

*TB 9-4931-532-40

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CALIBRATION PROCEDURE FOR AZIMUTH TEST FIXTURE MODEL 7691596

Headquarters, Department of the Army, Washington, DC
9 April 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.

SECTION		Paragraph	Page
I.	IDENTIFICATION AND DESCRIPTION		
	Test instrument identification	1	2
	Forms, records, and reports.....	2	2
	Calibration description	3	2
II.	EQUIPMENT REQUIREMENTS		
	Equipment required	4	2
	Accessories required.....	5	2
III.	CALIBRATION PROCESS		
	Preliminary instructions.....	6	3
	Equipment setup	7	3
	Azimuth dial	8	4
	Final procedure	9	4

*This bulletin supersedes TB 9-4931-532-50, dated 1 February 1985.

SECTION I IDENTIFICATION AND DESCRIPTION

1. Test Instrument Identification. This bulletin provides instructions for the calibration of Azimuth Test Fixture, Model 7691596. The recommended engineering calibration procedure 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. 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 parameters	Performance specifications
Azimuth dial	Range: 0 to 6400 mils Accuracy: ± 0.05 mils

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 Reference Calibration Standards Set, NSN 4931-00-621-7878. 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 the calibration procedure. The following peculiar accessories are also required for this calibration: Azimuth Test Fixture Adapter, (7916801), and Collimator Projector, (7573291), both are part of the TI.

Table 2. Minimum Specifications of Equipment Required

Common name	Minimum use specifications	Manufacturer and model (part number)
SURFACE PLATE	Accuracy: Grade A	36"X48" (GGG-P-463)
THEODOLITE ¹	Range: 0 to 6400 mils Accuracy: ±0.05 mil	Wild, T2 (MIL-T-14132)

¹Limited deployment physical set, p/o LANCE calibration kit.

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.

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. Place TI on surface plate.
- b. Place collimator projector on azimuth test fixture.
- c. Connect collimator projector to a 115 V ac source and set switch to **ON**.
- d. Mount azimuth test fixture adapter on azimuth test fixture support plate and secure with cam locks.
- e. Place theodolite on azimuth test fixture adapter.
- f. Level theodolite through 6400 mils of azimuth dial.
- g. Rotate azimuth test fixture dial to **0** and lock.
- h. Place telescope in line-of-sight to collimator projector.

8. Azimuth Dial

a. Performance Check

- (1) Adjust azimuth tangent knob to superimpose telescopes azimuth reticule line to collimator projector azimuth reticule line.
- (2) Adjust altitude tangent knob to superimpose telescopes altitude reticule line to collimator projector altitude reticule line.
- (3) Adjust circle setting knob to **0**.
- (4) Adjust optical micrometer knob to **0**.

NOTE

Check azimuth and vertical alignment of telescope and collimator projector to insure they are still aligned. If not, repeat (1) through (4) above.

- (5) Unlock azimuth test fixture and rotate ccw to **800** mils. Lock test fixture.
- (6) Realign telescope reticule to collimator projector reticule lines.
- (7) Sight through microscope and observe reading. Reading will be 800, ± 0.05 mils.
- (8) Repeat (5) through (7) above at 800 mil intervals throughout 6400 mils of azimuth test fixture. Reading will be ± 0.05 mils of TI setting.

b. Adjustments. No adjustments can be made.


9. Final Procedure

- a.** Deenergize and disconnect all equipment.
- b.** Annotate and affix DA label/form in accordance with TB 750-25.

By Order of the Secretary of the Army:

Official:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff


JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

0804604

Distribution:

To be distributed in accordance with STD IDS No. RLC-1500, 2 January 2003, requirements for calibration procedure TB 9-4931-532-40.

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.

