*TB 9-6625-2115-24

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR MILLIOHMMETER, SHALLCROSS MODEL 673D

Headquarters, Department of the Army, Washington, DC
18 October 2007

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also send in your comments electronically to our E-mail address: 2028@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. For the World Wide Web use: https://amcom2028.redstone.army.mil. Instructions for sending an electronic 2028 can be found at the back of this manual.

*This bulletin supersedes TB 9-6625-2115-35, dated 22 June 1983.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Milliohmmeter, Shallcross Model 673D. The manufacturer's manual was used as the prime data source in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. Model Variations. None.

b. Time and Technique. The time required for this calibration is approximately 1 hour, using the dc and low frequency technique.

2. Forms, Records, and Reports. Forms, records and reports required for calibration personnel at all levels are prescribed by TB 750-25.

3. Calibration Description. TI parameters and performance specifications which pertain to this calibration are listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Power requirements	1.5 V dc internal battery
Resistance	Range: 0 to 5 ohms in 5 steps Accuracy: ±5% FS

SECTION II
EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in the calibration procedure. This equipment is issued with Secondary Transfer Calibration Standards Sets, AN/GSM-286, AN/GSM-287 and AN/GSM-705. Alternate items may be used by the calibrating activity when the equipment listed in table 2 is not available. The items selected must be verified to perform satisfactorily prior to use and must bear evidence of current calibration. The equipment must meet or exceed the minimum use specifications listed in table 2. The accuracies listed in table 2 provide a four-to-one ratio between the standard and TI.

5. Accessories Required. The accessories required for this calibration are common usage accessories, issued as indicated in paragraph **4** above, and are not listed in the calibration procedure. The following peculiar accessories are also required for this calibration: Lead, 24-in., spade lug terminations (red) (7911292-14) (B1) and Lead, 24-in., spade lug terminations (black) (7911292-13) (B2).

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications	Manufacturer and model (part number)
DC CURRENT SHUNT	Range: 0.005 and 0.01 ohms Accuracy: ±1.25%	Guildline, Model 9711 (7912323)
RESISTANCE STANDARD	Range: 0.075 to 5.25 ohms Accuracy: ±1.25%	Biddle-Gray, Model 71-650 (71-650)

SECTION III
CALIBRATION PROCESS

6. Preliminary Instructions

a. The instructions outlined in paragraphs **6** and **7** are preparatory to the calibration process. Personnel should become familiar with the entire bulletin before beginning the calibration.

b. Items of equipment used in this procedure are referenced within the text by common name and item identification number as listed in table 2.

NOTE

Unless otherwise specified, verify the result of each test and whenever the test requirement is not met, take corrective action before continuing with the calibration. Adjustments required to calibrate the TI are included in this procedure. Additional maintenance information is contained in the manufacturer's manual or this TI.

NOTE

Unless otherwise specified, all controls and control settings refer to the TI.

7. Equipment Setup

a. Mechanically zero OHM meter.

b. Connect equipment as shown in figure 1.

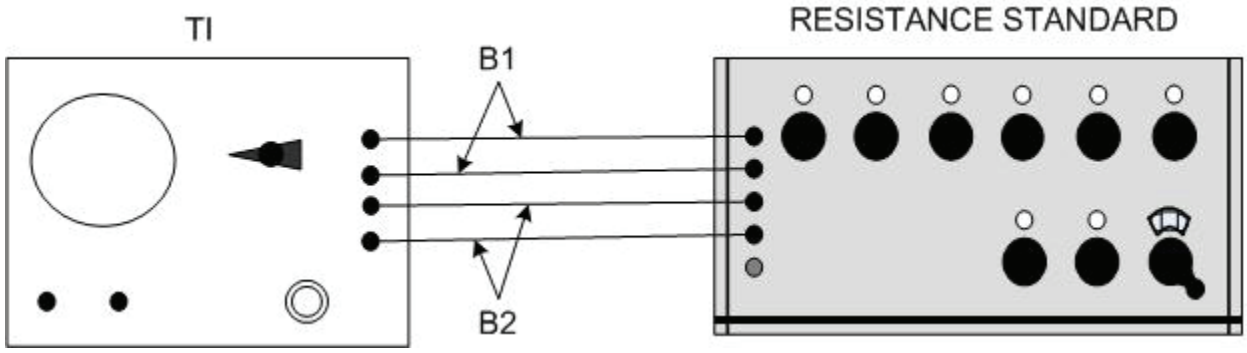


Figure 1. Low resistance - equipment setup.

c. Adjust **ADJUST** control fully ccw.

d. Set **OHMS FULL SCALE** switch to 5.

e. Set resistance standard switches for 000005.0000.

8. Resistance and Linearity

a. Performance Check

(1) Set **ON-OFF** switch to **ON**.

(2) Adjust **ADJUST** control for a full-scale indication on TI OHMS meter.

(3) Press and hold **TEST** pushbutton and adjust resistance standard for a full-scale indication on meter. Resistance standard will indicate between 4.75 and 5.25 ohms. Release **TEST** pushbutton.

(4) Adjust **ADJUST** control fully ccw.

(5) Set **OHMS FULL SCALE** switch to **1**.

(6) Set resistance standard controls for 000001.0000.

(7) Repeat (2) through (4) above. Resistance standard will indicate between 0.95 and 1.05 ohms.

(8) Set **OHMS FULL SCALE** switch to **0.5**.

(9) Set resistance standard controls to 000000.5000.

(10) Repeat (2) and above. Resistance standard will indicate between 0.475 and 0.525 ohms.

(11) Repeat technique of (3) above for TI OHMS meter indications as listed in table 4. Resistance standard will indicate within limits specified.

Table 4. Resistance

Test instrument OHMS meter indications (0 To 5 scale)	Resistance standard indications (Ohms)	
	Min	Max
4	0.375	0.425
3	0.275	0.325
2	0.175	0.225
1	0.075	0.125

(12) Adjust **ADJUST** control fully ccw.

(13) Set **ON-OFF** switch to **OFF**.

(14) Connect equipment as shown in figure 2, connection A.

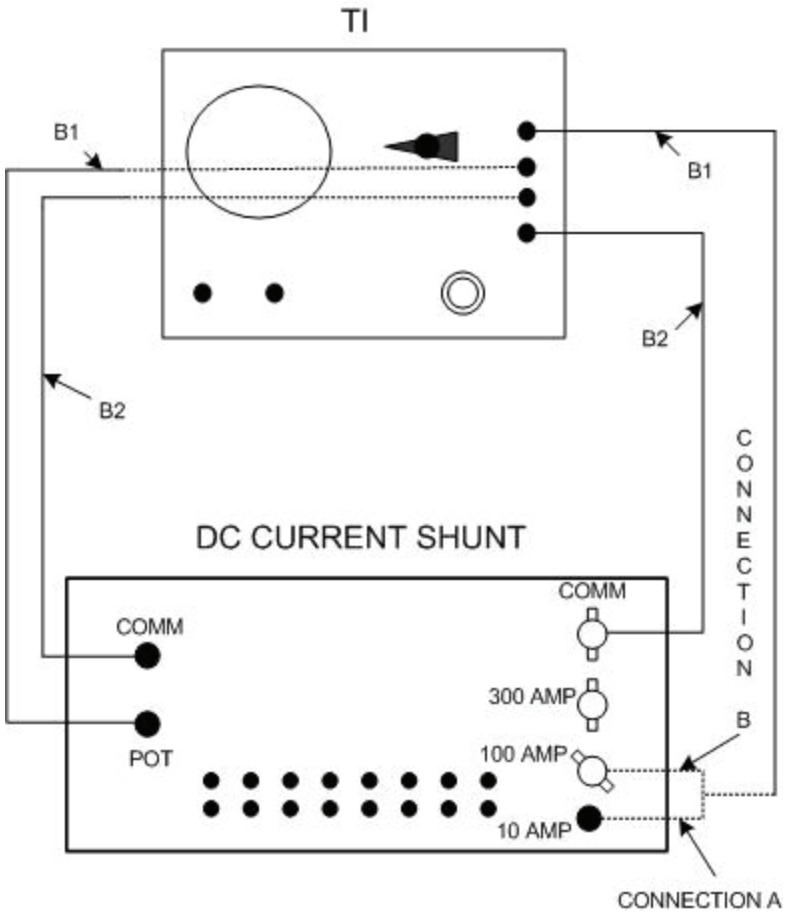


Figure 2. High resistance - equipment setup.

(15) Set **OHMS FULL SCALE** switch to **0.01**.

(16) Place dc current shunt plugs in to 10 **AMPERES** position.

(17) Set **ON-OFF** switch to **ON**.

(18) Adjust **ADJUST** control for a 4.5 indication on TI OHMS meter 0 to 5 scale.

(19) Press and hold **TEST** pushbutton. TI OHMS meter will indicate between 4.25 and 4.75 on 0 to 5 scale. Release **TEST** pushbutton.

(20) Adjust **ADJUST** control fully ccw.

(21) Set **ON-OFF** switch to **OFF**.

(22) Connect equipment as shown in figure 2, connection B.

(23) Set **OHMS FULL SCALE** switch to **0.005**.

(24) Place dc current shunt plugs in 100 **AMPERES** position.

(25) Set **ON-OFF** switch to **ON**.

(26) Adjust **ADJUST** control for a full-scale indication on TI meter 0 to 5 scale.

(27) Press and hold **TEST** pushbutton TI OHMS meter will indicate between 0.75 and 1.25 on 0 to 5 scale. Release **TEST** pushbutton.

b. Adjustments. No adjustments can be made.

9. Final Procedure

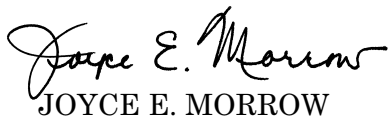
a. Deenergize and disconnect all equipment.

b. Annotate and affix DA label/form in accordance with TB 750-25.

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:



JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

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Distribution:

To be distributed in accordance with the initial distribution number (IDN) 343062, requirements for calibration procedure TB 9-6625-2115-24.

Instructions for Submitting an Electronic 2028

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however, only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" whomever@redstone.army.mil
To: <2028@redstone.army.mil

Subject: DA Form 2028

1. **From**: Joe Smith
2. Unit: home
3. **Address**: 4300 Park
4. **City**: Hometown
5. **St**: MO
6. **Zip**: 77777
7. **Date Sent**: 19-OCT –93
8. **Pub no:** 55-2840-229-23
9. **Pub Title**: TM
10. **Publication Date**: 04-JUL-85
11. Change Number: 7
12. Submitter Rank: MSG
13. **Submitter FName**: Joe
14. Submitter MName: T
15. **Submitter LName**: Smith
16. **Submitter Phone**: 123-123-1234
17. **Problem**: 1
18. Page: 2
19. Paragraph: 3
20. Line: 4
21. NSN: 5
22. Reference: 6
23. Figure: 7
24. Table: 8
25. Item: 9
26. Total: 123
27. **Text**

This is the text for the problem below line 27.