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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR BEAM INDICATING SCALE AAA-S-118b

Headquarters, Department of the Army, Washington, DC
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*This bulletin supersedes TB 9-6670-248-50, 3 December 1965.

SECTION I
GENERAL

1. Purpose and Scope. This bulletin provides information for the periodic calibration of Beam Indicating Scale, AAA-S-118b. It is to be used by personnel trained and qualified in the use of calibration equipment.

2. Description Data

a. Identification

Nomenclature	BEAM INDICATING SCALE.
Reference	Fed Spec AAA-S-118b and Manufacturer's instruction manual.

b. Specifications

Capacity:	
Type I	0 to 500 lb; 0 to 1000 lb; 0 to 1500 lb; 0 to 2000 lb and 0 to 2500 lb.
Type II	0 to 10,000 lb.
Type III	0 to 300 lb; 0 to 600 lb and 0 to 1200 lb.
Accuracy	1/4 lb or one scale beam division, whichever is larger.

c. Calibration

Time required	1 hour (approx.)
Technique	Physical

3 General Instructions

a. DA Form 2416 (Calibration Data Card). During the use of this bulletin, annotate DA Form 2416 in accordance with TM 38-750.

b. Unit Under Test. Beam Indicating Scale, AAA-S-118b, will be referred to as the UUT (unit under test) throughout this bulletin.

c. Equipment Identification. The equipment referred to throughout this bulletin is identified in table I and section Ill.

d. Equipment Setup. Disconnect instructions are not contained in this bulletin.

4. Differences Among Models. Models of weighing beam scales, type I, II and III will vary in platform size, shape, capacity, subdivisions of weight beams, and weight of counterpoise weights. This calibration procedure is applicable to all models of weighing beam scales.

SECTION II
CALIBRATION

5. Equipment Required. Table 1 lists minimum use specifications of equipment required for calibration performance checks and adjustments. Table 1 is provided to assist in the selection of required equipment. For specific item identification refer to section III.

Table 1. Minimum Specifications of Equipment Required

Item number.	Common name	Minimum use specifications
A1	WEIGHTS	RANGE: 0 to 110 lb ACCURACY: ±1.33 oz
A2	WEIGHT SET	RANGE: 0 to 110 lb ACCURACY: ±1.33 oz

6. Preliminary Procedure

NOTE

Personnel should familiarize themselves with the entire bulletin prior to performing calibration.

a. Place the UUT on a clean flat level surface.

b. Check that counterpoise weight hook (fig. 1) is installed at end of beam (fig. 1) of UUT.

NOTE

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

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

d. 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.

NOTE

When the UUT is not within tolerance, the deficiency must be corrected before continuing with the procedure.

7. Beam and Counterpoise Weights

a. Performance Check

(1) Place 10-pound weight from weight set (A2, table 1) in center of platform of UUT.

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.

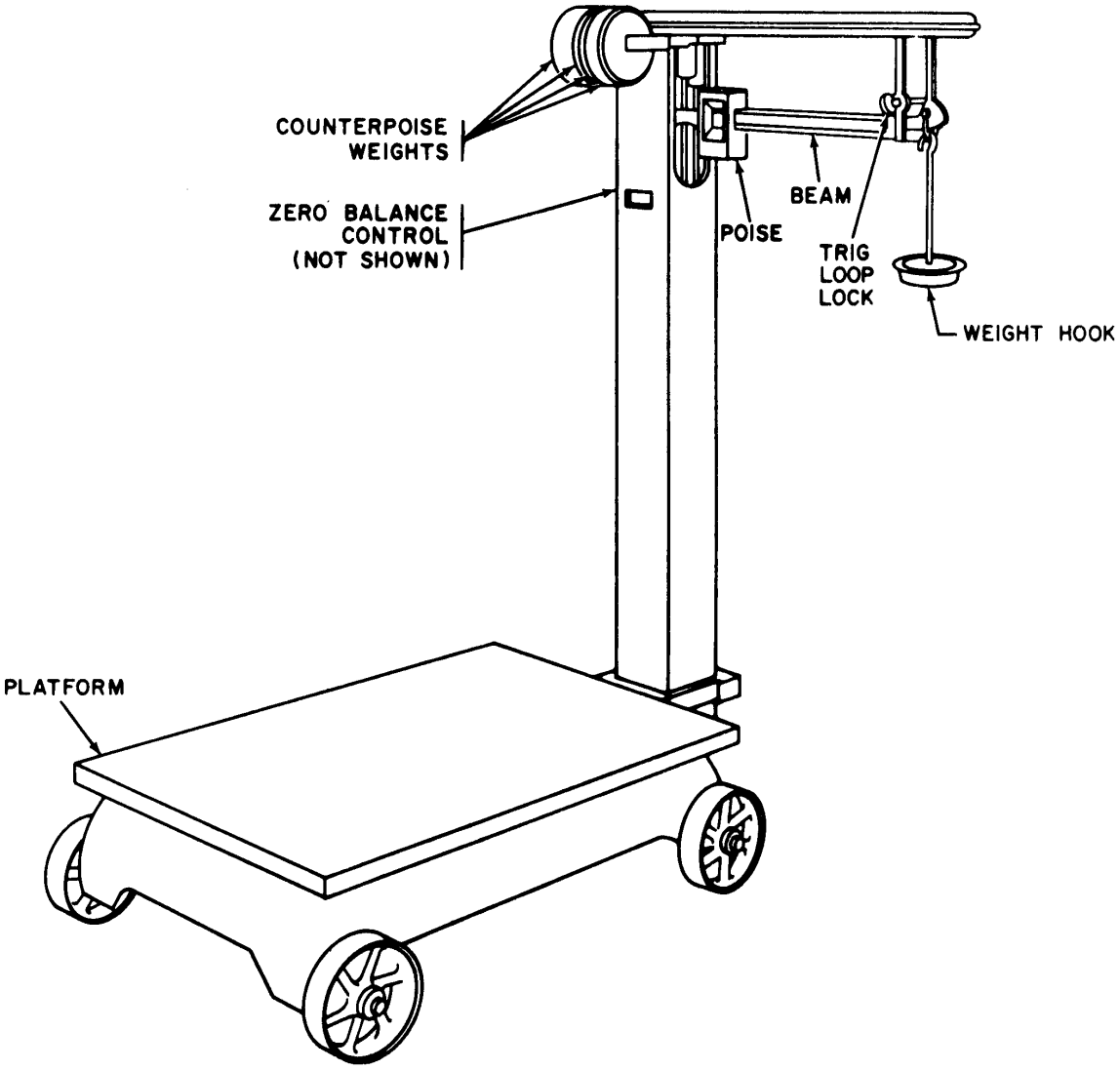

Figure 1. Beam indicating scale, type 1 (typical).

(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 UUT 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 UUT. 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) (A1, table 1) equal to 100 pounds on top of weights on platform of UUT.

NOTE

Total weight should equal 200 pounds.

(7) Remove 1-pound counterpoise weight from counterpoise weight hook and place 2-pound counterpoise weight from UUT 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 UUT 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 UUT.

(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 UUT.

(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 UUT. 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.

8. 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 (A2, table 1) in center of UUT 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.

9. Final Procedure

a. Store standard weights in containers.

b. In accordance with TM 38-750, annotate and affix DA Label 80 (U.S. Army Calibration System). When the UUT cannot be adjusted within tolerance, annotate and affix DA Form 2417 (Unserviceable or Limited Use Tag).

SECTION III
SPECIFIC ITEM IDENTIFICATION

10. Identification. This section identifies specific equipment as issued with specific calibration standards sets or specific maintenance equipment groups.

11. Secondary Transfer Calibration Standards

a. Equipment Identification. The equipment listed in table 2 is issued with secondary transfer calibration standards set 4931-621-7877 and is to be used in performing this procedure. When any equipment listed in table 2 is not available, equivalent items may be substituted provided that they meet the minimum use specifications listed in table 1.

Table 2. Equipment Identification

Item number	Nomenclature	Identifying number	Manufacturer and model number
A1	WEIGHTS, P/0 TESTER, PRESSURE GAGE.	8598963	Mansfield and Green, Type 10-10525
A2	WEIGHT SET BALANCE	7910346	Sweeney Mfg. Co., Model SWE wt set No. 2.

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