

***TB 9-6625-2352-35**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR ANALOG MULTIMETERS 0 TO 6000 VOLTS (GENERAL)

Headquarters, Department of the Army, Washington, DC
3 June 2005

Distribution Statement A: Approved for public release; distribution is unlimited

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, US Army Aviation and Missile Command, AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our fax number is DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual. For the World Wide Web, use <https://amcom2028.redstone.army.mil>.

		Paragraph	Page
SECTION	I. IDENTIFICATION AND DESCRIPTION		
	Test instrument identification	1	2
	Forms, records and reports.....	2	2
	Calibration description	3	2
	II. EQUIPMENT REQUIREMENTS		
	Equipment required	4	3
	Accessories required	5	3
	III. CALIBRATION PROCESS		
	Preliminary instructions	6	3
	Equipment setup	7	4
	Dc voltage	8	4
	Ac voltage.....	9	4
	Resistance	10	5
	Dc current	11	5
	Final procedure	12	31

*This bulletin supersedes TB 9-6625-2352-35, dated 15 April 2004.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Analog Multimeters 0 to 6000 Volts (General) listed in table 1. The manufacturers' manuals or TMs were used as the prime data sources in compiling these instructions. The equipment being calibrated will be referred to as the TI (test instrument) throughout this bulletin.

a. Model Variations. Variations among models are described in text, tables and figures.

b. Time and Technique. The time required for each calibration is approximately 2 hours, using the dc and low frequency technique.

2. Forms, Records, and Reports

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

b. Adjustments to be reported are designated (R) at the end of the sentence in which they appear. When adjustments are in tables, the (R) follows the designated adjustment. Report only those adjustments made and designated with (R).

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

Table 1. Test Instrument

Manufacturers	Models or military designators	Tables for specifications, calibration performance limits, and figures for adjustments	
		Tables	Figures
---	ME-297//U	3	1
---	TS-352()/U	4	2
Simpson	260	5	---
Simpson	260-3	6	3
Simpson	260-4	7	4
Simpson	260-5	8	5
Simpson	269	9	---
Simpson	269 Series III	10	6
Simpson	270	11	7
Triplett	310	12	---
Triplett	630	13	---
Triplett	630NA	14	8
Triplett	630PL	15	---
Triplett	666R	16	---

SECTION II EQUIPMENT REQUIREMENTS

4. Equipment Required. Table 2 identifies the specific equipment to be used in this calibration procedure. This equipment is issued with Secondary Transfer Calibration Standards Set AN/GSM-286, and AN/GSM-287. Alternate items may be used by the calibrating activity. 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 this calibration procedure.

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications ¹	Manufacturer and model (part number)
CALIBRATOR	Dc voltage: Range: 0 to 1100 V Accuracy: $\pm 0.375\%$ Dc current: Range: 50 μ A to 10 A Accuracy: $\pm 0.25\%$ Ac voltage Range: 0 to 1100 V Frequency: 60 Hz to 100 Hz Accuracy: $\pm 0.625\%$	Fluke, Model 5720A (5700A/EP) (p/o MIS-35947), w/amplifier, Fluke, 5725A/AR (5725A/AR)
POWER SUPPLY	Range: 0 to 6300 V dc Accuracy: $\pm 0.25\%$	Fluke, Model 410B/AT (MIS-10230) (MIS 45839)
RESISTANCE STANDARD NO. 1	Range: 0 to 1.1 M Ω Accuracy: $\pm 0.047\%$	Biddle-Gray, Model 71-631 (7910328)
RESISTANCE STANDARD NO. 2	Range: 1 to 10 M Ω Accuracy: $\pm 0.047\%$	Beckman, Model CR10M (8598965)
RESISTANCE STANDARD NO. 3	Range: 10 to 200 M Ω Accuracy: $\pm 0.047\%$	Beckman, Model CR100M (8598966)

¹The ranges and accuracies listed reflect the highest range required and the best accuracy required, respectively, in this technical bulletin.

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 as listed in table 2.