*TB 9-6670-248-24

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR BEAM INDICATING SCALE AAA-S-118

Headquarters, Department of the Army, Washington, DC
6 February 2009

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 9-6670-248-50, dated 17 May 1971.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instruction for the calibration of Beam Indicating Scale, AAA-S-118. 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 physical 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 applications which pertain to this calibration are listed in table 1.

Table 1. Calibration Description

Test instrument parameters	Performance specifications
Weight	
Type I	Range: 0 to 1000 lbs
Type II.	Range: 0 to 10,000 lb
Type III	Range: 0 to 300 lb; 0 to 600 lb and 0 to 1200 lb
	Accuracy: ¼ lb or one scale beam division (whichever is larger)

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; or AN/GSM-705 and Secondary Reference Calibration Set 4931-00-621-7878. 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 the procedure.

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications	Manufacturer and model (part number)
STANDARD WEIGHT	Range: 5 to 180 lbs Accuracy: Class F [1]	Part of pressure gage tester, Mansfield and Green, Model 10-10525 (8598963)
WEIGHT SET	Range: 5 to 150 lbs Accuracy: Class 7[2]	(7910346)
WEIGHT SET	Range: 1 to 40 lbs Accuracy: Class 7[2]	(7909056)

[1] NIST Class F tolerance has replaced the old NBS "C" tolerance.
[2] ASTM E617-97 Class 7 tolerance has replaced the old NBS "T" tolerance.

SECTION III
CALIBRATION PROCESS

6. Preliminary Procedure

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

NOTE
TI type III style 3 does not have a counterpoise weight hook.

a. Check that trig loop lock (fig. 1) is in the unlocked position.

b. With the poise (fig. 1) set on zero, check that beam is balanced. If necessary, rotate zero balance control (fig. 1) clockwise or counterclockwise as required to balance the beam.

8. Beam and Counterpoise Weights

a. Performance Check

(1) Place 10-pound weight in center of platform of TI.

NOTE

A full beam indication of 100 pounds is used in this procedure for simplicity. The method, however, can be utilized with a full beam indication of other than 100 pounds by using applicable weights.

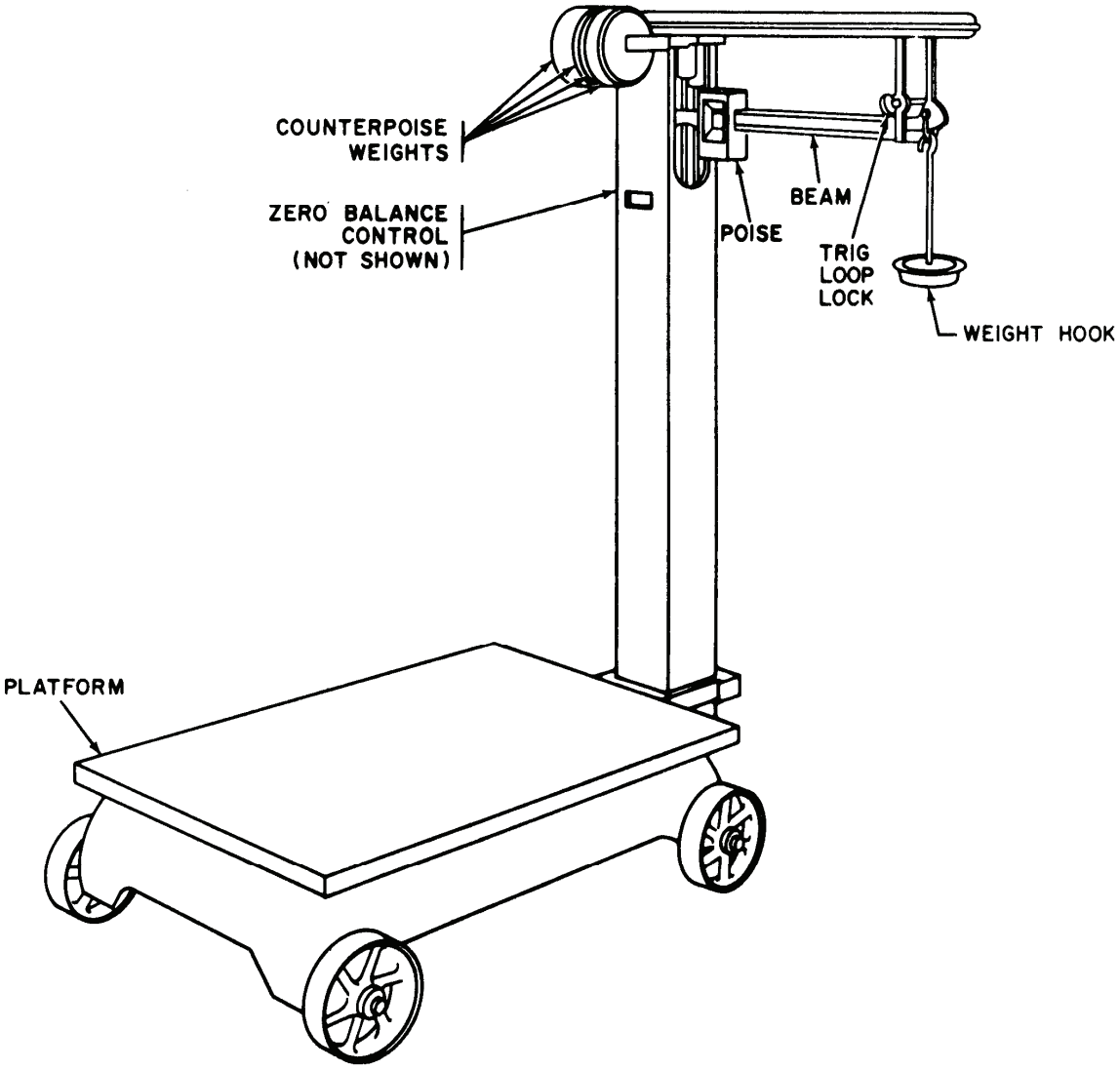

Figure 1. Beam indicating scale, type I (typical).

(2) Slide poise on beam until beam is in balance. Indication on beam will correspond to known value, of standard weight within one-fourth pound or 1 beam subdivision, whichever is larger.

(3) Repeat (1) and (2) above, using necessary weights to balance beam at midrange and full scale.

(4) With known weights applied equal to full beam indication of 100 pounds, select 1 pound avoirdupois counterpoise weight from TI and place on counterpoise weight hook. Sliding poise to zero will balance beam within one-fourth pound or 1 beam subdivision, whichever is greater.

(5) Remove 1-pound counterpoise weight from counterpoise weight hook and substitute all other 1-pound counterpoise weights which are supplied with TI. With the poise set at zero, the beam will balance within one-fourth pound or 1 beam subdivision, whichever is greater.

(6) Place weights from weight set (part of pressure gage tester) equal to 100 pounds on top of weights on platform of TI.

NOTE

Total weight should equal 200 pounds.

(7) Remove 1-pound counterpoise weight from counterpoise weight hook and place 2-pound counterpoise weight from TI on counterpoise weight hook. Beam will be in balance within one-fourth pound or 1 beam subdivision, whichever is greater.

(8) Remove 2-pound counterpoise weight from counterpoise weight hook and substitute all other 2-pound counterpoise weights which are supplied with TI beam will balance within one-fourth pound or 1 beam subdivision, whichever is larger.

(9) Remove all weights from platform and counterpoise weight hook of TI.

(10) Place 5-pound weight from weight set on counterpoise weight hook.

(11) Utilizing any weight available, place a total weight of between 500 and 600 pounds on platform of TI.

(12) Slide poise along beam until beam is balanced. Record beam indication.

(13) Remove 5-pound weight from weight set and substitute 5-pound counterpoise weights of TI. Beam will balance within one-fourth pound or 1 beam subdivision, whichever is greater, to beam indication recorded in (12) above.

b. Adjustments. No adjustments can be made.

9. Weightbeam Check

a. Performance Check

NOTE

This performance check is for style 3, full capacity beams only.

(1) Slide poise on main bar to 100.

(2) Place 110 lb from weight set in center of TI platform.

(3) Slide poise on weightbeam until beam is balanced. Indication on beam will correspond to known value of standard weights within one-fourth of a pound or 1 beam subdivision, whichever is greater.

(4) Repeat (2) and (3) above, using required weights to balance beam at midrange and full scale.

b. Adjustments. No adjustments can be made.

10. Final Procedure

a. Store standard weights in containers.

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.
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Chief of Staff

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0835104

Distribution:

To be distributed in accordance with initial distribution number (IDN) 343402, requirements for calibration procedure TB 9-6670-248-24.

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.