TRUNK LINK CIRCUITS
TESTS USING OFFICE TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing trunk link circuits in No. 5 crossbar offices using the office test frame.

1.02 The tests covered are:

A. Trunk Link Availability, and Verification of the Trouble Indicator (LC- leads) and Junctor Switch Make-Busy Features: The following features are checked: (1) All the trunk links are available. (2) The LC- leads are extended to the trouble indicator. (3) The individual junctor switches are made busy when a make-busy plug is inserted into the associated JS- jack.

B. Verification of the Trouble Indicator Functions (LV- leads) Using Outgoing or Intraoffice Trunks: This test checks that the LV- leads are extended to the trouble indicator.

C. Verification of the Trouble Indicator Functions (LV- leads) Using Originating Registers: This test checks that the LV- leads are extended to the trouble indicator.

D. All Junctor Switches Busy: This test checks that a trunk link frame with all junctor switches busy will force the marker to recycle and route advance until 60 ipm tone is heard.

E. Frame Make-Busy Feature: This test checks that a trunk link frame is made busy to dial tone and originating traffic when a make-busy plug is inserted into the associated TMB jack.

1.03 Tests for junctor availability and for crosses on junctor sleeves are covered in the section for testing the line link circuits. The line link circuit tests check the operation of the relays and the junctor select magnets associated with the junctors in the trunk link circuit. Also the functions of the trunk connector and the trunk switch level connector relays in the trunk link circuit are tested in the individual sections for testing trunks or originating registers.

1.04 Tests A and E require action at the trunk link frame and verification at the trouble indicator and connector frame (TIC).

1.05 Test D requires action at the trunk link frame and verification at the OTF.

1.06 Test A is made having five and nine junctor switches busy.

1.07 Test D is made with all the channels busy at a trunk link frame.

1.08 Test E is made with a trunk link frame made busy.

1.09 Local instructions should be followed for recording and reporting any register operations caused by performing these tests.

2. APPARATUS

All Tests

2.01 Office Test Frame (OTF).

2.02 322A make-busy plugs, as required.

Tests A, B, D, and E

2.03 329A make-busy plug.

Tests A, D, and E

2.04 32A test set.

2.05 Ten 349A make-busy plugs.

Test C

2.06 Patching cords, as required, P3D cord, 6 feet long, equipped with two 309 plugs (3P3A cord).

3. PREPARATION

Test A

3.01 From the office records determine the following information:

(a) An outgoing trunk or intraoffice trunk associated with each trunk switch to be tested.

(b) The office code assigned to the trunk selected.

Test B

3.02 From the office records determine the following information:

(a) An outgoing trunk or intraoffice trunk on each levels 2 through 9 of the trunk switches to be tested.

(b) The office code assigned to the trunk selected.

Test C

3.03 From the office records determine the following information:

(a) An originating register on level 2 associated with each trunk switch to be tested.

Tests D and E

3.04 From the office records determine the following information:

(a) An outgoing or intraoffice trunk associated with the trunk link frame selected for test.

STEP	ACTION	VERIFICATION
Tests A, B, D, and E		
1	At OTF — Restore all keys.	
2	At jack, lamp and key circuit or relay rack — Insert make-busy plug into OGT-MB jack or operate MB switch for trunk to be used in test.	
3	At OTF — Operate the FS- key for the trunk link frame associated with the trunk selected and insert a 329A make-busy plug into the TS- jack associated with the trunk selected.	
4	Operate MKR- key associated with completing marker.	
5	Operate OTL, CL-, NT, and MCB keys.	
6	Operate A- through K- DIAL switches, as required, to select trunk made busy in Step 2 and any test line numbers.	
7	Operate −D key, as required.	
Tests A, B, and E		
8	At OTF — Operate REC key.	
Tests A, D, and E		
9	At trunk link frame — Insert 32A test set into RC jack.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Trunk Link Availability, Verification of the Trouble Indicator (LC- leads) and Junctor Switch Make-Busy Features	
10	At trunk link frame — Insert 349A make-busy plugs into JS0 through JS4 jacks of the trunk link frame being tested and wait until all hold magnets on associated junctor switches are released.	
11	Remove make-busy plug from JS0 jack.	
12	Operate white key on 32A test set momentarily.	At TIC bay — Display registered. LC- lamp lights corresponding to trunk switch of selected trunk. CHO lamp lights.
13	At TIC bay — Operate RLS key momentarily.	Display released.
14	At trunk link frame — Operate red key on 32A test set.	
15	Replace make-busy plug into JS0 jack.	
16	Remove make-busy plug from JS1, repeat Steps 12 through 15, and continue in this manner until channels 1 through 4 have been tested.	Proper CH- lamps displayed for each channel.
17	Remove make-busy plugs from JS0 through JS4 jacks and insert them into JS5 through JS9 jacks and wait until all hold magnets on the associated junctor switches are released.	
18	Insert make-busy plugs into JS0 through JS4 jacks.	
19	Remove make-busy plug from JS5 jack, repeat Steps 12 through 15 and continue in this manner until channels 5 through 9 have been tested.	Proper CH- lamps displayed for each channel.
20	Remove all make-busy plugs from the JS0 through JS9 jacks.	
21	Repeat Steps 2, 3, 6, 7, and 10 through 20 for other trunk switches as required.	
22	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	
23	At trunk link frame — Remove 32A test set.	

STEP	ACTION	VERIFICATION
	B. Verification of the Trouble Indicator Functions (LV- leads) Using Outgoing or Intraoffice Trunks	
9	At OTF — Operate ST key.	At TIC bay — Display registered. LV- lamp lights corresponding to level of selected trunk.
10	At TIC bay — Operate RLS key momentarily.	Display released.
11	At OTF — Restore ST key.	
12	Repeat Steps 9, 10, and 11 to test all levels of selected trunks used for test.	
13	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	
	C. Verification of the Trouble Indicator Functions (LV- leads) Using Originating Registers	
1	At OTF — Restore all keys.	
2	Operate OTL, CL- keys and MKR- key associated with a dial tone marker.	
3	Patch from OR jack of MB2 jack field to originating register ORMB jack selected for test.	
4	Patch from 0 through 9 jacks of MB1 jack field as required to originating registers ORMB jacks associated with the same trunk link frame of the selected originating register.	
5	At OTF — Operate FS- key for trunk link frame associated with selected originating register. *Note:* This arrangement will direct the dial tone marker to the selected originating register.	
6	Operate REC key.	
7	Operate ST key.	At TIC bay — Display registered. LV- lamp lights corresponding to level of selected originating register.

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B. Verification of the Trouble Indicator Functions (LV- leads) Using Outgoing or Intraoffice Trunks: This test checks that the LV- leads are extended to the trouble indicator.

C. Verification of the Trouble Indicator Functions (LV- leads) Using Originating Registers: This test checks that the LV- leads are extended to the trouble indicator.

D. All Junctor Switches Busy: This test checks that a trunk link frame with all junctor switches busy will force the marker to recycle and route advance until 60 ipm tone is heard.

E. Frame Make-Busy Feature: This test checks that a trunk link frame is made busy to dial tone and originating traffic when a make-busy plug is inserted into the associated TMB jack.

1.03 Tests for junctor availability and for crosses on junctor sleeves are covered in the section for testing the line link circuits. The line link circuit tests check the operation of the relays and the junctor select magnets associated with the junctors in the trunk link circuit. Also the functions of the trunk connector and the trunk switch level connector relays in the trunk link circuit are tested in the individual sections for testing trunks or originating registers.

1.04 Tests A and E require action at the trunk link frame and verification at the trouble indicator and connector frame (TIC).

1.05 Test D requires action at the trunk link frame and verification at the OTF.

1.06 Test A is made having five and nine junctor switches busy.

1.07 Test D is made with all the channels busy at a trunk link frame.

1.08 Test E is made with a trunk link frame made busy.

1.09 Local instructions should be followed for recording and reporting any register operations caused by performing these tests.

2. APPARATUS

All Tests

2.01 Office Test Frame (OTF).

2.02 322A make-busy plugs, as required.

Tests A, B, D, and E

2.03 329A make-busy plug.

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2.04 32A test set.

2.05 Ten 349A make-busy plugs.

Test C

2.06 Patching cords, as required, P3D cord, 6 feet long, equipped with two 309 plugs (3P3A cord).

3. PREPARATION

Test A

3.01 From the office records determine the following information:

(a) An outgoing trunk or intraoffice trunk associated with each trunk switch to be tested.

(b) The office code assigned to the trunk selected.

Test B

3.02 From the office records determine the following information:

(a) An outgoing trunk or intraoffice trunk on each levels 2 through 9 of the trunk switches to be tested.

(b) The office code assigned to the trunk selected.

Test C

3.03 From the office records determine the following information:

(a) An originating register on level 2 associated with each trunk switch to be tested.

Tests D and E

3.04 From the office records determine the following information:

(a) An outgoing or intraoffice trunk associated with the trunk link frame selected for test.

STEP	ACTION	VERIFICATION
Tests A, B, D, and E		
1	At OTF — Restore all keys.	
2	At jack, lamp and key circuit or relay rack — Insert make-busy plug into OGT-MB jack or operate MB switch for trunk to be used in test.	
3	At OTF — Operate the FS- key for the trunk link frame associated with the trunk selected and insert a 329A make-busy plug into the TS- jack associated with the trunk selected.	
4	Operate MKR- key associated with completing marker.	
5	Operate OTL, CL-, NT, and MCB keys.	
6	Operate A- through K- DIAL switches, as required, to select trunk made busy in Step 2 and any test line numbers.	
7	Operate −D key, as required.	
Tests A, B, and E		
8	At OTF — Operate REC key.	
Tests A, D, and E		
9	At trunk link frame — Insert 32A test set into RC jack.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Trunk Link Availability, Verification of the Trouble Indicator (LC- leads) and Junctor Switch Make-Busy Features	
10	At trunk link frame — Insert 349A make-busy plugs into JS0 through JS4 jacks of the trunk link frame being tested and wait until all hold magnets on associated junctor switches are released.	
11	Remove make-busy plug from JS0 jack.	
12	Operate white key on 32A test set momentarily.	At TIC bay — Display registered. LC- lamp lights corresponding to trunk switch of selected trunk. CHO lamp lights.
13	At TIC bay — Operate RLS key momentarily.	Display released.
14	At trunk link frame — Operate red key on 32A test set.	
15	Replace make-busy plug into JS0 jack.	
16	Remove make-busy plug from JS1, repeat Steps 12 through 15, and continue in this manner until channels 1 through 4 have been tested.	Proper CH- lamps displayed for each channel.
17	Remove make-busy plugs from JS0 through JS4 jacks and insert them into JS5 through JS9 jacks and wait until all hold magnets on the associated junctor switches are released.	
18	Insert make-busy plugs into JS0 through JS4 jacks.	
19	Remove make-busy plug from JS5 jack, repeat Steps 12 through 15 and continue in this manner until channels 5 through 9 have been tested.	Proper CH- lamps displayed for each channel.
20	Remove all make-busy plugs from the JS0 through JS9 jacks.	
21	Repeat Steps 2, 3, 6, 7, and 10 through 20 for other trunk switches as required.	
22	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	
23	At trunk link frame — Remove 32A test set.	

STEP	ACTION	VERIFICATION
	B. Verification of the Trouble Indicator Functions (LV- leads) Using Outgoing or Intraoffice Trunks	
9	At OTF — Operate ST key.	At TIC bay — Display registered. LV- lamp lights corresponding to level of selected trunk.
10	At TIC bay — Operate RLS key momentarily.	Display released.
11	At OTF — Restore ST key.	
12	Repeat Steps 9, 10, and 11 to test all levels of selected trunks used for test.	
13	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	
	C. Verification of the Trouble Indicator Functions (LV- leads) Using Originating Registers	
1	At OTF — Restore all keys.	
2	Operate OTL, CL- keys and MKR- key associated with a dial tone marker.	
3	Patch from OR jack of MB2 jack field to originating register ORMB jack selected for test.	
4	Patch from 0 through 9 jacks of MB1 jack field as required to originating registers ORMB jacks associated with the same trunk link frame of the selected originating register.	
5	At OTF — Operate FS- key for trunk link frame associated with selected originating register. *Note:* This arrangement will direct the dial tone marker to the selected originating register.	
6	Operate REC key.	
7	Operate ST key.	At TIC bay — Display registered. LV- lamp lights corresponding to level of selected originating register.

STEP	ACTION	VERIFICATION
8	At TIC — Operate RLS key momentarily.	Display released.
9	At OTF — Restore ST key.	
10	Repeat Steps 3 through 9 for each originating register selected for test.	
11	At jack, lamp and key circuit — Remove patching cords from ORMB-jacks.	

D. All Junctor Switches Busy

Caution: Make this test as quickly as possible since the trunk link frame is excluded from all traffic while junctor switches 0 through 9 are made busy.

10	At trunk link frame — Insert 349A make-busy plugs into JS0 through JS9 jacks.	
11	Operate white key on 32A test set momentarily.	At OTF — 60 ipm tone heard.
12	Remove make-busy plugs from JS0 through JS9 jacks.	
13	Operate red key on 32A test set momentarily.	Tone removed.
14	Remove 32A test set.	
15	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	

E. Frame Make-Busy Features

Caution: Make this test as quickly as possible since the trunk link frame is excluded from all dial tone and originating traffic while the frame is made busy.

10	At trunk link frame — Insert 349A make-busy plug into TMB jack.	At TLF — TMB lamp lights. At jack, lamp and key circuit — TLMB lamp lights.
11	Operate white key on 32A test set momentarily.	At TIC bay — Display registered. FTCK, JCK, TCHK lamps light. FS- lamp not lighted.

STEP	ACTION	VERIFICATION
12	Remove make-busy plug from TMB jack.	At TLF — TMB lamp extinguished. At jack, lamp and key circuit — TLMB lamp extinguished.
13	Operate red key on 32A test set momentarily.	
14	At TIC bay — Operate RLS key momentarily.	At TIC bay — Display released.
15	At jack, lamp and key circuit or relay rack — Remove make-busy plug or restore MB switch.	
16	At trunk link frame — Remove 32A test set.	