

*Approved by Director: Dr. Guy Vallaro***A. Purpose:**

To measure the barrel and overall length of a firearm.

The State of Connecticut defines a pistol or a revolver as any firearm having a barrel less than 12 inches. Federal statutes define short-barreled shotguns to have an overall length of less than 26 inches and a barrel length of less than 18 inches. Federal statutes define short-barreled rifles to have an overall length of less than 26 inches and a barrel length of less than 16 inches. Measurements for altered barrels should include the longest measured length.

**B. Responsibility:**

Assigned Unit staff

**C. Safety:**

1. Follow all safety rules for handling firearms.
2. Personal Protective Equipment (PPE) can be used at the discretion of the analyst.

**D. Procedure:**

1. Overall Length
  - a. When measuring the overall length of a firearm, the measurement is taken along a line which is parallel to the axis of the bore from a perpendicular tangential line which touches the rearmost point of the firearm to the muzzle.
  - b. Using the Overall/Barrel Measuring Device, place the rear of the firearm so that the rearmost portion of the firearm is contacting the rear fixed plate.
  - c. Align the firearm in the measuring device so that the barrel is parallel to the side plate.
  - d. Gently slide the movable plate until it contacts the barrel.
  - e. Looking perpendicularly to the ruler, observe the reading on the ruler, and record it on the Weapon Worksheet.

- ✓ Grip/stock is positioned correctly in the 90° corner of device
- ✓ Barrel is parallel to ruler

## FA SOP-13 Measuring Barrel and Overall Length

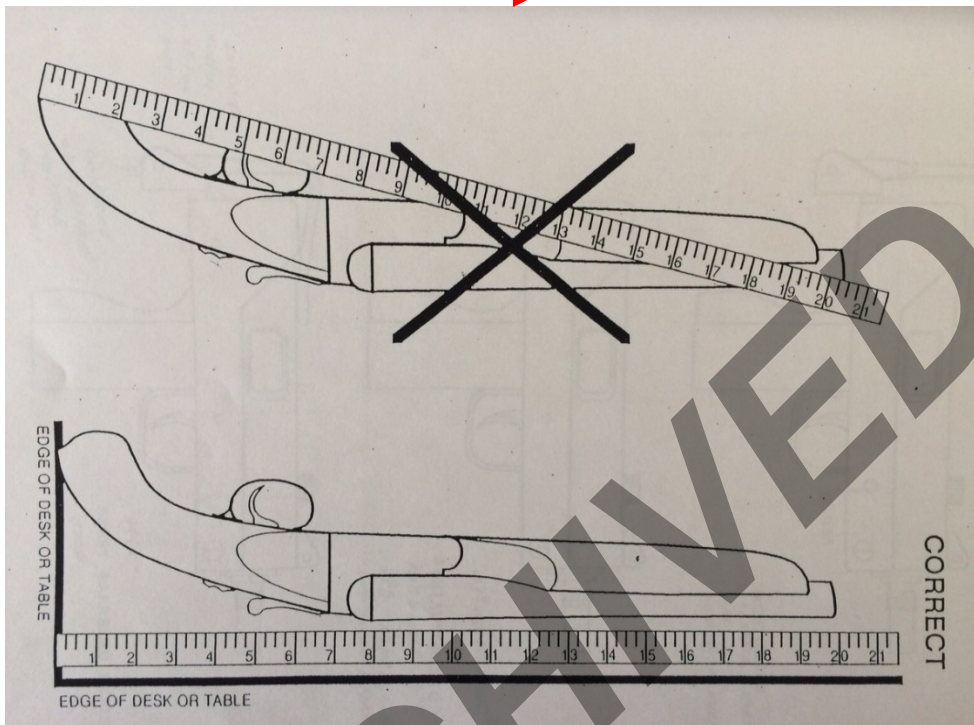
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### 2. Barrel Length

#### a. Integral Chamber Barrels

- i. The distance parallel to the bore axis from the muzzle to the breechface with the action closed represents the length of a barrel.
- ii. With the action of the firearm in the closed position, gently insert the metal measuring rod into the barrel until it encounters the breechface.
- iii. Slide the adjustable collar until it touches the tip of the barrel and lock in the collar with the thumb screw.
- iv. Remove the barrel measuring rod and place it on the measuring device parallel to the ruler and flush against the rear plate.
- v. Record on the Weapon Worksheet the measurement on the ruler where the collar is positioned.

#### b. Revolvers

- i. The distance parallel to the bore axis from the muzzle end to the end of the forcing cone represents the length of the barrel. The cylinder is not included in the measurement.

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- ii. A block or magnet at the muzzle or forcing cone, perpendicular to the axis of the bore, can represent the starting point for the measuring rod to determine barrel length.
- iii. With the block or magnet in place, follow steps iii through v above.
- 3. For any modified firearm whose barrel and/or overall length is found to be less than the federal requirements, a second examiner will verify the measurement(s) and initial the appropriate area on the Weapons worksheet (FA QR-2).
- 4. Uncertainty of Measurement (UoM) has been calculated for this analysis. This information may be found in the Unit's uncertainty budget, located within the Firearms Unit.

**E. Equipment:**

- 1. Precision Forensic Testing Overall/Barrel Measuring Device

**F. References:**

- 1. *Instructions for Use of the MD-36/MD-48 Overall/Barrel Measuring Device from Precision Forensic Testing instruction manual*
- 2. "SWG-GUN Guidelines for Barrel and Overall Length Measurements for Firearms." [https://www.nist.gov/sites/default/files/documents/2016/11/28/guidelines\\_for\\_barrel\\_and\\_overall\\_length\\_measurements\\_for\\_firearms.pdf](https://www.nist.gov/sites/default/files/documents/2016/11/28/guidelines_for_barrel_and_overall_length_measurements_for_firearms.pdf)
- 3. Bureau of Alcohol, Tobacco, Firearms & Explosives (ATF) *Firearms and Ammunition Identification Guide*
- 4. Connecticut General Statutes § 53a-3 (18); 53a-211
- 5. National Firearms Act of 1934: 26 U.S.C. Chapter 53
- 6. GL 1.5 ASCLD/LAB Uncertainty Policy
- 7. Firearms Unit Uncertainty Budget