

A. Purpose:

To replicate the interior surface of the chamber or bore of a firearm. Occasionally, firearms are received for which the caliber may not be known, or may be different than is designated on the firearm and in the literature. It may also be necessary to evaluate the bore for subclass characteristics. Creating casts of the chamber and/or the bore may facilitate this process.

B. Responsibility:

Forensic Science Examiners assigned to the Firearms Unit.

C. Safety:

Proper caution must be exercised and the use of personal protective devices should be considered by the examiner, such as gloves, clothing and eyewear when performing this procedure.

D. Procedure:

1. Ensure that the firearm is unloaded.
2. Open the action and remove the bolt or bolt assembly.
3. Check the bore to make sure it is clear.
4. Push a cleaning patch in the barrel from the muzzle end until it is $\frac{1}{2}$ inch to $\frac{1}{4}$ inch from the beginning of the chamber.
5. Lubricate the chamber with WD 40®, gun oil, silicone spray, or other similar substance.
6. Prepare the casting material as per the manufacturer's instructions.
7. Fill the chamber with the casting material. Do not allow it to flow into the breech.
8. When the casting material is set, gently tap it with the end of a cleaning rod to loosen the cast from the chamber and remove it from the breech.
9. The same steps may be used in the casting of the bore. The entire length of the bore does not need to be filled with casting material; a few inches from the end are sufficient.

E. Equipment:

1. Casting material

F. References:

1. Casting material manufacturer's instructions

ARCHIVED