

***TB 9-6625-2208-35**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR DIGITAL MULTIMETER, MIS-28709D (BECKMAN, MODEL 310) AND CATERPILLAR, MODEL 6V7070

Headquarters, Department of the Army, Washington, DC

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*This bulletin supersedes TB 9-6625-2208-35, dated 11 July 1988.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Digital Multimeter, MIS-28709D (Beckman, Model 310) and Caterpillar, Model 6V7070. The manufacturers' manuals and/or technical manuals were 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. Variations among models are described in text, tables, and figures.

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.

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 in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Dc voltage	Range: 0 to 1500 V in 5 ranges Accuracy: $\pm (0.25\% \text{ of reading} + 1 \text{ digit})$
Dc current	Range: 0 to 10 A in 6 ranges Accuracy: 0 to 2 A ($\pm 0.75\% \text{ of reading} + 1 \text{ digit}$) 10 A ($\pm 1.5\% \text{ of reading} + 1 \text{ digit}$)
Ac voltage 310 6V7070	Range: 0 to 1000 V in 5 ranges Accuracy: All ranges, 45 Hz to 2 kHz $\pm (0.75\% \text{ of reading} + 3 \text{ digits})$ All ranges, 2 kHz to 5 kHz $\pm (1.5\% \text{ of reading} + 5 \text{ digits})$ All ranges, 5 kHz to 10 kHz $\pm (2.5\% \text{ of reading} + 9 \text{ digits})$ Range: 0 to 1000 V in 5 ranges Accuracy: 200mV, 2V, 20V, 45 Hz to 5 kHz $\pm (0.75\% \text{ of reading} + 3 \text{ digits})$ 200V, 45 Hz to 1 kHz $\pm (0.75\% \text{ of reading} + 3 \text{ digits})$ 1000V, 45 Hz to 500 Hz $\pm (0.75\% \text{ of reading} + 3 \text{ digits})$ 1000V, 500 Hz to 1 kHz $\pm (1.5\% \text{ of reading} + 5 \text{ digits})$
Ac current ¹	Range: 0 to 10 A in 6 ranges Accuracy: 0 to 2 A, 45 Hz to 2 kHz $\pm (1.5\% \text{ of reading} + 3 \text{ digits})$ 10 A range, 45 Hz to 400 Hz $\pm (2.0\% \text{ of reading} + 3 \text{ digits})$
Resistance	Range: 0 to 20 M Ω in 6 ranges Accuracy: 200 Ω to 2 M Ω $\pm (0.5\% \text{ of reading} + 1 \text{ digit})$ 20 M Ω range $\pm (1.5\% \text{ of reading} + 1 \text{ digit})$

¹Ac current specifications are for information only (not checked in this procedure).