

TRAFFIC REGISTERS
DSA SWITCHBOARDS
TESTS
PANEL OFFICES

1. GENERAL

1.01 This section describes methods of testing the various traffic registers associated with the circuits of DSA Switchboards in panel offices. The tests described are as follows:

A. *Key Pulsing DSA Switchboard Outgoing Trunk All Trunks Busy Register Test With Assistant*

B. *Operators' Recording Completing Trunk and Straightforward Outgoing Trunk All Trunks Busy Register Test With Assistant*

C. *Intercepting Trunk Finder Allotter Overflow Register Test Without Assistant*

D. *Intercepting Trunk Finder Allotter Overflow Register Test With Assistant*

E. *DSA Position and Desk Peg Count Register Test Without Assistant*

1.02 This section is reissued to delete reference to DSB and panel sender tandem switchboards.

1.03 Two methods of testing a register, one without an assistant and the other with an assistant are covered in this section. Either method can be used for some of the circuits but due to the procedure required for certain circuits only one method will apply to some tests. In general, the test without an assistant is made in those cases where extreme accuracy in checking the register operation is not essential and for making operation tests of the register. In making this test a portable lamp arrangement employing a switchboard type lamp is used to indicate whether a particular circuit presents the proper condition to the register lead for operating the register and to check the wiring. In addition,

in many cases, this arrangement will provide a check for sticky register circuit relays, an open contact on the register or a failure of the register to operate. It will not, however, detect mechanically defective registers unless the defect is of a nature that results in an appreciable error in registrations. Where the lamp arrangement can be employed, the method employing an assistant is performed in the same manner except that an assistant is required at the register rack and the operation of the register for each circuit tested is noted by means of a talking connection over the frame line circuit between the register rack and the frames. The test with an assistant is normally made where an accurate check of the register is necessary and for checking trouble conditions.

1.04 The circuits tested under tests A and B are always checked with an assistant since it is not convenient to make provision for connecting the lamp arrangement to the register lead.

1.05 In view of the nature of the test of DSA position and desk peg count registers, neither the lamp arrangement nor an assistant is required. The check of these registers is covered under test E.

1.06 The test of the DSA switchboard special service trunk overflow registers is made in accordance with the trunk overflow register tests included in Section 215-701-502.

1.07 When an assistant is required at the traffic register rack another maintenance attendant or an operator may perform the necessary duties. The assistant, in addition to the required duties, should carefully watch for the simultaneous operation of any registers other than the register under test. This is for the purpose of detecting crosses in the register leads or any irregular wiring arrangements.

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1.08 These tests should preferably be made during a period of very light traffic to minimize any interference from service calls. In general, traffic registers should not be tested on peg count days.

1.09 The traffic register readings should be entered on the proper form or chart before and after the test is made and the form forwarded in accordance with local instructions.

2. APPARATUS

- 2.01** 275A or 184 Plugs, as required.
- 2.02** Make Busy Patching Cords (DSA Switchboard).
- 2.03** Paper for insulating relay contacts.
- 2.04** Two Operator's Telephone Sets.
- 2.05** One W2W Cord, 6 ft. long, equipped with a 110 Plug on one end and a 38A Lamp Socket, 2Y (or 2G) Lamp and Lamp Cap on the other end.
- 2.06** One W2W Cord, 10 ft. long, equipped with a 110 Plug on one end and 360 and 365 Tools on the other end.

3. PREPARATION

All Tests

3.01 Obtain a list of the circuits associated with each register to be tested. This is necessary in order to insure an accurate check of a register with the circuit or circuits connected to it.

Test C and D

3.02 Connect the W2W cord equipped with the 365 tools to a spare jack on the jack panel of the frame on which the circuits associated with the register to be tested are located or where the test is to be made. Then connect one of the leads to the 48-volt (24-volt battery for

24-volt registers) test battery terminal on the frame connecting block and connect the other lead to the frame terminal strip terminal or one of the terminals associated with the register to be tested. For a group register this terminal is made common to all the circuits in the group by wiring or strapping at the frame terminal strips and at the distributing frame. In order to insure a proper check of the inter-frame and distributing frame connections of the register lead, par-

	TESTS				
	A	B	C	D	E
2.01	X	—	X	X	—
2.02	—	X	—	—	—
2.03	—	—	—	—	—
2.04	X	X	—	X	—
2.05	—	—	X	X	—
2.06	—	—	X	X	—

ticularly on tests made without an assistant, this connection should not be changed during the test of any one register circuit. The cross-connection to a particular register at the distributing frame is checked by comparing the number of registrations with the number of circuits tested.

3.03 Connect the W2W cord equipped with the lamp to the corresponding spare jack or equivalent on another jack panel in the same group of frames in such a manner that the lamp will be visible during the test. The lamp should light in those cases where the register circuit is arranged to have ground connected to the common lead until all circuits in the group are busy. This cord can be moved from one frame to another, as required, during the test of a register.

Tests Without Assistant

3.04 Proceed to the traffic register rack and record the readings of several of the registers to be tested and then return to the location where the test is to be performed. In the case of peg count registers it is necessary, in addition, to operate the associated battery supply key at the traffic register rack. The number of registers read at one time will, of course, depend upon the amount of traffic and the type of circuit, not too great an interval, however, should elapse between readings of the registers, particularly peg count registers, if there is no definite indication that the register has operated the proper number of times.

Tests With Assistant Except Test B

3.05 Establish a talking connection between the location where the test is to be made and the traffic register rack by connecting an operator's telephone set to the local frame line jacks at each point.

3.06 When making test A advise the supervisor at the DSA switchboard that a test of the registers associated with the key pulsing outgoing trunks is to be made and that the entire group of trunks will be busy for a short interval.

Test B

3.07 Connect an operator's telephone set to the operators' telephone jacks of the DSA switchboard position at which the make-busy battery jacks are located.

3.08 Set up a connection to the toll switchboard over an operator's recording-completing trunk and advise the toll supervisor that the entire group of operators' recording-completing trunks will be busy for a short interval.

3.09 Remove the connection from the trunk and establish a talking connection between this position and the traffic register rack by inserting a cord into the FR-L (frame line) jack.

4. METHOD**A. Key Pulsing DSA Switchboard Outgoing Trunk All Trunks Busy Register Test With Assistant**

4.01 This type of trunk is used with direct trunks from a key pulsing DSA switchboard to full selector tandem district selectors,

distant office selectors and panel interoffice incoming selectors.

4.02 Advise the assistant at the register rack to record the reading of the register under test.

4.03 Make busy all trunks except one in the trunk group by inserting 275A plugs into the associated MB jacks at the outgoing trunk testboard.

4.04 In the same manner make busy the remaining trunk in the group. The assistant should observe that one registration is made.

4.05 Remove and reinsert the 275A plugs at the MB jacks of the other trunks in the group, one at a time, until all the trunks have been checked. One registration should be made each time that a plug is removed from a jack. After all trunks have been tested remove all the 275A plugs and then advise the assistant to again record the reading of the register.

B. Operators' Recording-Completing Trunk and Straightforward Outgoing Trunk All Trunks Busy Register Test With Assistant

4.06 The operators' recording-completing trunk is used at the DSA switchboard for completing certain toll calls on a non-hang-up basis. The straightforward trunks are used for calls to manual offices.

4.07 Advise the assistant at the register rack to record the reading of the register under test.

4.08 Make busy all trunks except one in the trunk group by inserting the plugs of the make-busy patching cords into the trunk jacks at the DSA switchboard.

4.09 In the same manner make busy the remaining trunk in the group. The assistant should note that one registration is made.

4.10 Remove and reinsert the plugs of the other trunks in the group, one at a time, until all the trunks have been checked. One registra-

tion should be made each time that a plug is removed from a jack. After all trunks have been checked remove all make-busy cords from the trunks and then advise the assistant to again record the reading of the register. Also advise the operator at the distant end that testing is completed.

C. Intercepting Trunk Finder Allotter Overflow Register Test Without Assistant

4.11 This register is associated with the allotter circuit and is arranged to operate when all trunk finders in both allotter groups are busy and a call is originated in the trunk group.

4.12 Make busy all trunk finders in the A subgroup by operating the MBA key on the allotter unit key and jack panel on the intercepting trunk finder frame.

4.13 Make all the trunk finders in the B subgroup busy by inserting 184 plugs into the associated make-busy jacks on the allotter unit key and jack panel. On the earlier installations it will be necessary to proceed to the outgoing trunk testboard to make the circuits busy.

Note: The interval during which all trunk finders are made busy should be as short as possible in order not to delay any calls which might be originated during that time.

4.14 Manually operate the A relay in one of the trip circuits for approximately one second. The lamp connected to the register lead should light indicating that ground is connected to the register. Then release the A relay before the trip circuit time alarm functions (5 to 12 seconds). The lamp should remain lighted as an indication that the register has operated and connected ground to the L lead for holding itself operated.

4.15 Restore the MBA key to normal and operate the MBB key. This permits any calls which might be originated to be completed and releases the register.

4.16 Remove the make-busy plugs from the B subgroup of trunk finders and insert them into the corresponding jacks of the A subgroup to make this subgroup busy.

4.17 Repeat 4.14 using the B relay in the trip circuit. After the lamp remains lighted for a short interval restore the MBB key to normal and remove all the make-busy plugs from the make-busy jacks at the allotter unit or at the outgoing trunk testboard.

4.18 Record the reading of the register. In this case two registrations should be made.

D. Intercepting Trunk Finder Allotter Overflow Register Test With Assistant

4.19 Advise the assistant at the register rack to record the reading of the register under test.

4.20 Proceed as described in 4.12 to 4.17. The assistant should observe that a registration is made when a relay in the trip circuit is operated. After the test has been completed, advise the assistant to again record the reading of the register.

E. DSA Position and Desk Peg Count Register Test Without Assistant

4.21 This register is associated with the peg count key at the operator's position and operates whenever the key is depressed.

4.22 Record the readings of the registers to be tested. Then proceed to the DSA positions and operate the peg count key at each position ten times.

4.23 Observe that ten registrations have been made on each register tested and again record the readings of the registers.

5. REPORTS

5.01 The required record of these tests should be entered on the proper form.