

1.04 All tests require action at the transverter trouble indicator frame.

1.05 Verifications in all tests that require relays LO- and LOK- to operate may be momentarily delayed due to a service request.

1.06 Since all tests may interfere with normal service calls, they should be performed during periods of light traffic and should be

completed as quickly as possible. Under no condition should an LO- or LOK- relay be left operated for an extended period of time without having a plug in the associated LO- jack.

2. APPARATUS

2.01 The apparatus required for each test is shown in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses.

TABLE A		TESTS		
APPARATUS		A	B	C
322A (make busy) Plug		2	2	2
258C (dummy) Plug		2	1	-
Testing Cord (2.02)		2	-	1
2.02 Testing cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord).				
2.03 Blocking tools, as required. Use tools and apply, as covered in Section 069-020-801.				
2.04 651D (relay contact connector holder) tools (used for holding relay contact connector tools when making test connections to fixed contacts of wire spring relays), as required.				
2.05 639A (relay contact connector) tools (used in conjunction with 651D tools), as required.				
2.06 365 (connecting clip) tools, as required.				

3. METHOD

STEP	ACTION	VERIFICATION
A. Transverter Lockout		
1	At transverter trouble indicator frame — Insert make-busy plug into TVB- jack corresponding to lowest-numbered transverter.	
2	Insert make-busy plug into TVB- jack corresponding to next higher-numbered transverter. <i>Note:</i> Throughout the remainder of this test, any equipment designated "lower numbered" means that equipment corresponding to the lowest-numbered transverter referred to in Step 1. Any equipment designated "higher numbered" means that equipment corresponding to the next higher-numbered transverter referred to in Step 2.	
3	At auxiliary transverter link — Insert dummy plug into both lower-numbered, higher-numbered LO- jack.	
4	Block nonoperated lower-numbered, higher-numbered LS- relays.	
5	Connect ground to fixed contact 7 of lower-numbered, higher-numbered CO- relays.	Lower-numbered, higher-numbered TA- relays operate.
6	Block operated lower-numbered LO-, LOK-relays.	
7	When all but lower-numbered LO- relays are nonoperated — Remove plug from lower-numbered LO-jack.	
8	Remove plug from higher-numbered LO-jack.	Higher-numbered LO-, LOK- relays remain nonoperated.
9	Insert dummy plug in lower-numbered LO-jack.	Higher-numbered LO-, LOK- relays operate.
10	Insert dummy plug in higher-numbered LO-jack.	Higher-numbered LO-, LOK- relays release.
11	Remove blocking tools from lower-numbered LO-, LOK- relays.	Lower-numbered LO-, LOK- relays release.
12	Remove plug from lower-numbered LO-jack.	Lower-numbered LO-, LOK- relays operate.
13	Block nonoperated lower-numbered TA-relay.	Lower-numbered LO-, LOK- relays release.
14	Remove blocking tool from lower-numbered TA- relay.	Lower-numbered TA-, LO-, LOK- relays operate.

STEP	ACTION	VERIFICATION
15	Block operated lower-numbered TIB-, DL-relays.	Lower-numbered LO-, LOK- relays release.
16	Remove blocking tools from lower-numbered TIB-, DL- relays.	Lower-numbered TIB-, DL- relays release. Lower-numbered LO-, LOK relays operate.
17	Remove plug from higher-numbered LO-jack.	Higher-numbered LO-, LOK- relays remain nonoperated.
18	Block operated lower-numbered CO- relay.	Lower-numbered LO-, LOK- relays release. Higher-numbered LO-, LOK- relays operate.
19	Remove blocking tool from lower-numbered CO- relay.	Lower-numbered CO- relay releases. Lower-numbered LO-, LOK- relays remain nonoperated.
20	Remove ground from fixed contact 7 of lower-numbered, higher-numbered CO- relays.	Lower-numbered TA- relay releases. Higher-numbered TA-, LO-, LOK- relays release.
21	Remove blocking tools from both lower-numbered, higher-numbered LS- relays.	
22	At transverter trouble indicator frame — Remove make-busy plugs from TVB- jacks referred to in Steps 1, 2.	
23	Repeat Steps 1 through 22 for all other consecutively numbered pairs of transverters, by increasing number of transverters referred to in Steps 1, 2 by one, pairing second and third, third and fourth, etc, and continue in similar manner until all consecutively numbered pairs of transverter have been paired. Last pair of transverters involved will be highest numbered and lowest numbered in group; for purposes of this test, lowest-numbered transverter in group shall be considered to be numbered one higher than highest-numbered transverter in group.	Same as Steps 1 through 22.

B. False Transverter Lockout

1	At transverter trouble indicator frame — Insert make-busy plug into TVB- jack corresponding to lowest-numbered transverter.	
2	Insert make-busy plug in correspondingly numbered TV-TIB jack.	At auxiliary transverter link — Correspondingly numbered TIB- relay operates.
3	At auxiliary transverter link — Insert dummy plug in correspondingly numbered LO- jack.	
4	Block nonoperated correspondingly numbered TIB- relay.	
5	Operate correspondingly numbered LO- relay momentarily.	Minor alarm sounds.

STEP	ACTION	VERIFICATION
6	Remove blocking tool from TIB- relay.	TIB- relay operates.
7	Remove plug from LO- jack.	At transverter trouble indicator — Correspondingly numbered DL- lamp lighted.
8	At transverter trouble indicator — Operate RL key momentarily.	Minor alarm silenced. All lamps extinguished.
9	Remove plug from TVB- jack.	
10	Remove plug from TV-TIB jack.	At auxiliary transverter link — Correspondingly numbered TIB- relay releases.
11	Repeat Steps 1 through 10 for all higher-numbered transverters.	Same as Steps 1 through 10.

C. Link Time-Out

1	At transverter trouble indicator frame — Insert make-busy plug into TVB- jack corresponding to lowest-numbered transverter.	
2	Insert make-busy plug into correspondingly numbered TV-TIB jack.	At auxiliary transverter link — Correspondingly numbered TIB- relay operates.
3	At auxiliary transverter link — Block nonoperated correspondingly numbered CO- relay.	
4	Block nonoperated correspondingly numbered TIB- relay.	
5	Connect ground to fixed contact 7 of correspondingly numbered CO- relay.	Correspondingly numbered TA-, LO-, LOK-, LS- relays operate. Correspondingly numbered TA-, LO-, LOK- relays release. Minor alarm sounds.
6	Remove blocking tool from TIB- relay.	TIB- relay operates.
7	Remove ground from fixed contact 7 of CO- relay.	Correspondingly numbered LS- relay releases.
8	Remove blocking tool from CO- relay.	At transverter trouble indicator — Corresponding DL- lamp lighted.
9	At transverter trouble indicator — Operate RL key momentarily.	Minor alarm silenced. All lamps extinguished.
10	Remove plug from TVB- jack.	
11	Remove plug from TV-TIB jack.	At auxiliary transverter link — Correspondingly numbered TIB- relay releases.
12	Repeat Steps 1 through 11 for all higher-numbered transverters.	Same as Steps 1 through 11.