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ORIGINATING MARKER TESTS USING ORIGINATING TROUBLE INDICATOR NO. 1 CROSSBAR OFFICES EQUIPPED WITH VITEL* 2900B LOCAL MESSAGE METERING SYSTEM

Contents

1. GENERAL

1.01 This section describes a method of testing originating marker circuits using the originating trouble indicator in No. 1 Crossbar offices equipped with the VITEL 2900B Local Message Metering System.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 The tests covered are:

- Test A, Marker "MR" Test: This test checks that the marker will operate the MRA relay on a local charge call. It also checks that the marker will recognize the failure of the MRA relay to operate on a local charge call.

- Test B, "M" Lead Test: This test checks the marker's ability to detect an open "M" lead between the district junctor and the local message metering system. It also checks the marker's ability to recognize the failure of the MRK relay to operate and to release after operating.

- Test C, "MR" Lead Test: This test checks the marker's ability to detect an open "MR" lead between the marker and the district junctor.

- Test D, Crossed "M" Lead Test: This test checks the marker's ability to detect two or more crossed "M" leads. It also checks the marker's ability to detect the failure of the XMR relay to operate.

- Test E, Cancel Crossed "M" Lead Test: This test checks the marker's ability to cancel the crossed "M" lead detection on the second trial operation. It also tests the marker's ability to detect an open XMR diode.

- Test F, Test for False Battery on the "M" Lead: This test checks the marker's ability to detect a false —48V battery on the "M" lead.

- Test G, Cancel Crossed "M" Lead Test on Operator Class Calls: This test checks the marker's ability to cancel the crossed "M" lead detection on operator class calls.

- Test H, Cancel Test for False Battery on the "M" Lead on Operator Class Calls: This test checks the marker's ability to cancel the detection of a false —48V battery on the "M" lead on operator class calls.

1.04 **Lettered Steps:** A letter a, b, c, etc., added to a step number in Part 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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1.05 To control tests of a marker while watching the operation of that marker, plug the 32A test set into the F jack of the frame to be observed. Momentary operation of the white button, which corresponds to the ST (start) key of the trouble indicator, causes the start of the call. Momentary operation of the red button, which corresponds to the RL (release) key of the trouble indicator, causes the release of the information recorded in the trouble indicator and restoration of the circuits to normal.

2. APPARATUS

2.01 The following apparatus is needed to perform the tests:

(a) No. 322A (make-busy) plug

(b) Originating trouble indicator, SD-25018-01

(c) Blocking tool (as required); use and apply this tool as covered in Section 069-020-801

(d) 32A test set

3. PREPARATION

Tests A Through H

STEP	ACTION	VERIFICATION
1	At trouble indicator, restore all operated keys.	
2	Insert make-busy plug into DB jack of marker to be tested.	
3	Operate DT key corresponding to marker to be tested.	
4	Operate LP key.	

4. METHOD

STEP	ACTION	VERIFICATION
Test A: Marker MR Test		
Test of MRA Relay to Operate		
5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ZCT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Momentarily operate ST key.	MR lamp is lighted.
8	Momentarily operate RL key.	Indication is released.

STEP	ACTION	VERIFICATION
	Test of MRA Relay Failure to Operate	
9	Block non-operated MRA and MRK relays.	
10	Momentarily operate ST key.	Marker times out. MR lamp is not lighted.
11	Momentarily operate RL key.	Indication is released.
12	Remove blocking tools from MRA and MRK relays.	
13	Remove make-busy plug from DB jack.	
	Test B: "M" Lead Test	
	Detection of Open "M" Lead	
5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ŹCT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR key.	
8	Momentarily operate ST key.	MR1 lamp is lighted.
9	Momentarily operate RL key.	Indication is released.
	Test of the MRK Relay Failure to Operate	
10	Block non-operated MRK relay.	
11	Momentarily operate ST key.	Marker times out. MR1 lamp is not lighted.
12	Momentarily operate RL key.	Indication is released.
13	Remove blocking tool from MRK relay.	
	Test of the MRK Relay Failure to Release	
14	At particular marker frame, plug 32A test set into F jack.	
15	Momentarily operate ST key.	

STEP	ACTION	VERIFICATION
16	Momentarily prevent MRK relay from releasing.	Marker times out. MR1 lamp is lighted.
17	Momentarily operate RL key.	Indication is released.
18	Remove 32A test set and make-busy plug from DB jack.	
Test C: "MR" Lead Test		
5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ~~Z~~CT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR1 key.	
8	Momentarily operate ST key.	Marker times out. MR and MR1 lamps are not lighted.
9	Momentarily operate RL key.	Indication is released.
10	Remove make-busy plug from DB jack.	
Test D: Crossed "M" Lead Test		
Detection Test of Two or More Crossed "M" Leads		
5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ~~Z~~CT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR2 key.	
8	Momentarily operate ST key.	Marker times out. MR and MR1 lamps are lighted.
9	Momentarily operate RL key.	Indication is released.
Test of the XMR Relay Failure to Operate		
10	Block non-operated XMR1 relay.	
11	Momentarily operate ST key.	MR lamp is lighted.

STEP	ACTION	VERIFICATION
12	Momentarily operate RL key.	Indication is released.
13	Remove blocking tool from XMR1 relay and make-busy plug from DB jack.	

Test E: Cancel Crossed "M" Lead Test

Test of Ability to Cancel Crossed "M" Lead Detection on Second Trial

5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ~~Z~~CT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate AR key.	
8	Momentarily operate ST key.	MR lamp is lighted.
9	Momentarily operate RL key.	Indication is released.

Test to Simulate Open XMR Diode

10	Insulate 2 and 3 top contacts of S prime relay.	
11	Momentarily operate ST key.	Marker times out. MR and MR1 lamps are lighted.
12	Momentarily operate RL key.	Indication is released.
13	Remove insulator from S prime relay contacts and make-busy plug from DB jack.	

Test F: Test for False Battery On The "M" Lead

5	Set up a local charge test call by operating proper keys A, B, C, CS, and F; also ~~Z~~CT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR and MR1 keys.	
8	Momentarily operate ST key.	Marker times out. MR1 lamp is lighted.

STEP	ACTION	VERIFICATION
9	Momentarily operate RL key.	Indication is released.
10	Remove make-busy plug from DB jack.	

Test G: Cancel Crossed "M" Lead Test On Operator Class Calls

5	Set up an operator class call by operating proper keys AO, CS, and F; also ZCT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR2 key.	
8	Momentarily operate ST key.	MR lamp is lighted.
9	Momentarily operate RL key.	Indication is released.
10	Remove make-busy plug from DB jack.	

Test H: Cancel Test For False Battery On The "M" Lead On Operator Class Calls

5	Set up an operator class call by operating proper keys AO, CS, and F; also ZCT (if required).	
6a	If marker is wired for access code screening, operate CCO key.	
7	Operate MR and MR1 keys.	
8	Momentarily operate ST key.	MR lamp is lighted.
9	Momentarily operate RL key.	Indication is released.
10	Remove make-busy plug from DB jack.	