GROUP-BUSY CIRCUITS
FOR ORIGINATING AND INCOMING REGISTERS AND FOR SENDERS
TESTS USING OFFICE TEST FRAME TEST CIRCUIT SD-27633-01 (H-595-950)
NO. 5 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes a method of testing group-busy circuits for (a) use with originating and incoming registers SD-25795-01; (b) sender group-busy alarm control circuit SD-27638-01; and (c) sender group-busy alarm circuit SD-25500-01 in No. 5 crossbar offices using the office test frame test circuit (OTF) SD-27633-01, Issue 1 and the trouble indicator and connector circuit SD-27634-01, Issue 1.

1.02 This section is reissued for the following reasons:

(a) To revise the title to indicate that the section now provides tests of sender group-busy features.

(b) To add Test C (formerly Test A of Section 218-734-502) and to revise the test to indicate that the sender group-busy lamp at the DSA switchboard lights.

(c) To add Test D (formerly Test B of Section 218-734-502).

(d) To add Test E (formerly Test C of Section 218-734-502).

(e) To add Test F to check for continuity, crosses, and grounds of LLP all-senders-busy (ASB-) leads associated with the SG- and OSG- terminals. These leads are provided to give either a traffic register or a traffic data recorder registration of each LLP sender group that is busy when a completing marker encounters an overflow when attempting to complete a call to an LLP line.

(f) To add Test G (formerly the test in Section 218-734-501)

(g) To revise 1.01 to include the sender group-busy alarm circuits.

(h) To make minor changes as required.

Since this issue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.03 ***Caution: If during these tests a regular alarm should originate, the tests should immediately be discontinued so that the alarm will sound in the normal manner. Notify the proper persons that a regular alarm is sounding.***

1.04 The tests covered are:

1.05 Tests B, C, and F require action and verification at the switchboard if an auxiliary signal is provided.

1.06 Tests C and F require all senders in a group to be made busy.

1.07 All tests should be made as rapidly as possible and during periods of light traffic.

1.08 *Lettered Steps:* A letter a, b, c, etc, added to a step number in Part 3 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.

1.09 Local instructions should be followed for recording and reporting register operations caused by making the following tests.

(a) Test A—The all-originating-registers-busy register will score.

(b) Test B—The all-incoming-registers-busy register will score.

(c) Test F—A traffic register or traffic data registration will be made on the ASB- leads associated with the SG- terminals used in the test.

(d) Test G—The all-senders-busy register will score.

2. APPARATUS

Test A

2.01 Office test frame test circuit (OTF) SD-27633-01.

Tests A, B, C, G

2.02 322A (make-busy) plugs as required.

2.03 KS-3008 stopwatch or equivalent.

Test A, E, F

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

Tests E, F, G

2.05 Test receiver, 716C 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 checking the presence or absence of ground).

3. METHOD

STEP	ACTION	VERIFICATION
	GROUP-BUSY CIRCUIT FOR USE WITH ORIGINATING AND INCOMING REGISTERS SD-25795-01	
	A. Group-Busy Timing Recycle and Time-Out for Originating Registers	
1	At OTF— Restore all keys.	
2	At TIC— Momentarily operate RLS key.	All lamps extinguished.
3	At jack, lamp, and key circuit— Insert make-busy plug into M-D-MB jack of dial tone marker to be used for test.	
4a	If originating line identifiers are provided— At jack, lamp, and key circuit— Insert make-busy plug into M-C-MB jack for completing marker associated with originating line identifier to be used for test.	
5	At OTF— Operate OTL, DIAL keys.	
6	Operate CL- key.	
7	Operate MKR- key for marker under test.	
8	At marker— Block nonoperated FTCK, FTCK1 relays.	
9	At OTF— Operate ST key.	At jack, lamp, and key circuit— ORST-DP lamp lighted. At line load control cabinet (if provided)— ORST lamp lighted.
10	Restore ST key.	
11	Operate and restore ST key five times at about 5-second intervals.	At jack, lamp, and key circuit— ORST-DP lamp remains lighted. At line load control cabinet (if provided)— ORST lamp remains lighted.
12	When ST key is restored for last time, ***start timing.***	In 9 to 17 seconds— At jack, lamp, and key circuit— ORST-DP lamp extinguished. At line load control cabinet (if provided)— ORST lamp extinguished.

STEP	ACTION	VERIFICATION
13	At marker— Remove blocking tools from FTCK, FTCK1 relays.	
14	At jack, lamp, and key circuit— Remove make-busy plug from M-D-MB or M-C-MB jack.	
15	Repeat Steps 3 through 14 for other dial tone marker or originating line identifier.	
B.	**Group-Busy Timing Recycle and Time-out for Incoming Registers**	
1	At jack, lamp, and key circuit— Insert make-busy plugs into IRMB- jacks of all registers in link group for group-busy circuit being tested. When last plug is inserted, ***start timing.***	IRST lamp for link group lighted immediately. In 9 to 17 seconds— IRGB lamp lighted. Minor alarm sounds.
2	Remove two make-busy plugs from IRMB jacks.	IRST lamp remains lighted.
3	After approximately 5 seconds— Replace make-busy plugs removed in Step 2.	IRST lamp remains lighted.
4	Repeat Steps 2 and 3 five times.	IRST lamp remains lighted during repeat tests.
5	Remove all make-busy plugs. When first plug is removed, ***start timing.***	In 9 to 17 seconds— IRST lamp extinguished.
6	Momentarily operate TR-AR key.	Minor alarm silenced. IRGB lamp extinguished.
7	Operate RDA key.	
8	Insert make-busy plugs into IRMB- jacks of all registers in link group for group-busy circuit being tested.	IRST lamp lighted. Minor alarm sounds. IRGB lamp lighted.
9	Remove all make-busy plugs used for test. When first plug is removed, ***start timing.***	In 9 to 17 seconds— IRST lamp extinguished.
10	Momentarily operate TR-AR key.	Minor alarm silenced. IRGB lamp extinguished.
11	Restore RDA key.	

STEP	ACTION	VERIFICATION
	SENDER GROUP-BUSY ALARM CONTROL CIRCUIT SD-27638-01	
	C. Sender Group Busy	
1	At jack, lamp, and key circuit— Operate SDA key.	
2	Insert make-busy plugs into SMB- jacks of all senders of the two sender subgroups associated with the sender group-busy alarm circuit being tested.	Associated SGB lamp lighted. Minor alarm sounds for aisle in which the jack, lamp, and key circuit is located. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp lighted. At outgoing sender link frame LLP— SB- relays operated in all senders associated with sender group-busy alarm circuit being tested.
	Caution: Do not hold all senders of the group busy longer than necessary as this will interfere with service.	
3	At jack, lamp, and key circuit— Remove make-busy plug from one SMB- jack.	
4	Momentarily operate TR-AR key.	SGB- lamp extinguished. Minor alarm silenced. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp extinguished. ***Note:*** If the SGB- lamp remains lighted. It may be due to a service call. Hold TR-AR key operated while awaiting release of sender.
5	At jack, lamp, and key circuit— Replace make-busy plug in SMB- jack.	SGB- lamp lighted. Minor alarm sounds. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp lighted.
6	Repeat Steps 3, 4, and 5 until all make-busy plugs have been removed and replaced.	
7	At jack, lamp, and key circuit— Remove make-busy plug from one SMB- jack.	

STEP	ACTION	VERIFICATION
8	Momentarily operate TR-AR key.	SGB- lamp extinguished. Minor alarm silenced. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp extinguished.
9	At jack, lamp, and key circuit— Restore SDA key.	
10	Replace make-busy plug into SMB- jack; ***start timing.***	In 7 to 15 seconds— SGB- lamp lighted. DL- relay associated with sender group made Busy operated. Minor alarm sounds. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp lighted.
11	At jack, lamp, and key circuit— Remove all make-busy plugs used for test.	
12	Momentarily operate TR-AR key.	SGB- lamp extinguished. Minor alarm silenced. If sender group-busy load alarm leads are extended to DSA switchboard locations— At DSA switchboard— Sender group-busy load lamp extinguished.
D. False Sender Busy		
1	At outgoing sender link frame— When all SG- relays are released— Manually operate any SB- relay associated with sender group-busy alarm being tested.	At sender group-busy alarm control circuit— FSB lamp lighted. Major alarm sounds for aisle in which sender group-busy alarm control circuit is located.
2	At sender group-busy alarm control circuit— Momentarily operate FB-AR key.	FSB lamp extinguished. Major alarm silenced.
3	Repeat Steps 1 and 2 until all SB- relays associated with sender group being tested have been operated.	
E. Tests for Continuity, Crosses, and Grounds of LLP Overflow Peg Count Leads (When More Than One Sender Group Is Served)		
1	At jack, lamp, and key circuit— Operate SDA key.	

STEP	ACTION	VERIFICATION
2	At sender group-busy alarm control circuit— While all SB- relays are operated— Insulate 1M and 2M of lowest numbered SB- relay.	Ground present on 1 and 2 of SB- relay being tested. Ground absent on 1M and 2M of SB- relay being tested, 1M and 2M of all other higher numbered SB- relays, and terminals 54 and 55 of terminal strip A.
	Note: While insulating contacts of SB- relay, a minor alarm may sound. If so, silence the alarm by momentarily operating the TR-AR key at the jack, lamp, and key circuit.	
3	Remove insulating tools from contacts of SB- relay being tested.	Ground present on 1M and 2M of all SB- relays and terminals 54 and 55 of terminal strip A.
4	Repeat Steps 1, 2, and 3 for next higher SB- relay until all SB- relays have been tested.	

F. Tests for Continuity, Crosses, and Grounds of LLP All-Senders-Busy Leads

1	At sender group-busy alarm control circuit— Insulate 11B of SB0 relay.	
	Note: While insulating contacts of SB- relay, a minor alarm may sound. If so, silence the alarm by momentarily operating the TR-AR key at the jack, lamp, and key circuit.	
2	Block nonoperated SB0 relay.	
3	Connect ground to terminal 18 of terminal strip E.	Ground present at SG0 terminal 31 of terminal strip E. Ground absent at all other SG- terminals on terminal strip E.
4	Remove blocking and insulating tools from SB0 relay.	
5	Repeat Steps 1 and 2 for each SB- relay provided.	Ground present at SG- terminal, TS(E), associated with blocked SB- relay. Ground absent at all other SG- terminals of terminal strip E.
6	Remove blocking and insulating tools from SB- relay.	
7	Remove ground from terminal 18 of terminal strip E.	

STEP	ACTION	VERIFICATION
SENDER GROUP-BUSY ALARM CIRCUIT SD-25500-01		
G. Sender Group Busy		
1	At jack, lamp, and key circuit— Operate SDA key.	
2	Insert make-busy plugs into SMB- jacks of all senders of the sender group associated with the sender group-busy alarm circuit under test.	At jack, lamp, and key circuit— Associated SGB- lamp lighted. Minor alarm received for aisle in which jack, lamp, and key circuit is located. If auxiliary signal circuit is provided— At switchboard— LR- lamp lighted.
3	At jack, lamp, and key circuit— Remove make-busy plug from one of the SMB- jacks.	
4	Momentarily operate TR-AR key.	At jack, lamp, and key circuit— SGB- lamp extinguished. Minor alarm silenced. ***Note:*** If the SGB- lamp remains lighted, it may be due to a service call. Hold TR-AR key operated while awaiting release of sender.
5	Replace make-busy plug in SMB- jack.	SGB- lamp lighted. Minor alarm sounds.
6	Repeat Steps 3, 4, and 5 until all make-busy plugs have been removed and replaced.	
7	Restore SDA key; ***start timing.***	SGB- lamp extinguished. Minor alarm silenced. In 7 to 15 seconds— SGB- lamp lighted. Minor alarm sounds. At relay rack frame— If a 227-type terminal strip is provided— Ground on terminal 26. If a D-type terminal strip is provided— Ground on terminal 27.
8	Remove all make-busy plugs used for test.	
9	Momentarily operate TR-AR key.	SGB- lamp extinguished. Minor alarm silenced.
10	Restore SDA key.	
11	At switchboard— Momentarily operate RL key.	LR- lamp extinguished.