*TB 9-6625-1339-24

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR IGNITER CIRCUIT TESTER M.B. ELECTRONICS MODELS 101-5BF AND 101-5BFG

Headquarters, Department of the Army, Washington, DC
3 March 2008

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 9-6625-1339-35, dated 27 June 1988.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Igniter Circuit Tester, M.B. Electronics, Models 101-5BF and 101-5BFG. 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. Variations among models are described in 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. 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 parameter	Performance specifications
Ohms	Range: 0 Ω to 30 Ω Accuracy: 0 Ω to 5 Ω ± 0.4% FS 5 Ω to 30 Ω ± 0.166% FS

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-287 or 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. 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)
MULTIMETER	Range: 0 to 5 mV Accuracy: ± 0.1%	Agilent, Model 3458A (3458A)
RESISTANCE STANDARD	Range: 0 to 3015Ω Accuracy: ± 0.04%	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 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.

d. Unless otherwise specified, all control 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 OUPUT(S) to minimum after each step within the performance check where applicable.

a. Connect shorting bar to TI input binding posts.

b. If TI meter does not indicate a null, adjust to null, using adjustment screw located below meter face.

c. Remove shorting bar from input binding post.

8. Resistance Check

a. Performance Check

(1) Connect appropriate leads to TI and short end of leads.

(2) Depress and hold TI **KEY**.

(3) Adjust TI **OHMS** digital dial for a null on TI meter; release **KEY**.

(4) Record TI **OHMS** digital dial indication.

(5) Connect resistance standard to TI binding posts, using appropriate leads.

(6) Adjust resistance standard to 1.0 Ω.

(7) Connect multimeter across resistance standard.

(8) Depress and hold TI **KEY** and adjust **OHMS** digital dial until TI meter indicates a null. Multimeter will indicate less than 5 mV dc. Release **KEY**.

(9) Remove multimeter from equipment setup.

(10) Adjust resistance standard to an initial setting of 0.15 Ω.

(11) Adjust TI **OHMS** digital dial for an indication of 0.15 Ω.

(12) Depress and hold TI **KEY** and adjust resistance standard until TI meter indicates a null. Release **KEY**. Resistance standard will indicate between 0.13 and 0.17 Ω after value recorded in (4) above has been added.

(13) Repeat technique of (10) through (12) above, using values listed in table 3 for models 101-5BF and 101-5BFG. Resistance standard indication plus value recorded in **a** (4) above will be within limits specified.

Table 3. Resistance Check, Models 101-5BF and 101-5BFG

Resistance standard initial setting (Ω)	Test Instrument		Resistance standard final indication (Ω)	
	OHMS ADD switch setting	**OHMS** digital dial setting	Min	Max
0.5	0	0.5	0.48	0.52
0.9	0	0.9	0.88	0.92
1.0	0	1.0	0.98	1.02
2.0	0	2.0	1.98	2.02
4.0	0	4.0	3.98	4.02
8.0	0	8.0	7.95	8.05
10	10	0	9.95	10.05
20	20	0	19.95	20.05
25	20	5	24.95	25.05
30	20	10	29.95	30.05

b. Adjustments. No adjustments can be made.

9. Final Procedure

a. Replace shorting bar removed in **7 c** above.

b. Deenergize and disconnect all equipment.

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

By Order of the Secretary of the Army:

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0800708

Distribution:

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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.