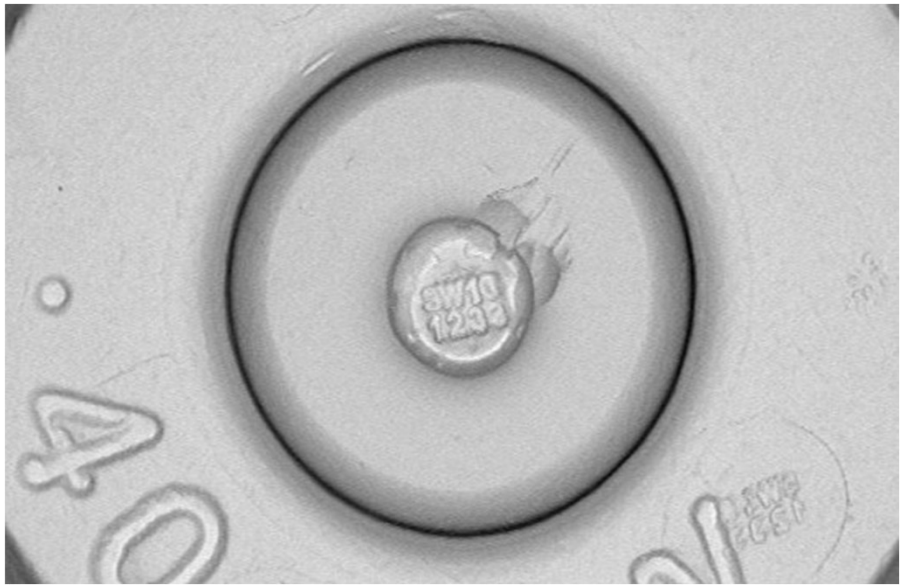
Microstamping Technology

My name is Joshua Horwitz and I am the Dana Feitler Professor of the Practice and the Co-Director at the Johns Hopkins Center for Gun Violence Solutions. This testimony today represents my opinion and does not necessarily reflect that of Johns Hopkins University.



s blue 1990 Chevy Caprice was used as a rolling sniper's nest by John Allen Muhammed and Lee Boyd
vo in their 2002 attacks.

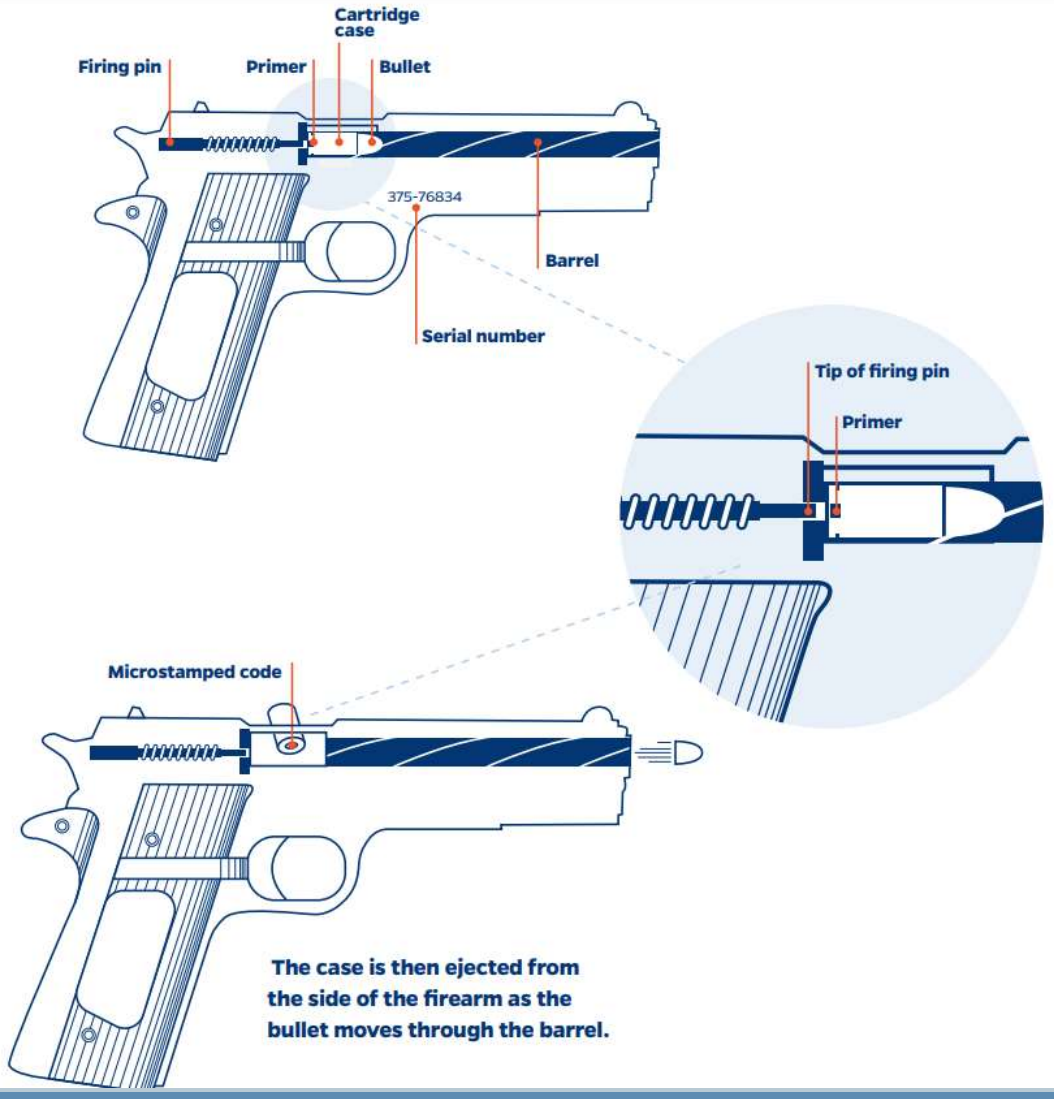
The Bushmaster .223-caliber rifle that had been used in each attack by the Bel
Muhammed and Lee Boyd Malvo was found in the trunk of the car when they w

The Crisis of Unsolved Shooting

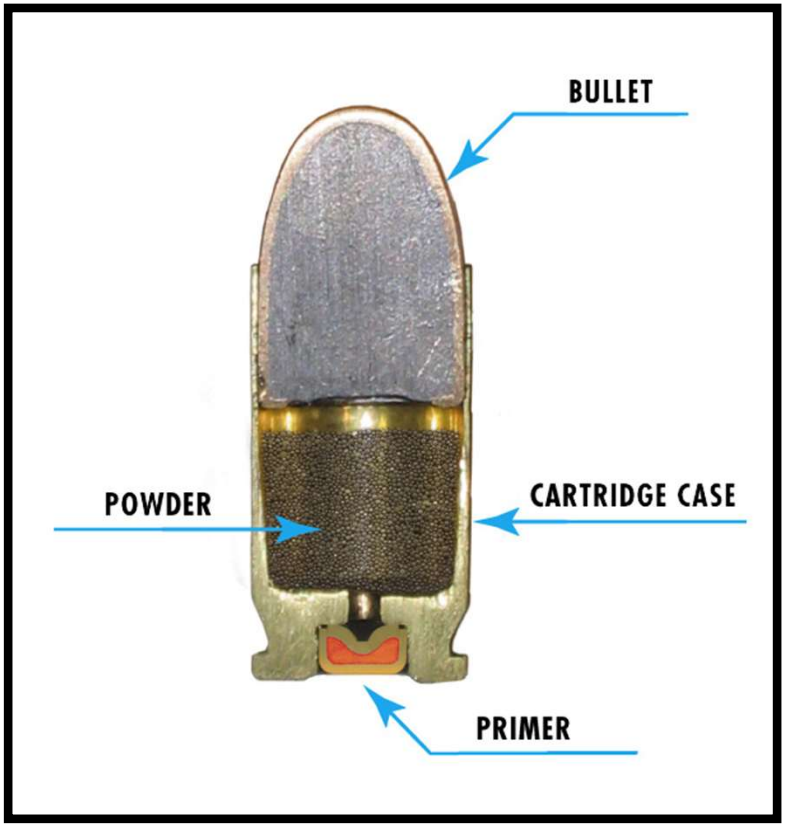
Source: Kaplan, J. (2023). Uniform crime reporting program data: Offenses known and clearances by arrest (Return A), 1960-2022.

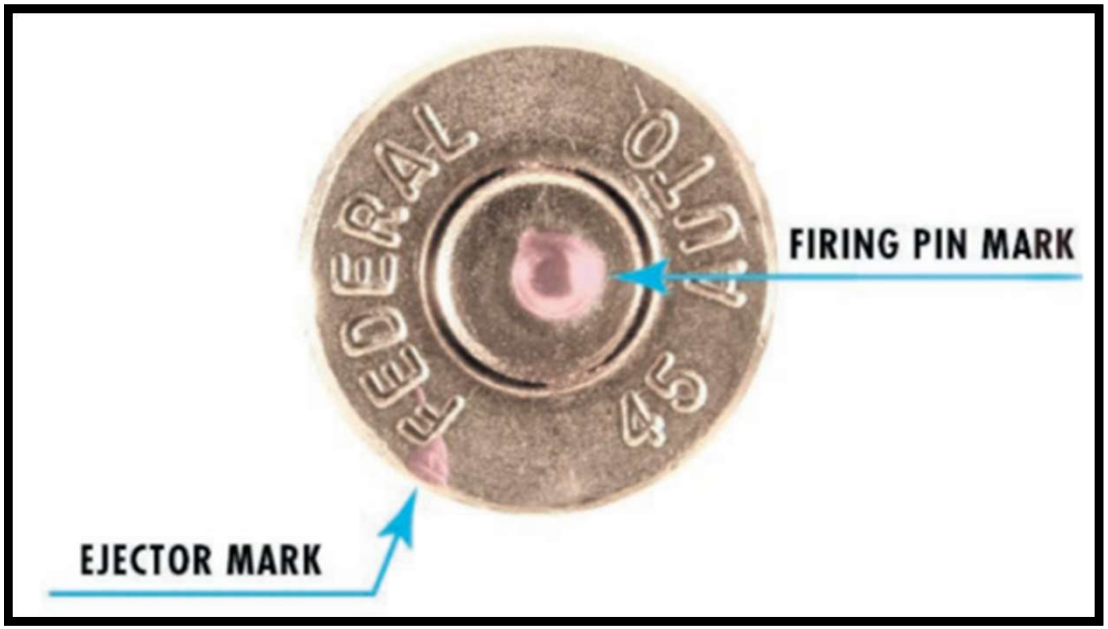
CCJ

Unknown circumstances and victim-offender relationships make it harder for detectives to solve murder cases, and vice versa: lower case clearance rates make it harder to determine circumstances and relationships. The homicide clearance rate **declined 9% in 2020**, continuing a downward trend that began in the 1960s. In 2022, the clearance rate was at about 50%, meaning that just **half of murders resulted in an arrest and fewer than half result in a conviction.**


Cartridge case
Firing pin
Primer
Bullet
375-76834
Barrel
Serial number
Tip of firing pin
Primer
When the gun is fired the microstamping code on the tip of the firing pin is stamped onto the primer of the cartridge case.
Microstamped code
The case is then ejected from the side of the firearm as the bullet moves through the barrel.

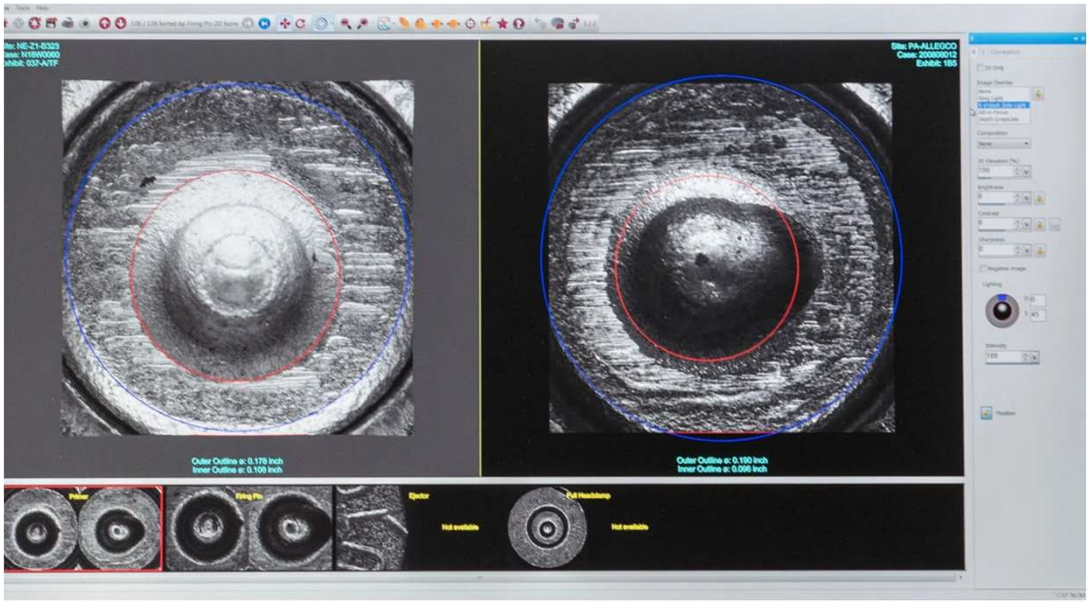
Cartridge Case and Firing Pin Impressions





The Current Identification Process

- Analysis of unintentional markings through NIBIN database
- Valuable tool but:
  - Requires a recovered firearm
  - Process can be time-consuming and resource intensive
  - Variable use depending on the jurisdiction



Comparing unintentional markings on shell casings using NIBIN

IN THE SUPREME COURT

OF MARYLAND*

No. 10

September Term, 2022

KOBINA EBO ABRUQUAH

v.

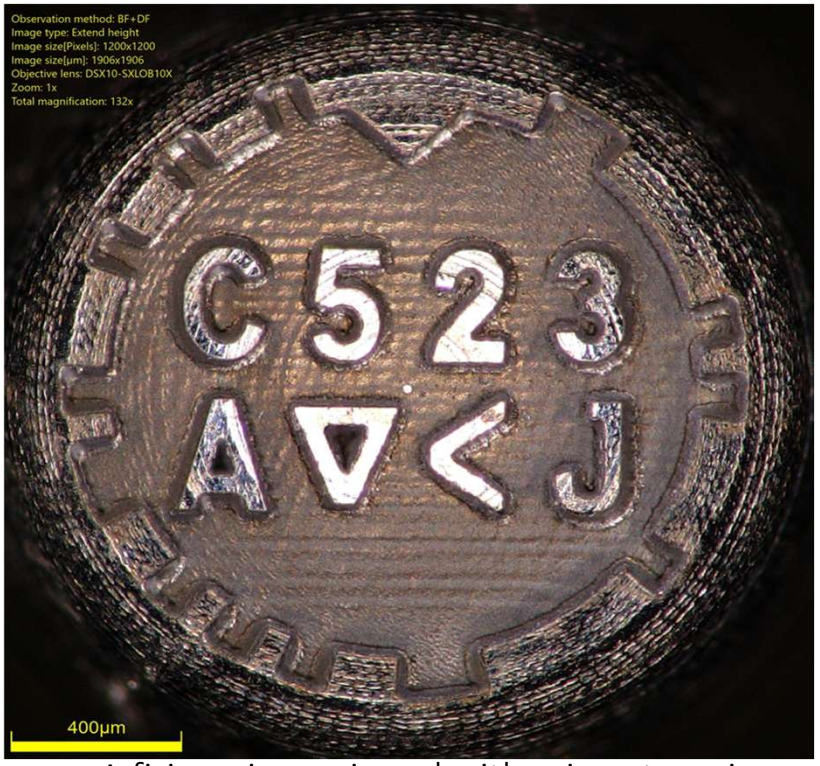
STATE OF MARYLAND

"Firearms identification examiner testifying as an expert witness should not have been permitted to offer an unqualified opinion that crime scene bullets and a bullet fragment were fired from the petitioner's gun."

A 5.56x45 mm cartridge fired from a AR-15 rifle after 341 rounds of firing (left), and a 45 caliber cartridge fired from a semiautomatic pistol after 8,532 rounds of firing (right).

Microstamping:
A License Plate for Expended Cartridge Casings

- Stamps a microscopic code on a cartridge as the gun is fired
- Code is linked the gun's serial number
- Trace shooting to the original purchaser of the gun <u>without</u> recovering a gun



A firing pin equipped with microstamping

The Benefits of Microstamping

- Identifies the gun used in a shooting without recovering a gun
- Link multiple shootings carried out with the same gun
- Identify trafficking channels and irresponsible dealers
- Unobtrusive tool
- Removes bias from current identification process

Current Landscape

Manufactures can produce microstamping

- Admitted in court documents
- Developed similar ballistic marking technology

Commercially viable

- No patent restrictions
- Commonly used laser technology
- Process can be incorporated onto the manufacturing floor or produced by a third-party laser job shop

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Microstamping

A Tool to Identify Crime Guns, Solve Shootings, & Hold Gun Traffickers Accountable

Overview

Microstamping adds unique codes on the inside of a gun which are stamped onto the cartridge casing each time the gun is fired. When police officers respond to a shooting and recover expended casings, they can quickly link the microstamped code on the cartridge casings to the serial number of the crime gun. Gun dealers are currently required to keep records of the serial numbers of each gun they sell, so microstamping would allow law enforcement to identify that serial number and trace a gun to the original gun dealer and gun buyer without having to recover the crime gun itself.

This stamp can provide law enforcement vital real time intelligence to help solve shootings and identify the gun traffickers and dealers that supply crime guns.

Though research shows microstamping is reliable and has no impact on the functionality of the firearm, the gun industry has refused to incorporate this tool into their guns.[1] They have boycotted a microstamping law in California by refusing to sell new models of firearms in the state.

To address the industry's resistance, California, New Jersey, and New York recently passed new legislation to push the gun industry to incorporate microstamping into guns distributed in their states.

- **Microstamped cartridge cases are collected at the scene of a shooting**
- **Police officers use a microscope to read the microstamped code**
- **Codes are entered into a computer and linked to the serial number of the gun used**
- **Other shootings carried out with the same gun are identified and linked**
- **Law enforcement trace the gun to the original gun dealer and gun buyer**
- **Trafficking channels are identified, leads are generated**