

TRAFFIC REGISTERS
ASSOCIATED WITH CONNECTORS
OPERATION TESTS
STEP-BY-STEP SYSTEMS

1. GENERAL

1.01 This section describes a method of testing the traffic register circuits associated with connector equipment.

1.02 This section has been reissued principally to add a test of overflow registers associated with rotary hunting connector terminals, to change the method of testing peg count registers from manual operation of the connector shaft to dialing the connector to the first level in order to disclose failures of the peg count register to operate on release of a connector from the first level, and to include a test of peg count registers for double registration due to shaft bounce. This reissue covers a general revision and, therefore, arrows used to indicate changes have been omitted.

1.03 The tests covered are:

(A) Peg Count Registers: This test checks that a peg count register will operate when an associated connector releases from the first level.

(B) Overflow Registers Associated with Level Hunting Connectors: This test checks that an overflow register will operate when an associated level hunting connector encounters a busy condition on all connector terminals assigned to a single subscriber.

(C) Overflow Registers Associated with Rotary Hunting Connector Terminals: This test checks that an overflow register will operate when a rotary hunting connector encounters a busy condition on the last connector terminal assigned to a single subscriber.

1.04 These tests require the services of two men, one at the traffic register rack, and one at the connector frame. The standard switchman talking line is used to communicate with each other during the tests.

1.05 These tests, when conducted on a routine basis, should be made during a period of light traffic and Test (A) should be made on days other than peg count days.

1.06 Local instructions should be followed with reference to recording the register operations caused by performing these tests.

1.07 Operating differences between No. 5 or No. 12 type registers and No. 14 type registers are as follows:

No. 5 or No. 12 type - Number wheel is turned when register is operated.

No. 14 type - Number wheel is turned when register is released.

1.08 Lettered Steps: The letters a, b, c, etc., are added to a step number to indicate that the steps cover an action which may or may not be required, depending on local conditions. The conditions under which a lettered step or series of steps should be made are given in the action column and all steps governed by the same condition are designated by the same letter. When a condition does not apply, the associated steps should be omitted.

2. APPARATUS

All Tests

2.01 Operator Telephone Set - to be connected to switchman talking line at traffic register rack.

2.02 Dial Hand Test Set No. 1011G, equipped with cord assembly consisting of a W2CL Cord, one No. 471A Jack and one No. 240A Plug (2W39A Cord) (or equivalent), with springs 3 and 4 of No. 240A Plug strapped together.

2.03 Testing Cord - No. 893 Cord, six feet long, equipped with two No. 360A Tools (1W13B Cord) and two KS-6278 Connecting Clips; to be used for connecting ground to No. 3 spring of No. 240A Plug when testing toll connectors having ground furnished to No. 4 test jack spring through the off-normal springs.

Tests (A) and (B)

2.04 No. 240A Plug.

Tests (A) and (C)

2.05 Testing Cord - No. 893 Cord, six feet long, equipped with two No. 360A Tools (1W13B Cord) and two KS-6278 Connecting Clips; to be used in Test (A) for connecting ground to sleeve wiper in order to prevent accidental ringing on a subscriber line, and to be used in Test (C) for connecting ground to S terminal of line connected to overflow register under test.

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3. PREPARATION

ALL TESTS

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
1	By means of switchman talking line establish a talking circuit between connector frame and traffic register rack.	
2	Insert No. 240A plug of hand test set, with switch in MON position, into test jack of a normal connector in the connector shelf associated with traffic register under test, and monitor.	If there is an indication that connector has been seized by another call, disconnect hand test set; otherwise proceed with test.

Note: If testing toll connectors with ground furnished to No. 4 test jack spring through off-normal springs, connect ground to No. 3 spring of No. 240A plug, using No. 893 cord.

Test A

- 3 At traffic register rack, operate key provided for supplying battery or battery and ground to registers under test (P Key).
- 4a If testing level hunting connectors, insert No. 240A plug into sleeve cutoff jack.
- 5b If testing other than level hunting connectors, connect ground to sleeve wiper, using No. 893 cord.

Test B

- 3 At traffic register rack, record reading of overflow register under test.
- 4 Insert No. 240A plug into sleeve cutoff jack.

Test C

- 3 At traffic register rack, record reading of overflow register under test.
- 4 At outgoing bank multiple terminal strip of connector shelf, using No. 893 cord, connect ground to S terminal of line which is connected to overflow register under test.

4. METHOD

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
<u>(A) Peg Count Registers</u>		
6a	If testing level hunting connectors, operate switch of hand test set to TALK position and dial digit which will cause connector to step to first level.	Connector steps to first level and rotates across level.

<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
	<p><u>Note 1:</u> When testing level hunting connectors arranged to start hunting after receipt of second digit, it will be necessary to dial an extra digit.</p> <p><u>Note 2:</u> An occasional test may be made for double registrations of peg count registers due to shaft bounce, especially those associated with level hunting connectors, by causing connectors to step to "0" level. When this test is made, all connectors associated with peg count register under test should be tested.</p>	
7a	After connector starts to rotate across first level, immediately disconnect hand test set and remove No. 240A plug from sleeve cutoff jack.	Connector releases. At traffic register rack, observe associated peg count register advances one digit.
8b	If testing other than level hunting connectors, operate switch of hand test set to TALK position and dial the digit 1.	Connector steps to first level.
9b	Disconnect hand test set from connector.	Connector releases. At traffic register rack, observe associated peg count register advances one digit.
10c	If no further tests are to be made, remove all test connections.	
11	Repeat Test (A) for all connector shelves associated with peg count register under test.	
12	At traffic register rack, restore key provided for supplying battery or battery and ground to register under test (P Key).	
<u>(B) Overflow Registers Associated with Level Hunting Connectors</u>		
5	Operate switch of hand test set to TALK position and dial digit which will cause connector to step to level with which register under test is associated.	Connector will step to level and rotate to 10th terminal; line busy signal is heard in receiver. At register rack observe that associated overflow register advances one digit.
	<p><u>Note:</u> When testing level hunting connector arranged to start hunting after receipt of second digit, it will be necessary to dial an extra digit.</p>	
6	Disconnect hand test set from connector and remove No. 240A plug from sleeve cutoff jack.	Connector releases.
7c	If no further tests are to be made, remove all test connections.	

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<u>STEP</u>	<u>ACTION</u>	<u>VERIFICATION</u>
	Repeat Test (B) for all connectors associated with overflow register under test.	
9	At traffic register rack, record reading of overflow register tested and forward according to local instructions.	
<u>(C) Overflow Registers Associated with Rotary Hunting Connector Terminals</u>		
5	Operate switch of hand test set to TALK position and dial connector terminal number of line connected to overflow register under test.	Connector steps to line dialed and line busy signal is heard in receiver. At register rack, observe that associated overflow register advances one digit.
6	Disconnect hand test set from connector.	Connector releases.
7c	If no further tests are to be made, remove all test connections.	
	<u>Note:</u> Remove No. 893 cord from S terminal of line connected to overflow register under test <u>immediately</u> after test is completed, to avoid holding subscriber line out of service.	
8	Repeat Test (C) for all connector shelves in which line connected to overflow register under test appears.	
9	At traffic register rack, record reading of overflow register tested and forward according to local instructions.	