

*TB 9-6120-275-24

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR AUTOTRANSFORMER GENERAL RADIO, MODELS W10MT3A AND W10MT3A/S3 TECHNIPOWER INC., MODEL 3060-9012, AND RIDGE INC., MODELS 9020A AND 9020F

Headquarters, Department of the Army, Washington, DC
25 June 2008

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, 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.

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*This bulletin supersedes TB 9-6120-275-35, dated 26 December 1994.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Autotransformer, General Radio, Models W10MT3A and W10MT3A/S3; Technipower Inc., Model 3060-9012; and Ridge, Inc., Models 9020A and 9020F. The manufacturers' manuals 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 indicated in the text.

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 listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Voltage	Range: 105 to 125 V ac Accuracy: ± 1 V
Frequency: Model with frequency meter	Range: 56 to 64 Hz 384 to 416 Hz Accuracy: $\pm 2\%$ of reading

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, AN/GSM-287 and AN/GSM-705. 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. Where the four-to-one ratio cannot be met, the actual accuracy of the equipment selected is shown in parenthesis.

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	Manufacturer and model (part number)
CALIBRATOR	Voltage range: 104 to 126 V ac Accuracy: ± 0.25 V Frequency range: 50 to 450 Hz Accuracy: $\pm 0.5\%$	Fluke, Model 5720A (5720A) (p/o MIS-35947); w amplifier, Fluke 5725A/AR (5725A/AR)

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.

c. 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 for this TI.

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

7. Equipment Setup

WARNING

HIGH VOLTAGE is used or exposed during the performance of this calibration. DEATH ON CONTACT may result if personnel fail to observe safety precautions. REDUCE OUTPUT(S) to minimum after each step within the performance check where applicable.

a. Remove protective cover from TI only when necessary for adjustments.

b. Mechanically zero TI AC VOLTS meter by turning adjustment screw below meter face to align pointer with mark at left end of scale.

c. Remove 10 AMPS fuse.

8. Voltage and Tracking

a. Performance Check

- (1) Connect TI output connector to calibrator using appropriate cable.

CAUTION

Ensure that fuse is removed from TI.

- (2) Set calibrator output frequency to 60 Hz and output voltage for 105 V indication on TI **AC VOLTS** meter. If ac calibrator does not indicate between 104 and 106 V ac, perform **b** below.

- (3) Repeat technique of (2) above, using settings listed in table 3. If indications are not within limits specified, perform **b** below.

Table 3. Voltage and Tracking

Test instrument AC VOLTS meter indications	Calibrator indications	
	Min	Max
110	109	111
115	114	116
120	119	121
125	124	126

b. Adjustments

- (1) Deenergize calibrator output and remove TI rear cover and covers above terminals of **AC VOLTS** meter.

NOTE

Some models do not have adjustments on **AC VOLTS** meter.

CAUTION

Use insulated screwdriver for adjustments.

- (2) Set calibrator output for 105 V ac.
- (3) Adjust calibration screw located above left terminal of **AC VOLTS** meter (as viewed from rear) for a 105 V indication on TI **AC VOLTS** meter (R).
- (4) Set calibrator output for 125 V ac.
- (5) Adjust calibration screw located above right terminal of **AC VOLTS** meter (as viewed from rear) for a 125 V indication on TI **AC VOLTS** meter (R).
- (6) Repeat (2) through (5) above until TI **AC VOLTS** meter indications are within limits specified.

9. Frequency

a. Performance Check

(1) Set calibrator for 115.0 V ac output and 60 Hz indication on TI **FREQUENCY** meter. Calibrator will indicate between 58.8 and 61.2 Hz.

(2) Set calibrator for a 400 Hz indication on TI **FREQUENCY** meter. Calibrator will indicate between 392 and 408 Hz.

b. Adjustments. No adjustments can be made.

10. Final Procedure

a. Deenergize and disconnect all equipment and reinstall 10 amp fuse and protective covers on TI.

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

By Order of the Secretary of the Army:

Official:



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0812108

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Distribution:

To be distributed in accordance with the initial distribution number (IDN) 342086 requirements for calibration procedure TB 9-6120-275-24.

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.

