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Materiel Test Procedure 4-2-802*
Aberdeen Proving Ground

U. S. ARMY TEST AND EVALUATION COMMAND
COMMON ENGINEERING TEST PROCEDURE

MEASUREMENT OF PROJECTILE SEATING

1. OBJECTIVE

The objective of this document is to instruct personnel in the techniques of measuring the seating distance of a projectile within the cannon.

2. BACKGROUND

The seating of a projectile in a cannon affects the chamber capacity and, in turn, influences chamber pressure and projectile velocity. In loading a cannon with separate-loading ammunition, the projectile is rammed into its seated position and is followed by the propelling charge. The distance from the base of the seated projectile to the face of the breech ring is known as the seating distance.

The seating distance is a measure of uniform ramming, the approximate advance of the forcing cone, and the size and quality of the projectile rotating band.

3. REQUIRED EQUIPMENT

Sliding T-type bar wooden gage

4. REFERENCES

None

5. SCOPE

5.1 SUMMARY

This procedure covers the measurement of projectile seating for separate loading ammunition, using the special wooden gage designed for this purpose.

5.2 LIMITATIONS

None

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6. PROCEDURE

6.1 PREPARATION FOR TEST

Not applicable.

6.2 TEST CONDUCT

Use a wooden gage consisting of a sliding T-type bar to measure projectile seating. The stem, or arm, of the seating stick is marked to show measurements to the nearest 1/16 inch.

Place the end of the stick against the base of the projectile with the T-slide against the rear of the Breech ring. Lock the slide into position with a thumb screw and record projectile seating distance indicated on the front edge of the sliding bar. (See Fig. 1).

Seating distance measurements for firings of separate-loading ammunition shall be taken on all propellant tests, range firings, and all other firings where chamber pressures and velocities are recorded.

6.3 TEST DATA

Record projectile seating measurement reading.

6.4 DATA REDUCTION AND PRESENTATION

The different seating distance measurements shall be recorded and kept with the cannon to be used as a guide in determining the life of the cannon tubing.

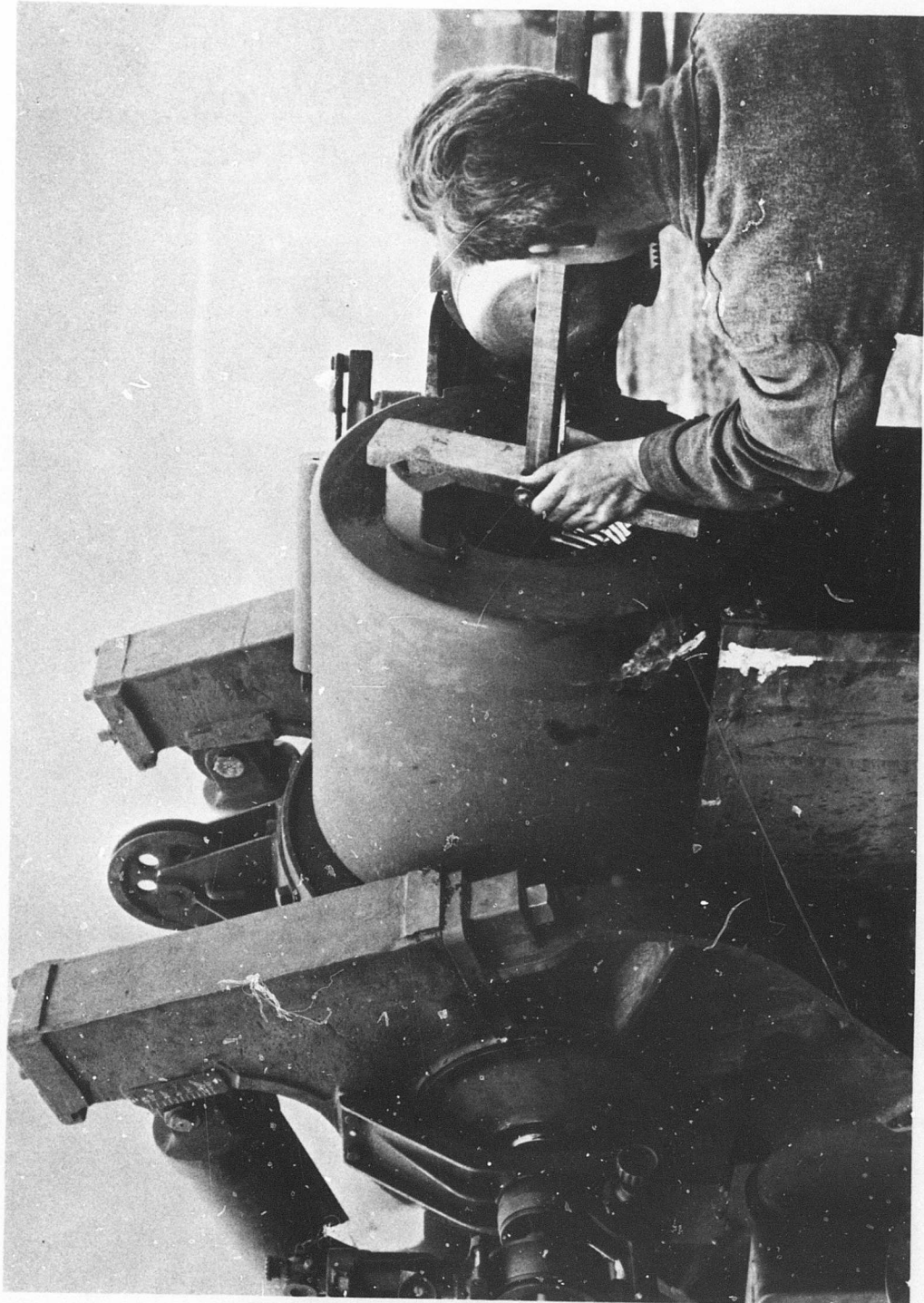


Figure 1. Use of Wooden Gage for Determination of Depth of Projectile Seating