

CODE COMPRESSOR CONNECTOR TESTS NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing code compressor connectors in No. 1 crossbar offices.

1.02 This section is reissued to bring it in conformity with other material in the Plant Series. In this process marginal arrows have been omitted.

1.03 The tests covered are:

A. Code Compressor Sequence and Lockout Feature — Access to All Code Compressors From One Code Compressor Connector — CB- Relay Chain: This test checks that an operated CB- relay transfers the start lead to the next preferred CS- relay of the connector. It also checks that a connector has access to all code compressors, but can connect to only one code compressor at a time.

B. Code Compressor Sequence and Lockout Feature — Access to One Code Compressor From All Code Compressor Connectors — CS- Relay Chain: This test checks that only one connector at a time seizes a code compressor and closes the start lead of the seized compressor only.

C. Subscriber Sender Preference and Lockout Feature — SS- Relay Chain: This test checks the order of preference of the SS- relay; it also checks that only one subscriber sender at a time is served by the code compressor connector.

D. Code Compressor Busy to Connector — CB- Relay Chain: This test checks that the code compressor is made busy to all the connectors from the code compressor frame. It also checks that an operated CST relay in the recycle circuit will hold the CB- relays operated.

E. Alternate Code Compressor Preference

Feature: This test checks the alternate code compressor preference feature by checking the leads from the W and Z relays to the code compressor start relays in the code compressor connector.

F. Time-Out Feature: This test checks that the code compressor connector upon time-out, transfers the preference to the alternate start lead if the call is not connected to an available code compressor within a designated time interval. This time-out brings in a major alarm.

G. False Ground Feature: This test checks that a false ground appearing on OFR, ASR, or RCY release leads in the connector will hold the recycle circuit, and a false ground on TRL lead will release the recycle circuit. This test also checks that in all cases a major alarm is sounded.

H. Traffic Control Feature — Each Code Compressor Connector: This test checks that any code compressor connector that has served one call is locked out of service for succeeding calls, until all other waiting compressor connectors have been served. This test also checks the alarm feature, if a connector request for a compressor is not satisfied in a given time interval, with a compressor available.

I. All Code Compressors Busy — Cancel Alternate Code Compressor Feature: This test checks that with all code compressors busy, the alternate code compressor feature is canceled.

J. Recycle of Over-All Timing Feature: This test checks that the over-all timing is recycled after a code compressor is seized, and

that a new timing cycle is started for code compressor disconnect. This test also checks that the over-all timing is recycled between seizure of a code compressor.

K. Connector Disable Feature — Sender Test Frame — Compressor Delay for Overflow Route Tests: This test checks that the connector is disabled when tests of the "delayed call overflow route feature" are being made at the sender test frame.

1.04 Tests D, H, and I should be completed as rapidly as possible since these test conditions will introduce traffic delays.

1.05 Tests A, B, E, F, H, I, and J require actions and verifications at the connector and compressor frames. Tests C, D, and G require actions and verifications at the connector, compressor, and sender recycle frames. Test K requires actions and verifications at the connector and sender recycle frames.

1.06 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 or 4 of this section, indicates an action which may or may not be required, depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

1.07 Local instructions should be followed for recording and reporting any compressor connector operations caused by performing these tests.

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

APPARATUS	TESTS										
	A	B	C	D	E	F	G	H	I	J	K
Test Receiver (2.02)	-	-	-	-	-	1	-	-	-	-	1
Cord (2.03)	1	2	-	-	1	1	-	-	-	-	-
Cord (2.04)	1	-	-	-	-	1	2	2	2	1	-
373A (make busy) Plug	-	1	1	√	1	1	-	√	√	-	-
347A (dummy) Plug	-	-	-	-	-	-	-	-	-	2	-
349A (make busy) Plug	√	-	√	1	-	-	-	-	-	-	-
Tool (2.05)	√	√	√	√	√	√	√	√	√	√	√

√ As required.

2.02 Test receiver, 716C test receiver or equivalent attached to a W2AB cord equipped with two 360A tools (2W21A cord), one KS-6278 connecting clip, and one 411A (test pick) tool (for use in checking the presence or absence of battery or ground).

2.03 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, and one 624B tool (for establishing test connections to the winding terminal of wire-spring relays and to the terminals of a terminal strip).

2.04 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 connecting clip, 639A (relay contact connector) tool, and one 651A (relay contact connector holder) tool (for connecting to fixed contacts of wire-spring-type relays).

2.05 Blocking and insulating tools, as required. Use tools and apply, as covered in Section 069-020-801.

2.06 Make test connections and apply as covered in Section 069-131-811.

3. PREPARATION

STEP	ACTION	VERIFICATION
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All Tests*Note:* See 1.04

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|---|---|--|
| 1 | At sender make-busy frame —
Insert make-busy plugs into MB-jacks of subgroup of senders associated with compressor connector to be tested. | |
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4. METHOD

STEP	ACTION	VERIFICATION
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A. Code Compressor Sequence and Lockout Feature — Access to All Code Compressors From One Code Compressor Connector — CB- Relay Chain

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|----|---|---|
| 2a | If W, Z relays operated —
At connector —
Connect ground to upper winding terminal of TC relay. | At connector —
TC relay operated. |
| 3a | Operate TC1 relay manually. | W, Z relays released. |
| 4a | Remove ground from upper winding terminal of TC relay. | TC relay released. |
| 5 | Block nonoperated W, Z, TRS relays. | |
| 6 | At connector frame —
Insert make-busy plugs into CB-jacks, as required, for all connectors, except connector being tested, for first preferred code compressor (for CSA punching) of connector being tested. | At compressor frame —
Associated CB- relay operated. |
| 7 | At connector —
Connect battery to fixed contact 4 of W relay. | At compressor frame —
First preferred CS- relay (for CSA punching) operated.
No other CS- relays for this connector operated. |
| 8 | Remove battery from fixed contact 4 of W relay. | CS- relay released. |

Note: The operation of a CS- relay causes a code compressor to time out and request the trouble indicator. The resultant alarm may be silenced as indicated in Step 9.

STEP	ACTION	VERIFICATION
9	At compressor frame — Block operated CB-relay associated with CS-relay in Step 7.	<i>Note:</i> To silence major alarm, operate ARC key at code compressor frame momentarily. To silence minor alarm and extinguish trouble indicator lamps, momentarily operate RLS key at compressor frame.
10	At connector frame — Remove make-busy plugs from CB-jacks.	At compressor frame — Associated CB- relay released.
11	Insert make-busy plugs into CB-jacks, as required, for all connectors except connector being tested, and for second preferred code compressor (for CSA punching) of connector being tested.	Associated CB- relay operated.
12	At connector — Connect battery to fixed contact 4 of W relay.	Second preferred CS- relay (for CSA punching) operated. See note, Steps 7, 9. No other CS- relays for this connector operated.
13	Remove battery from fixed contact 4 of W relay.	CS- relay released.
14	At compressor frame — Block operated CB-relay associated with CS-relay operated in Step 12.	
15	At connector frame — Remove make-busy plugs from CB-jacks.	Associated CB- relay released.
16	Repeat Steps 11 through 15 substituting third (if provided) preferred code compressor.	Same as Steps 11 through 15.
17	Connect battery to fixed contact 4 of W relay.	No CS- relay operated.
18	Remove battery from fixed contact 4 of W relay.	
19	At compressor frame — Remove blocking tools from all CB- relays.	
20	At connector — Remove blocking tools from W, Z relays.	
21	Block operated W relay.	At connector — Z relay operated.

STEP	ACTION	VERIFICATION
22	At connector frame — Insert make-busy plugs into CB- jacks as required, for all connectors except connector being tested, and for first preferred code compressor (for CSB punching) of connector being tested.	At compressor frame — Associated CB- relay operated.
23	At connector — Connect battery to fixed contact 10 of W relay.	First preferred CS- relay (for CSB punching) operated. See note, Steps 7, 9.
24	Remove battery from fixed contact 10 of W relay.	CS- relay released.
25	At connector frame — Remove make-busy plugs from CB- jacks.	Associated CB- relay released.
26	At connector — Remove blocking tools from TRS, W relays.	At connector — Z relay released.
27	At sender make-busy frame — Remove make-busy plugs from MB- jacks, as required.	
B. Code Compressor Sequence and Lockout Feature — Access to One Code Compressor From All Code Compressor Connectors — CS- Relay Chain		
2	At compressor frame — Insert make-busy plug into MBC- jack for first code compressor.	At compressor frame — Associated CCB- lamp lighted. At connector frame — Associated CB- lamp lighted.
3	At code compressor made busy — Block nonoperated TM relay.	
<i>Note:</i> The compressor preference in each connector is variable and may be determined from job wiring lists and office records for connections of CSA and CSB punchings to the CB- and CS- relay chains.		
4	At compressor frame — Block nonoperated CA- relay for first connector associated with code compressor made busy.	
5	Connect battery to lower winding terminal of CS- relay for first connector associated with code compressor made busy.	At compressor frame — CS- relay operated. CA- relay energized.

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STEP	ACTION	VERIFICATION
6	Connect battery to lower winding terminal of CS-relay for second connector associated with code compressor made busy.	CS- relay operated. Associated CA- relay does not operate.
7	Block nonoperated CA- relay associated with CS- relay operated in Step 6.	
8	Remove battery from winding terminal of CS- relay for first connector.	CS- relay, for first connector, released. CA- relay, associated with second connector, energized.
9	Remove blocking tool from CA-relay associated with first connector.	
10	Connect battery to lower winding terminal of CS- relay for third connector.	CS- relay operated. Associated CA- relay does not operate.
11	Block nonoperated CA-relay associated with CS- relay operated in Step 10.	
12	Remove battery from lower winding terminal of CS- relay for second connector.	CS- relay, for second connector, released. Associated CA- relay, for third connector, energized.
13	Remove blocking tool from CA-relay for second connector.	
14	Repeat Steps 10 through 13 substituting fourth, fifth, etc, connectors in order.	Same as Steps 10 through 13.
15	Remove battery from winding terminal of CS- relay for last connector tested.	
16	Remove blocking tool from CA- relay.	
17	At first code compressor — Remove blocking tool from TM relay.	
18	At compressor frame — Remove make-busy plug from MBC- jack for first compressor.	At compressor frame — Associated CCB- lamp extinguished. At connector frame — Associated CB- lamp extinguished.
19	Repeat Steps 2 through 18 for second compressor, and for third compressor if provided.	

STEP	ACTION	VERIFICATION
C. Subscriber Sender Preference and Lockout Feature — SS- Relay Chain		
2	At connector frame — Insert make-busy plugs into all CB- jacks for connector being tested.	At connector frame — Corresponding CB- lamp lighted.
3	At compressor frame — Insert make-busy plug into MBC- jack for first code compressor.	At compressor frame — Associated CCB- lamp lighted.
4	Block nonoperated TM relay in first code compressor.	
5	Insert make-busy plug into MBI jack.	
6	Block operated IB0 relay.	
7	At connector — Block nonoperated TM relay.	
8	Insulate contact 7 break of TST relay.	
9	At sender recycle frame — Insulate relay contacts 9, 10 make of all CST relays associated with subgroup of senders made busy.	
10	Block operated CST relay for first sender in subgroup of senders made busy.	At connector frame — Associated SS-, SA- relays operated.
11	At compressor frame — Block operated CA- relay associated with first code compressor.	At connector — CBY relay operated. At compressor frame — S- lamp associated with first subscriber sender lighted. CN- lamp associated with connector under test lighted.
12	At sender recycle frame — Block operated CST relay for second sender in subgroup of senders made busy.	At connector frame — Associated SS- relay does not operate.
13	Remove blocking tool from CST relay for first sender.	SS-, SA- relays associated with first sender released. At compressor frame — S- lamp associated with first sender extinguished.

STEP	ACTION	VERIFICATION
14	At compressor frame — Remove blocking tool from CA-relay associated with first code compressor.	At connector — CBY relay released. At connector frame — SS-, SA- relays associated with second sender operated. At compressor frame — CN- lamp extinguished.
15	Block operated CA- relay associated with first code compressor.	At connector — CBY relay operated. At compressor frame — S- lamp associated with second sender lighted. CN- lamp associated with connector under test lighted.
16	Repeat Steps 12 through 15 substituting third, fourth, etc, sender recycle CST relays.	Same as Steps 12 through 15.
17	Block operated CST relay for first sender in subgroup of senders made busy.	At connector frame — Associated SS-, SA- relays do not operate.
18	Remove blocking tools from CST relays for first and last sender of subgroup of senders made busy.	Associated SA-, SS- relays for last sender in group released. At compressor frame — S- lamp extinguished.
19	At compressor frame — Remove blocking tool from CA- relay	At connector — CBY relay released. At compressor frame — CN- lamp extinguished.
20	Remove blocking tool from IB0 relay.	
21	At recycle sender frame — Remove insulators from contacts 9, 10 of all CST relays.	
22	At connector — Remove blocking tool from TM relay, insulating tool from TST relay.	
23	At code compressor — Remove blocking tool from TM relay.	
24	At connector frame — Remove make-busy plugs from CB- jacks.	

STEP	ACTION	VERIFICATION
25	At compressor frame — Remove make-busy plug from MBC- jack.	At compressor frame — Associated CCB- lamp extinguished. At connector frame — Associated CB- lamp extinguished.
26	Remove make-busy plug from MBI jack.	
27	At sender make-busy frame — Remove all make-busy plugs from MB- jacks as required.	
D. Code Compressor Busy to Connector — CB- Relay Chain		
2	At connector frame — Insert make-busy plug into CB- jack for first compressor associated with connector being tested.	At compressor frame — Associated CB- relay operated. At connector frame — Associated CB- lamp lighted.
3	Remove make-busy plug from CB- jack.	At compressor frame — Associated CB- relay released. At connector frame — Associated CB- lamp extinguished.
4	Repeat Steps 2, 3, for all other code com- pressors.	Same as Steps 2, 3.
5	At compressor frame — Insert make-busy plug into MBC- jack for first code compressor.	At compressor frame — Associated CB- relay operated. Associated CCB- lamp lighted. At connector frame — Associated CB- lamp lighted.
6	Remove make-busy plug from MBC- jack.	At compressor frame — Associated CB- relay released. Associated CCB- lamp extinguished. At connector frame — Associated CB- lamp extinguished.
7	Repeat Steps 5, 6, for all other code com- pressors.	Same as Steps 5, 6.
8	Insert make-busy plug into MBI jack.	
9	At all compressors — Block nonoperated TM, TM1, TIS relays.	
10a	If compressor frame is equipped with three code compressors — At compressor frame — Block operated CB0, CB1, CB2 relays.	At connector frame — Associated CB- lamp lighted.

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STEP	ACTION	VERIFICATION
11a	At compressors — Block nonoperated all CA- relays associated with connector under test.	
12a	At connector — Block nonoperated TM, RCA relays.	
13a	At recycle sender frame — Block operated CST relay for first sender of subgroup of senders made busy.	
14a	At compressor frame — Remove blocking tool from CB0 relay.	At connector frame — Associated CB- lamp extinguished. At compressor frame — CB0 relay does not hold. CS0 relay operated.
15a	Block operated CB0 relay.	At connector frame — Associated CB- lamp lighted.
16a	Block operated CS0 relay.	
17a	Remove blocking tool from CB0 relay.	At compressor frame — CB0 relay remains operated.
18a	Block operated CS1 relay.	
19a	Remove blocking tool from CS0 relay.	CB0 relay remains operated.
20a	Block operated CS2 relay.	
21a	Remove blocking tool from CS1 relay.	CB0 relay remains operated.
22a	Remove blocking tool from CS2 relay.	CB0 relay released. At connector frame — Associated CB- lamp extinguished.
23a	Remove blocking tools from CB1, CB2 relays.	At compressor frame — CB1, CB2 relays remain operated.
24a	Block operated CB0, CB2 relays.	CB1 relay released. At connector frame — Associated CB- lamp extinguished.
25a	Remove blocking tools from CB0, CB2 relays.	At compressor frame — CB0, CB2 relays remain operated.
26a	Block operated CB0, CB1 relays.	CB2 relay released. At connector frame — Associated CB- lamp extinguished.

STEP	ACTION	VERIFICATION
27a	Remove blocking tools from CB0, CB1 relays.	At compressor frame — CB0, CB1 relays remain operated.
28b	If compressor frame is equipped with two code compressors — At compressor frame — Block operated CB0, CB1 relays for connector under test.	At connector frame — Associated CB- lamp lighted.
29b	At connector — Block nonoperated TM, RCA relays.	
30b	At recycle sender frame — Block operated CST relay for first sender of subgroup of senders made busy.	
31b	At compressor frame — Remove blocking tool from CB0 relay.	At compressor frame — CB0 relay does not hold. CS0 relay operated.
32b	Block operated CB0 relay.	
33b	Block operated CS0 relay.	
34b	Remove blocking tool from CB0 relay.	CB0 relay remains operated.
35b	Block operated CS1 relay.	
36b	Remove blocking tool from CS0 relay.	CB0 relay remains operated.
37b	Remove blocking tool from CB1 relay.	CB1 relay remains operated.
38b	Block operated CS0 relay.	
39b	Remove blocking tool from CS1 relay.	CB0, CB1 relays remain operated.
40b	Block nonoperated CB0 relay.	CB1 relay remains operated.
41b	Remove blocking tool from CB0 relay.	
42b	Block operated CB0, CB1 relays.	
43b	Remove blocking tool from CS0 relay.	
44b	Remove blocking tools from CB1, CB0 relays in order.	CB1 relay does not hold. CB0 relay remains operated.
45b	Release CB0 relay manually.	
46b	Block operated CS0 relay.	

STEP	ACTION	VERIFICATION
47b	Operate CB0, CB1 relays manually.	CB0, CB1 relays remain operated.
48	At recycle sender frame — Block operated CST relay for second sender of subgroup of senders made busy.	
49	Remove blocking tool from CST relay for first sender.	CB0, CB1 relays remain operated.
50	Repeat Steps 50, 51 for third, fourth, etc, senders of subgroup of senders made busy until all CST relays have been blocked operated.	Same as Step 51.
51	Remove blocking tool from last CST relay.	CB0, CB1 relays released. At connector frame — Associated CB- lamp extinguished.
52	At compressor frame — Remove blocking tool from CS0 relay.	
53	Remove blocking tools from CA- relays.	
54	At compressors — Remove blocking tools from TIS, TM, TM1 relays in all compressors.	
55	At connector — Remove blocking tools from TM, RCA relays.	
56	At compressor frame — Remove make-busy plug from MBI jack.	
57	At sender make-busy frame — Remove all make-busy plugs from MB-jacks as required.	

E. Alternate Code Compressor Preference Feature

2a	If W, Z relays operated — At connector — Operate manually, TC relay momentarily.	At connector — W, Z relays released.
3	Block nonoperated W, TRS relays.	
4	At compressor frame — Insert make-busy plug into MBC- jack for first preferred compressor (for CSA punching) for connector being tested.	At compressor frame — Associated CCB- lamp lighted. Associated CB- relay operated. At connector frame — Associated CB- lamp lighted.

STEP	ACTION	VERIFICATION
5	Block nonoperated CB- relay associated with compressor made busy.	
6	At connector — Connect battery to terminal 14 of terminal strip B, for connector controller.	At compressor frame — Preferred CS- relay (for CSA punching) operated. Associated CA- relay operated. <i>Note:</i> The operation of a CS- relay causes a compressor to time out and request a trouble indicator. The resultant major alarm may be retired as indicated in Step 7.
7	Block operated TC relay.	Preferred CS- relay (for CSA punching) released. CA- relay released. <i>Note:</i> To retire major alarm, operate momentarily the ARC key at the compressor frame and the ARN key at the connector frame. Minor alarm sounded. Operate RLS key momentarily at the compressor frame to retire minor alarm and trouble lamps.
8	Block nonoperated TRS1 relay.	
9	Remove blocking tool from TC relay.	Preferred CS- relay (for CSA punching) operated. Associated CA- relay operated. Major alarm sounded.
10	Remove blocking tool from TRS relay.	
11	Block operated TRS relay.	Preferred CS- relay (for CSA punching) released. CA- relay released. See notes, Steps 6, 7.
12	Remove blocking tool from TRS1 relay.	At connector — TRS1 relay operated. At connector frame — TRS- lamp lighted. Major alarm sounded.
13	Release TRS1 relay manually.	
14	Block nonoperated TRS1 relay.	TRS lamp extinguished. Major alarm retired.
15	Remove battery from terminal strip B.	

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STEP	ACTION	VERIFICATION
16	At compressor frame — Remove make-busy plug from MBC- jack.	At compressor frame— CB- relay released. CCB lamp extinguished. At connector frame — Associated CB- lamp extinguished.
17	At compressor frame — Remove blocking tool from CB- relay.	
18	Insert make-busy plug into MBC- jack for first preferred compressor (for CSB punching) for connector being tested.	At compressor frame — Associated CCB- lamp lighted. Associated CB- relay operated. At connector frame — Associated CB- lamp lighted.
19	Block nonoperated CB- relay associated with compressor made busy.	
20	At connector — Connect battery to terminal 52 of terminal strip B, for connector controller.	At compressor frame — Preferred CS- relay (for CSB punching) operated. Associated CA- relay operated. Major alarm sounded.
21	Block operated TC1 relay.	Preferred CS- relay (for CSB punching) released. CA- relay released.
22	Remove blocking tool from TC1 relay.	Preferred CS- relay (for CSB punching) operated. Associated CA- relay operated.
23	Remove blocking tool from TRS relay.	
24	Block nonoperated TRS relay.	Preferred CS- relay (for CSB punching) released. CA- relay released. See notes, Steps 6, 7.
25	Remove blocking tool from W relay.	
26	At compressor frame — Block operated TCA, TCB relays.	At compressor frame — ALA, ALB relays operated. Major alarm sounded.
27	At connector — Operate TC relay manually.	At connector — TC relay remains operated.
28	Connect ground to upper winding terminal of TC1 relay momentarily.	TC1 relay operated. W relay operated.

STEP	ACTION	VERIFICATION
29	Block operated W relay.	
30	At compressor frame — Remove blocking tools from TCA, TCB relays.	TC, TC1 relays released. Z relay operated. At compressor frame — Preferred CS- relay (for CSB punching) operated. Associated CA- relay operated.
31	At connector — Block operated TRS relay.	Preferred CS- relay (for CSB punching) released. CA- relay released. ALA, ALB relays released. See notes, Steps 6, 7.
32	Remove battery from terminal strip B.	
33	Remove blocking tools from TRS, W relays.	W relay remains operated.
34	At compressor frame — Remove make-busy plug from MBC- jack.	At compressor frame — CCB- lamp extinguished. CB- relay released. At connector frame — Associated CB- lamp extinguished.
35	Remove blocking tool from CB- relay.	
36	Insert make-busy plug into MBC- jack for first preferred compressor (for CSA punching) for connector being tested.	At compressor frame — Associated CCB- lamp lighted. Associated CB- relay operated. At connector frame — Associated CB- lamp lighted.
37	Block nonoperated CB- relay associated with compressor made busy.	
38	At connector — Connect battery to terminal 14 of terminal strip B for connector controller.	At compressor frame — Preferred CS- relay (for CSA punching) not operated.
39	Block operated TRS relay.	Preferred CS- relay (for CSA punching) operated. Associated CA- relay operated. Major alarm sounded.
40	Remove battery from terminal strip B.	Preferred CS- relay (for CSA punching) released. CA- relay released.
41	Remove blocking tool from TRS relay.	See notes, Steps 6, 7.

STEP	ACTION	VERIFICATION
42	At compressor frame — Remove blocking tool from CB- relay.	CB- relay operated.
43	Remove make-busy plug from MBC- jack.	CCB- lamp extinguished. CB- relay released. At connector frame — Associated CB- lamp extinguished.
44	At connector — Block operated TC, TC1 relays.	At connector — W relay released.
45	Remove blocking tools from TRSI, TC, TC1 relays.	Z relay released.
46	At sender make-busy frame — Remove make-busy plugs from MB- jacks, as required.	
F. Time-Out Feature		
2	At compressor frame — Insert make-busy plug into MBC- jack for first preferred compressor (for CSB punch- ing) for connector being tested.	At compressor frame — Associated CCB- lamp lighted. Associated CB- relay operated. At connector frame — Associated CB- lamp lighted.
3	Block nonoperated CB-, CS- relays associ- ated with compressor made busy.	
4	At connector — Block nonoperated RCA relay.	
5	Block operated CCK relay.	
6	Block nonoperated W relay.	
7	Connect battery to terminal 52 of terminal strip B for connector controller.	
8	Connect ground to contact 6 fixed of TST relay.	At connector — TM, IC relays operated, released. TM1, TRS, TRS1 relays operated. Battery present at contact 4 fixed of CB- relay blocked nonoperated. At compressor frame — TCA, TCB relays operated, released. At connector frame — TRS lamp lighted. Major alarm sounded.
9	Remove blocking tool from CCK relay.	

STEP	ACTION	VERIFICATION
10	Remove ground from contact 6 fixed of TST relay.	At connector — TM1, TRS relays released. <i>Note:</i> To retire major alarm, operate ARN key at connector frame. TRS1 relay released. TRS lamp extinguished.
11	Remove battery from terminal strip.	
12	Remove all blocking tools from relays blocked operated and nonoperated in Steps 3, 4, 6.	At compressor frame — Associated CB- relay operated.
13	At compressor frame — Remove make-busy plug from MBC- jack.	CCB- lamp extinguished. CB- relay released. At connector frame — CB- lamp extinguished.
14	Insert make-busy plug into MBC- jack for first preferred compressor (for CSA punching) for connector being tested.	Associated CB- lamp lighted. At compressor frame — Associated CB- relay operated. Associated CB- lamp lighted.
15	Block nonoperated CB-, CS- relays associated with compressor made busy.	At compressor frame — CB- lamp extinguished.
16	At connector — Block nonoperated RCA relay.	
17	Block operated CCK relay.	
18	Block operated W relay.	
19	Connect battery to terminal 14 of terminal strip B for connector controller.	
20	Connect ground to contact 6 fixed of TST relay.	Same as Step 8.
21	Repeat Steps 9 through 13.	Same as Steps 9 through 13.
22	At sender make-busy frame — Remove all make-busy plugs from MB-jacks, as required.	

STEP	ACTION	VERIFICATION
G. False Ground Feature		
2	At connector to be tested — Insulate contact 12 break of CCK relay.	
3	At connector frame — Connect ground to contact 10 fixed of any SS- relay corresponding to subgroup of senders made busy.	
4	At connector — Remove insulating tool from CCK relay.	At connector — RCA relay operated. At connector frame — RCA lamp lighted. Major alarm sounded.
5	At connector frame — Remove ground from contact 10 fixed of SS- relay.	<i>Note:</i> To silence major alarm, operate ARN key at connector frame momentarily. At connector — RCA relay released. At connector frame — RCA lamp extinguished.
6	At connector — Insulate contact 12 break of CCK relay.	
7	At connector frame — Connect ground to contact 10 fixed of any SS- relay corresponding to subgroup of senders made busy.	
8	At sender recycle frame — Connect ground momentarily to contact 3 fixed of CST relay corresponding to SS- relay in Step 7.	At sender recycle frame — Associated CST, TRL, OFR relays operated, released. At trouble indicator lamp panel — Trouble display lamps lighted. XTRL lamp lighted. Major alarm sounded.
9	At connector frame — Remove ground from contact 10 fixed of SS- relay.	<i>Note:</i> To retire major alarm, momentarily operate ARC key at compressor frame. Minor alarm sounded. To retire minor alarm, momentarily operate RLS key at compressor frame. At trouble indicator lamp panel — Display lamps extinguished. XTRL lamp extinguished.

STEP	ACTION	VERIFICATION
10	At connector — Insulate contact 7 break of TST relay.	
11	Connect ground to terminal 24 of DA terminal strip.	
12	At sender recycle frame — Connect ground momentarily to contact 3 fixed of CST relay of any recycle circuit associated with subgroup of senders made busy, until OFR relay operates.	At sender recycle frame — CST, OFR relays operated, released. At trouble indicator lamp panel — OFR, BL lamps lighted. Trouble display lamps lighted. Major alarm sounded. <i>Note:</i> See Step 9 to retire major and minor alarms. Trouble display lamps extinguished.
13	At connector — Remove blocking tool from contact 12 fixed of CCK relay.	At connector — RCA relay operated. At connector frame — RCA lamp lighted. Major alarm sounded.
14	Remove ground from terminal 24 of DA terminal strip.	<i>Note:</i> To silence major alarm, operate ARN key momentarily at connector frame. At connector — RCA relay released. At connector frame — RCA lamp extinguished.
15	Insulate contact 12 break of CCK relay.	
16	Repeat Steps 10 through 14 substituting terminal 25 for terminal 24 on DA terminal strip.	Same as Steps 12 through 14. ASR relay operated instead of OFR relay. ASR lamp lighted instead of OFR lamp.
17	Insulate contact 12 break of CCK relay.	
18	Repeat Steps 10 through 14 substituting terminal 26 for terminal 25 on DA terminal strip.	Same as Steps 12 through 14. RCY relay operated instead of OFR relay. RCY lamp lighted instead of OFR lamp.
19	Insulate contact 12 break of CCK relay	
20	At connector frame — Insert make-busy plugs into CB- jacks for all compressors associated with connector under test.	At compressor frame — CB- relay operated. At connector frame — CB- lamp lighted.

STEP	ACTION	VERIFICATION
21	At connector — Connect ground to terminal 24 of DA terminal strip.	
22	At sender recycle frame — Connect ground to contact 3 fixed of any CST relay associated with subgroup of senders made busy.	At sender recycle frame — CST, OFR relays operated. At connector frame — Associated SS-, SA relays operated.
23	Remove ground from contact 3 fixed of CST relay.	At recycle frame — CST, OFR relays remain operated.
24	At connector — Connect ground to terminal 25 of DA terminal strip.	ASR relay operated.
25	Remove ground from terminal 24 of DA terminal strip.	OFR relay released. CST, ASR relays remain operated.
26	Connect ground to terminal 26 of DA terminal strip.	
27	Remove ground from terminal 25 of DA terminal strip.	ASR relay released. CST relay remains operated. RCY relay operated.
28	Remove ground from terminal 26 of DA terminal strip.	
29	At connector frame — Release SS- relay manually.	At connector frame — Associated SA- relay released. At recycle frame — CST, RCY relays released.
30	At connector — Remove insulating tools from CCK, TST relays.	
31	At connector frame — Remove make-busy plugs from CB- jacks as required.	At compressor frame — CB- relay released. At connector frame — CB- lamp extinguished.
32	At sender make-busy frame — Remove make-busy plugs from all MB- jacks, as required.	

STEP	ACTION	VERIFICATION
H. Traffic Control Feature — Each Code Compressor Connector		
2	At compressor frame — Insert make-busy plug into MBC- jack for first preferred compressor associated with connector being tested.	At compressor frame — Associated CCB- lamp lighted. At connector frame — Associated CB- lamp lighted. At connector — Z relay released, if operated.
3	At connector — Block nonoperated W relay.	
4	At compressor frame — Block nonoperated ALA, ALB relays.	
5	At connector — Block nonoperated TC, TC1, TRS1, RCA relays.	
6	At compressor frame — Connect grounds to contact 5 fixed of SRA, SRB relays.	At compressor frame — TCA, TCB, SRA, SRB relays operated.
7	At connector — Block operated TM relay.	At connector — TM1, TRS, IC relays operated. At compressor frame — CWA relay operated.
8	Remove blocking tools from TC, TC1 relays.	
9	At sender recycle frame — Connect ground momentarily to contact 3 fixed of CST relay of any recycle circuit associated with subgroup of senders made busy, until ASR relay operates.	At connector — TC, TC1 relays operated. IC relay released. At compressor frame — GCA1, GCA2, GCB1, GCB2 relays operated. CWA relay released. At recycle frame — CST, ASR relays operated, released. At trouble indicator lamp panel — Trouble display lamps lighted. Major alarm sounded.
10	At connector — Remove blocking tool from TM relay.	At compressor frame — Retire major alarm by operating ARC key. Minor alarm sounded. <i>Note:</i> To retire minor alarm, operate RLS key at compressor frame. At trouble indicator lamp panel — Trouble display lamps extinguished. At connector — TM1, TRS relays released.

STEP	ACTION	VERIFICATION
11	At compressor frame — Remove blocking tools from ALA, ALB relays.	At compressor frame — ALA, ALB relays operated. SRA, SRB, TCA, TCB, GCA1, GCA2, GCB1, GCB2 relays released. Major alarm sounded. At connector — TC, TC1 relays released.
12	Remove grounds from contacts 5 fixed of SRA, SRB relays.	Same as Step 10 to retire alarms. At compressor frame — ALA, ALB relays released.
13	Repeat Steps 4 through 8.	Same as Steps 6, 7.
14	At compressor frame — Insulate contact 7 break of ALA, ALB relays.	
15	Insert make-busy plug into MBC- jack for second (and third compressor if provided).	At compressor frame — Associated CCB- lamp lighted. At connector frame — ABA, ABB relays operated. At connector — IC relay released.
16	At compressor frame — Remove blocking tools from ALA, ALB relays.	At compressor frame — ALA, ALB relays do not operate. Major alarm not sounded.
17	At connector — Remove blocking tool from TM relay.	At connector — TM1, TRS relays released. At connector frame — CWA relay released.
18	At compressor frame — Remove grounds from contacts 5 fixed of SRA, SRB relays.	SRA, SRB, TCA, TCB, ABA, ABB relays released.
19	At compressor frame — Remove make-busy plugs from MBC- jacks of all code compressors.	At compressor frame — CCB- lamps extinguished. At connector frame — CB- lamp extinguished.
20	At connector — Remove blocking tool from W relay.	
21	At connector frame — Remove blocking tools from TRSI, RCA relays.	

STEP	ACTION	VERIFICATION
22	At compressor frame — Remove insulating tools from ALA, ALB relays.	
23	At sender make-busy frame — Remove make-busy plugs from MB- jacks as required.	
I. All Code Compressors Busy — Cancel Alternate Code Compressor Feature		
2a	If three code compressors are provided — At compressor frame — Insert make-busy plug into MBC- jacks for first, second compressors.	At compressor frame — Associated CCB- lamps lighted. At connector frame — Associated CB- lamp lighted.
3b	If two code compressors are provided — At compressor frame — Insert make-busy plug into MBC- jack for first compressor.	At compressor frame — Associated CCB- lamp lighted. At connector frame — Associated CB- lamp lighted.
4	Block nonoperated ALA, ALB relays.	
5	At connector — Block nonoperated TRS, TM1 relays.	
6	At compressor frame — Connect ground to contacts 5 fixed of SRA, SRB relays.	At compressor frame — SRA, SRB, TCA, TCB relays operated.
7	At connector — Block operated TM relay.	At connector — IC relay operated.
8	At compressor frame — Insert make-busy plug into MBC- jack for last compressor.	At compressor frame — Associated CCB- lamp lighted. ABA, ABB relays operated. At connector — IC relay released.
9	At connector — Remove blocking tool from TM relay.	
10	At compressor frame — Remove grounds from contacts 5 fixed of SRA, SRB relays.	At compressor frame — SRA, SRB, TCA, TCB, ABA, ABB relays released.
11	At compressor frame — Remove all make-busy plugs from MBC- jacks.	At compressor frame — Associated CCB- lamps extinguished. At connector frame — Associated CB- lamp extinguished.

STEP	ACTION	VERIFICATION
12	At connector — Remove blocking tools from TRS, TM1 relays.	
13	At compressor frame — Remove blocking tool from ALA, ALB relays.	ALA, ALB relays operated. Major alarm sounded. <i>Note:</i> To release major alarm, momentarily operate ARC key at compressor frame. ALA, ALB relays released.
14	At sender make-busy frame — Remove make-busy plugs from MB- jacks, as required.	
J. Recycle of Over-All Timing Feature		
2	At compressor frame — Insert 347A plugs into MBA, MBB jacks.	At compressor frame — MBA, MBB lamps lighted.
3	Block nonoperated ALA, ALB relays.	
4	At connector — Insulate contact 8 make of RCA relay.	
5	Connect ground to contact 6 fixed of CCK relay.	At connector — TM, TM1, RCA relays operated. At connector frame — RCA lamp lighted.
6	Insulate contact 7 break of RCA relay.	
7	Block operated CCK relay.	
8	At connector frame — Operate ARN key momentarily.	At connector — RCA relay released.
9	At connector — Remove insulating tool from contact 7 break of RCA relay.	RCA relay operated.
10	Insulate contact 7 break of RCA relay.	
11	Remove blocking tool from CCK relay.	
12	At connector frame — Operate ARN key momentarily.	RCA relay released.
13	At connector — Remove insulating tool from contact 7 break of RCA relay.	RCA relay operated.

STEP	ACTION	VERIFICATION
14	Remove ground from contact 6 fixed of CCK relay.	TM, TM1 relays released.
15	At connector frame — Operate ARN key momentarily.	RCA relay released. At connector frame — RCA lamp extinguished.
16	Remove insulating tool from contact 8 make of RCA relay.	
17	At compressor frame — Remove blocking tools from ALA, ALB relays.	
18	Remove 347A plug from MBA, MBB jacks.	At compressor frame — MBA, MBB lamps extinguished.
19	At sender make-busy frame — Remove make-busy plugs from MB- jacks, as required.	
K. Connector Disable Feature — Sender Test Frame — Compressor Delay For Overflow Route Tests		
2	At connector — Insulate contact 1 make of TST relay.	
3	Block operated TST relay.	At connector — CBY relay operated. At compressor frame — TST lamp lighted.
4	At sender recycle frame — Block operated CST relay of any recycle circuit associated with subgroup of senders made busy.	At connector — Battery absent from contact 4 fixed, 8 make of TRS relay. Ground absent from contact 6 fixed of TRS relay.
5	Remove blocking tool from CST relay.	
6	At connector — Remove blocking tool from TST relay.	At connector — CBY relay released. At compressor frame — TST lamp extinguished.
7	Remove insulating tool from contact 1 make of TST relay.	
8	At sender make-busy frame — Remove make-busy plugs from MB- jacks, as required.	

