

TRAFFIC REGISTERS—PART 10
TESTS USING MASTER TEST FRAME
NO. 5 CROSSBAR OFFICES

1. GENERAL	PAGE
1.01 This section is Part 10 of a series of sections that describe methods for testing traffic registers.	10
1.02 This section is reissued for the following reasons:	
(a) To revise title	
(b) To revise all tests to conform with Section 218-106-301	
(c) To add lead designations to all tests.	

This reissue affects Equipment Test Lists.

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

1.03 The tests covered are:	PAGE
A. Peg Count Register for Class-of-Service Peg Count (S Lead): This test checks that the class-of-service peg count register operates each time a marker completes a connection for that class of service.	5
B. Peg Count Register for Preroute Peg Count (PCT Lead): This test checks that the peg count register, which is associated with a particular terminating office code and/or charge condition, operates when a connection is completed to a tandem office.	6
C. Peg Count Register for Code Conversion Peg Count (PCV Lead): The test checks that the peg count register operates when a connection is	

made to a step-by-step tandem office, using a terminating office code. 10

D. Peg Count Register for Marker Pulse Conversion Peg Count (PLSC Lead): This test checks that the peg count register operates when a marker is used on a pulse conversion call. 11

1.04 Table A indicates the tests that require action and verification at more than one location.

TABLE A

ACTION AND/OR VERIFICATION REQUIRED AT:	TESTS A, B, C, D
Traffic Register Cabinet	✓
Master Test Frame	✓
Marker Circuit	✓

✓ As required.

1.05 The location statement, At MTF—, is used to refer to all apparatus located on the four basic bays of the MTF.

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.

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

1.08 The manner of selecting some circuits and test conditions at the MTF and its associated circuits varies depending on the apparatus options furnished with these circuits. Therefore, where variable means of selection are provided, precise instructions for the selection of circuits and test conditions are not given. Precise instructions for the use of these variable means are given in Section 218-106-301.

2. APPARATUS

2.01 The apparatus required for each test is shown in Table B. The details of each item are covered in the paragraph indicated by the number in parentheses. In addition, the following apparatus may also be required.

- (a) Apparatus covered in 2.06 and 2.07 is required when a portable lamp is used to determine register operation.
- (b) Two head telephone sets are required when a portable lamp is not used.
- (c) A 32A test set is required when the master test frame is controlled from a remote point.
- (d) Two 26 cords are required in offices where it is necessary to patch the traffic register to the circuit under test and to patch the traffic register to a battery supply.

2.02 Master test control circuit, SD-25800-01.

2.03 Testing cord, 893 cord, 6 feet long, equipped with two 360A tools (1W13B cord), one KS-6278 tool, one 419A (test connector) tool (for use in connecting battery or ground to springs of nonwire-spring relays), and one 639A (relay contact connector) tool (for use in connecting battery or ground to springs of wire-spring relays).

2.04 The 322A (make-busy) plug has an insulated tip and a common ring and sleeve. It is used with 92- or similar type jacks.

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

2.06 Two W2W cords, 10 feet long, each equipped with a 310 plug and two 360-type tools (2W17C cords), two KS-6278 tools, and two 108 cord tips (required when a portable test lamp is used).

2.07 38B lamp socket equipped with a 2Y lamp (required when a portable test lamp is used).

TABLE B

APPARATUS	TESTS A, B, C, D
Test Circuit (2.02)	1
Cord (2.03)	1
322A (make busy) Plug (2.04)	1
Tool (2.05)	✓

✓ As required.

3. PREPARATION

STEP	ACTION	VERIFICATION
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All Tests

- | | | |
|----|---|--|
| 1a | If traffic registers are arranged for patching—
At traffic register cabinet—
Insert cord tip of 26 patching cord into P_ jack for circuit associated with register to be tested. | |
| 2a | Insert cord tip on other end of 26 patching cord into black jack associated with register to be tested (black jack is located on mounting plate with register). | |
| 3a | Insert cord tip of 26 cord into red jack on mounting plate with register to be tested. | |
| 4a | Insert cord tip on other end of 26 cord into any S_ jack located at bottom of jack field. | |
| 5b | If traffic registers are arranged for patching and if battery supply for register to be tested is controlled by C toggle switch—
At traffic register cabinet—
If C toggle switch is in OFF position—
Operate to ON position. | |
| 6c | If traffic registers are not arranged for patching—
Determine from local office records, functional designation of peg count BAT key associated with register to be tested. | |
| 7c | At traffic register frame—
Operate BAT key associated with register to be tested. | |
| 8d | If tests are to be performed without portable lamp—
Establish talking circuit between frames where test is to be performed and where observations are to be made. | |
| 9e | If tests are to be performed with portable lamp—
At frame where action is to be taken—
Insert plug of 2W17C cord, equipped with two KS-6278 tools, into SP jack of miscellaneous circuit. | |

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STEP	ACTION	VERIFICATION
10e	Determine from circuit drawing of circuit associated with register to be tested, location of terminal on terminal strip at which common lead to traffic register circuit is connected.	
11e	Connect one lead of 2W17C cord to terminal on terminal strip determined in Step 10e.	
12e	Connect other lead of 2W17C cord to battery.	
13e	Connect leads of 38B lamp socket to leads of another 2W17C cord equipped with two KS-6278 tools.	
14e	Insert plug of this 2W17C cord into any appearance of selected SP jack of miscellaneous circuit close to position where test is to be performed.	
15e	Place lamp so that it can be easily observed.	
16f	If tests are performed with portable lamp, and circuit associated with register to be tested removes ground from common lead to traffic register circuit to operate register— Observe lamp when register operates.	Lamp extinguished.
17g	If tests are performed with portable lamp, and circuit associated with register to be tested applies ground to common lead to traffic register circuit to operate register— Observe lamp when register operates.	Lamp lighted.
18e	If tests are to be performed with portable lamp— To observe scoring of register when using test lamp, proceed as follows: (a) For first observation of scoring of register, observe that test lamp indicates proper condition on common lead and that register scores as required. (b) For subsequent observations of scoring of same register, observe lamp indications only. <i>Note:</i> When the register to be tested scores at timed intervals, the test lamp will not flash with the scoring of the register.	
Tests A, B, C, and D		
19	At master test frame— Restore all keys.	

STEP	ACTION	VERIFICATION
20	Operate RL key momentarily.	

Tests A, B, and C

21h	If testing traffic registers in 4-wire offices— At master test frame— Operate 4W key.	
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4. METHOD

STEP	ACTION	VERIFICATION
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**A. Peg Count Register for Class-of-Service Peg Count
(S Lead)**

22c	If traffic registers are not arranged for patching— At traffic register cabinet— Operate CP key associated with register being tested.	
23	At master test frame— Insert make-busy plug into M-MB or M-C-MB jack of combined or completing marker associated with register being tested.	
24i	If MT18 relay is provided— At marker frame— Block nonoperated MT18 relay.	
25j	If MT18 relay is not provided— At marker frame— Ground contact 4 top of MT13 relay.	
26	At MTF— Select marker made busy.	
27	Select class of service associated with register under test.	
28	Select A through G digits as required for access to route selected.	
29	Select ORIG class of test.	
30	Select OR class of call with translator indication for access to route selected.	
31	Select any line location.	

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STEP	ACTION	VERIFICATION
32k	If multilevel preemption route is selected— Select control digits for access to selected route.	
33	Operate ST key momentarily.	At traffic register cabinet— Register scores once.
34	Operate RL key momentarily.	All lamp extinguished.
35	Change setting of class of service to class of service not associated with register being tested.	
36	Operate ST key momentarily.	At traffic register cabinet— Register does not score.
37	Operate RL key momentarily.	All lamps extinguished.
38	At marker frame— Remove blocking tool from MT18 relay or ground from MT13 relay.	
39	At master test frame— Remove make-busy plug from M_MB or M_C_MB jack.	
40	Restore all keys, remove all patch cords, and set all switches to OFF.	

B. Peg Count Register for Preroute Peg Count (PCT Lead)

Register Operation Determined by Home Office Code

22	Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.	
23i	If MT18 relay is provided— At marker frame— Block nonperated MT18 relay.	
24j	If testing nonwire-spring-relay type markers and MT18 relay is not provided— Ground contact 4 top of MT13 relay.	
25	At MTF— Select marker made busy.	
26	Select ORIG class of test.	

STEP	ACTION	VERIFICATION
27	Select an office code associated with register under test and numerals (if required) for register under test.	
28	Select OR class of call with translator indication for access to route.	
29	Select class of service required for register under test.	
30	Select any line location.	
31k	If multilevel preemption route is selected— Select control digits for access to selected route.	
32	Operate ST key momentarily.	At traffic register cabinet— Register scores once.
33	Operate RL key momentarily.	All lamps extinguished.
34	At marker frame— Remove blocking tool from MT18 relay or ground from MT13 relay.	
35	At master test frame— Remove make-busy plug from M_MB or M_C_MB jack.	
36	Repeat Steps 22 through 35 for each completing marker associated with register under test.	
37	Repeat Steps 22 through 36 for each preroute relay controlled by home office code.	
38	Restore all keys, remove all patch cords, and set all switches to OFF.	

Register Operation Determined by Code Point

39	Insert make-busy plug into M_C_MB jack of completing marker associated with register being tested.
40i	If MT18 relay is provided— At marker frame— Block nonoperated MT18 relay.
41j	If testing nonwire-spring-relay type markers and MT18 relay is not provided— Ground contact 4 top of MT13 relay.

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STEP	ACTION	VERIFICATION
42	At MTF— Select marker made busy.	
43	Select an office code and numericals associated with register under test.	
44	Select ORIG class of test.	
45	Select OR class of call with translator indication for access to route selected.	
46	Select any class of service except manual.	
47	Select any line location.	
48k	If multilevel preemption route is selected— Select control digits for access to selected route.	
49	Operate ST key momentarily.	At traffic register cabinet— Register scores once.
50	Operate RL key momentarily.	All lamps extinguished.
51	At marker frame— Remove blocking tool from MT18 relay or ground from MT13 relay.	
52	At master test frame— Remove make-busy plug from M_C_MB jack.	
53	Repeat Steps 39 through 52 for each completing marker associated with register under test.	
54	Repeat Steps 39 through 53 for each preroute relay controlled by code point.	
55	Restore all keys, remove patch cords, and set all switches to OFF.	

Register Operation Determined by Charge Condition

- 56 Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.
- 57i If MT18 relay is provided—
At marker frame—
Block nonoperated MT18 relay.

STEP	ACTION	VERIFICATION
58j	If testing nonwire-spring-relay type markers and MT18 relay is not provided— Ground contact 4 top of MT13 relay.	
59	At MTF— Select marker made busy.	
60	Select ORIG class of test.	
61	Select an office code and numerals associated with register under test.	
62	Select class of service required to set up charge condition for register under test.	
63	Select OR class of call with translator indication for access to route selected.	
64	Select any line location.	
65k	If multilevel preemption route is selected— Select control digits for access to selected route.	
66	Momentarily operate ST key.	At traffic register cabinet— Register scored once.
67	At MTF— Momentarily operate RL key.	All lamps extinguished.
68	At marker frame— Remove blocking tool from MT18 relay or ground from MT13 relay.	
69	At master test frame— Remove make-busy plug from M_MB or M_C_MB jack.	
70	Repeat Steps 56 through 69 for each completing marker associated with register being tested.	
71	Repeat Steps 56 through 70 for each preroute relay controlled by charge condition.	
72	Restore all keys, remove all patch cords, and set all switches to OFF.	

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STEP	ACTION	VERIFICATION
C. Peg Count Register for Code Conversion Peg Count (PCV Lead)		
22	Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.	
23i	If MT18 relay is provided— At marker frame— Block nonoperated MT18 relay.	
24j	If testing nonwire-spring-relay type markers and MT18 relay is not provided— Ground contact 4 top of MT13 relay.	
25	At MTF— Select marker made busy.	
26	Select ORIG class of test.	
27	Select an office code and numerals associated with register under test.	
28	Select OR class of call with translator indication for access to route selected.	
29	Select class of service required to set up code conversion call.	
30	Select any line location.	
31k	If multilevel preemption route is selected— Select control digits for access to selected route.	
32	Operate ST key momentarily.	At traffic register cabinet— Register scores once.
33	Operate RL key momentarily.	All lamps extinguished.
34	Remove blocking tool from MT18 relay or ground from MT13 relay.	
35	Remove make-busy plug from M_MB or M_C_MB jack.	
36	Repeat Steps 22 through 35 for each completing marker associated with register under test.	
37	Restore all keys, remove all patch cords, and set all switches to OFF.	

STEP	ACTION	VERIFICATION
D. Peg Count Register for Marker Pulse Conversion Peg Count (PLSC Lead)		
21	Insert make-busy plug into M_MB or M_C_MB jack of combined or completing marker associated with register being tested.	
22h	If marker is nonwire-spring-relay type— At marker frame— Ground contact 6 top of MT13 relay.	
23i	If marker is wire-spring-relay type— At marker frame— Ground contact 7 fixed of MT13 relay.	
24j	If MT18 relay is provided— At marker frame— Block nonoperated MT18 relay.	
25	Select an office code for a pulse conversion call and any numerals as required.	
26	At MTF— Select PC incoming class of call with translator indication for access to selected route.	
27	Select marker made busy.	
28	Select any trunk link frame.	
29	Select incoming trunk class.	
30k	If dial pulse sender in first or only dial pulse sender group is to be used— Operate PCD key.	
31l	If dial pulse sender in second dial pulse group is to be selected— Operate PCD1 key.	
32m	If revertive pulse sender is to be selected— Restore PCD/PCD1 key.	
33	Operate ST key momentarily.	At traffic register cabinet— Register scores once.
34	Operate RL key momentarily.	All lamps extinguished.
35	Repeat Steps 25 through 34 for each group of pulse conversion senders.	

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STEP	ACTION	VERIFICATION
36h	If marker is nonwire-spring-relay type— Remove ground from contact 6 top of MT13 relay.	
37i	If marker is wire-spring-relay type— Remove ground from contact 7 fixed of MT13 relay.	
38j	If MT18 relay is provided— At marker frame— Remove blocking tool from MT18 relay.	
39	Remove make-busy plug from M_MB or M_C_MB jack.	
40	Repeat Steps 21 through 38j for each marker associated with register being tested.	
41	Restore all keys, remove all patch cords, and set all switches to OFF.	