*TB 9-6670-251-24

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR RESILIENCY TESTERS (GENERAL)

Headquarters, Department of the Army, Washington, DC
29 August 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.

*This bulletin supersedes TB 9-6670-251-35, dated 14 February 1984.

SECTION I
IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Resiliency Testers (General) (figure 1). 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.

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
Weight	Range: 0 to 300 lbs 0 to 1000 grams Accuracy: ±1 graduation

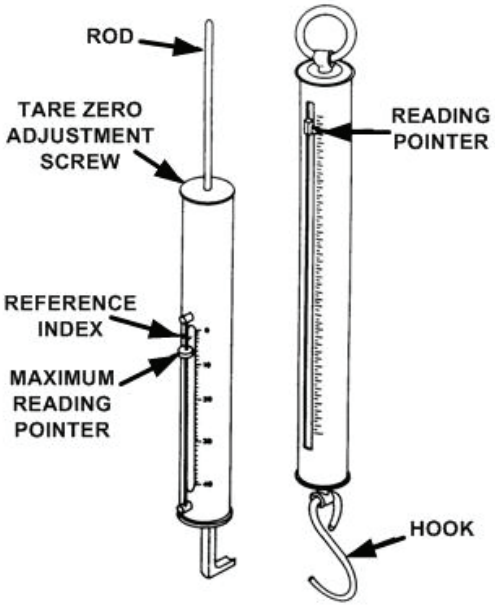

Figure 1. Typical resiliency testers.

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. 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. The following peculiar accessories are also required for this calibration: Weight carrier assembly (7910652) and (7910971).

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications	Manufacturer and model (part number)
HOOK ROD ASSEMBLY[1]	Range: 5 lbs Accuracy: Class 7 [2]	(7916812)
STANDARD WEIGHT	Range: 5 to 180 lbs Accuracy: Class F [3]	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: +5 grams	(7909056)
WEIGHT SET	Range: 1 to 1000 grams Accuracy: Class F [3]	(7910419)

[1] Fabricated locally (fig. 2).
[2] ASTM E617-97 Class 7 tolerance has replaced the old NBS "T" tolerance.
[3] NIST Class F tolerance has replaced the old NBS "C" tolerance.

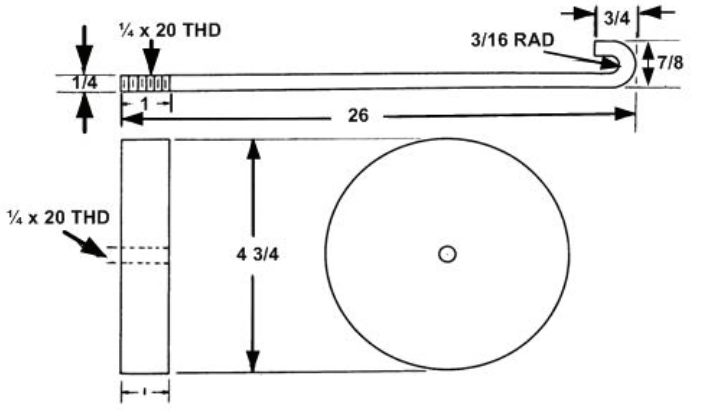

Figure 2. Hook rod assembly (7916812).

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

a. 0 to 150 Pound Check

NOTE

This adjustment compensates for varying load of rod when using the TI in different positions.

(1) Adjust tare zero adjustment screw (fig. 1) for a zero indication on TI.

(2) Remove pin from torque calibrator for weights up to 20 pounds, or for weights between 20 and 150 pounds and separate weight carrier assembly from the torque calibrator. Only the weight carrier will be required.

(3) Note weight of carrier.

(4) Obtain a 6 inch length of line or wire capable of supporting total weight to be used in calibrating TI.

b. 150 to 300 Pound Check

(1) Adjust tare zero adjustment screw (fig. 1) for a zero indication on TI.

WARNING

One person should not attempt to lift or carry the sets of weights any distance. Each set weighs approximately 100 pounds.

(2) Assemble appropriate standard weights on hook rod assembly (fig. 2) and install end plate.

(3) Raise hook rod assembly to a vertical position.

NOTE

Additional weights from weight sets will be added to make up the desired total test weight when required in paragraphs 8 and 9 below.

NOTE

The adjusted weight of the hook rod assembly (fig. 2) is 5 pounds (Class T tolerance). This weight must be considered when making up the total test weight

NOTE

Since the (standard) weights are designated in pounds or ounces, conversion to grams will be necessary. Conversion factors are: 1 ounce = 28.35 grams, and 1 pound = 453.600 grams.

8. Push-Pull Type Resiliency Testers

a. Performance Check

(1) Hold TI in position in which it is to be used.

(2) Fasten weight carrier (fig. 3) or hook rod assembly to TI.

(3) Allow weight carrier or hook rod assembly to rest on bench top and assemble appropriate weight.

(4) With TI in a vertical position, raise TI until all weight is supported by the hook. Maximum reading pointer should indicate amount of weight used plus weight of weight carrier or hook rod assembly ±1 graduation.

NOTE

Raise gradually, avoiding sudden or jerking motions.

(5) Lower TI until weight is supported by bench top.

(6) Repeat (3) through (5) above for several cardinal points over entire range of TI.

b. Adjustments. No adjustments can be made.

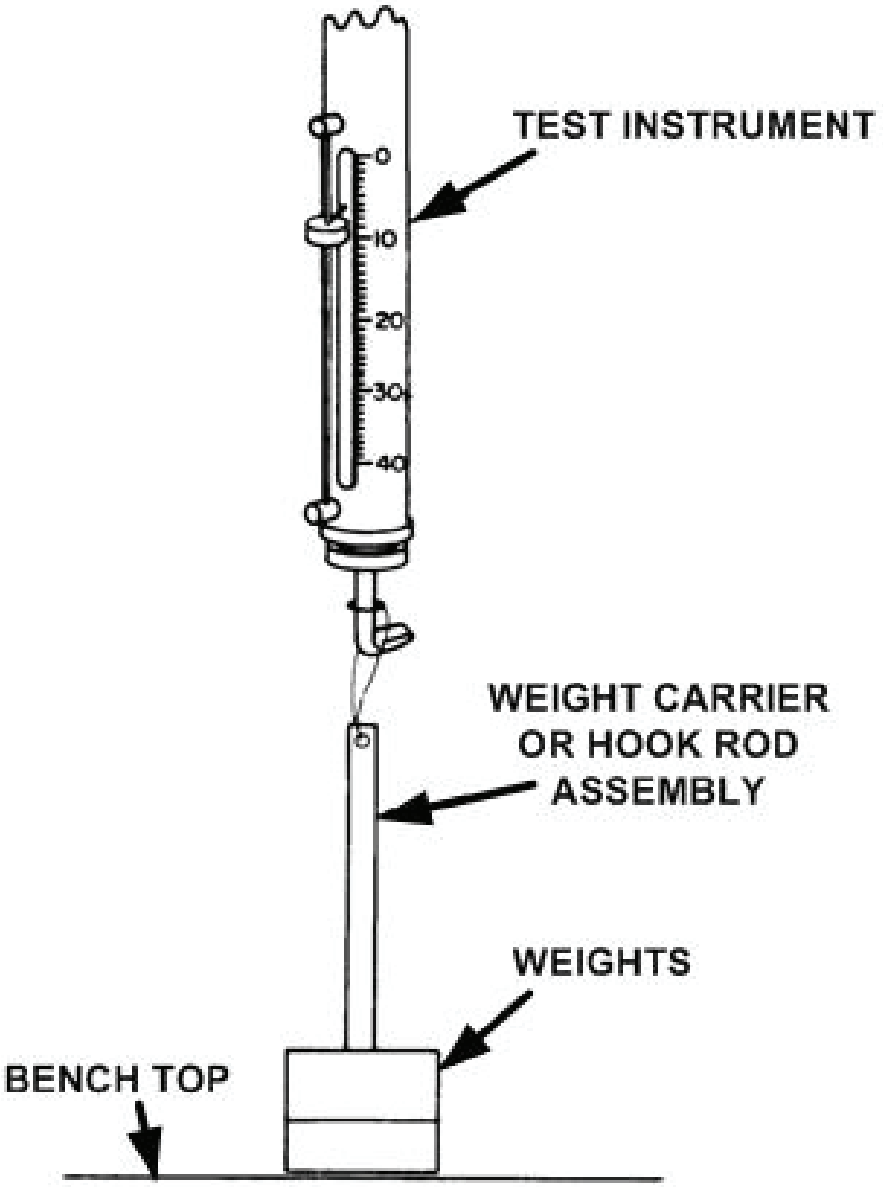

Figure 3. Tension check - equipment setup.

9. Suspended Type Resiliency Testers

a. Performance Check

(1) Select a convenient area to suspend TI to a height as near to eye level as possible.

(2) Fasten weight carrier or hook rod assembly to TI.

NOTE

Avoid sudden or jerky motions when applying weights. Allow weight to be suspended gradually.

(3) Carefully place appropriate weight on weight carrier or hook rod assembly. Pointer should indicate weight used plus weight of the carrier or hook rod assembly ±1 graduation.

(4) Repeat (3) above for several cardinal points over entire range of TI.

b. Adjustments. No adjustments can be made.

10. Final Procedure

a. Reassemble torque calibrators disassembled in paragraph **7** a above.

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.
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
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Secretary of the Army

0818207

Distribution:

To be distributed in accordance with the initial distribution number (IDN) 343095, requirements for calibration procedure TB 9-6670-251-24.

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.