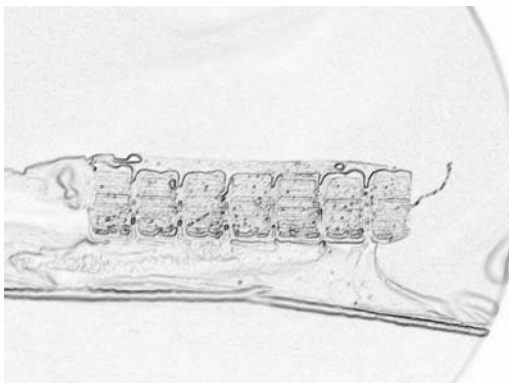


The Microsil casts revealed heavy striations that carried over from ejector to ejector, along with fine individual characteristics which were substantially different. A call to Don Ziaenzio of the Smith & Wesson factory [1-800-331-0852] revealed that the ejectors are stamped from bar stock and that the face of each ejector, which comes into contact with the rim of the cartridge case upon ejection, is **ground** to a specific angle to ensure proper ejection. As some of you may recall, Mr. Ziaenzio taught the armorer's courses for Smith & Wesson for over eighteen years.

As can be seen from the photographs, there are a number of heavy striations and contours that **carry over** from ejector to ejector. It would have been interesting to collect the fired cartridge cases ejected by all the twenty-eight ejectors, but time constraints prevented that. [Another great opportunity for an internship.] Those firearm/toolmark examiners in attendance viewed the Microsil casts and agreed that more than just an ejector toolmark must be used before making an identification to a particular firearm.



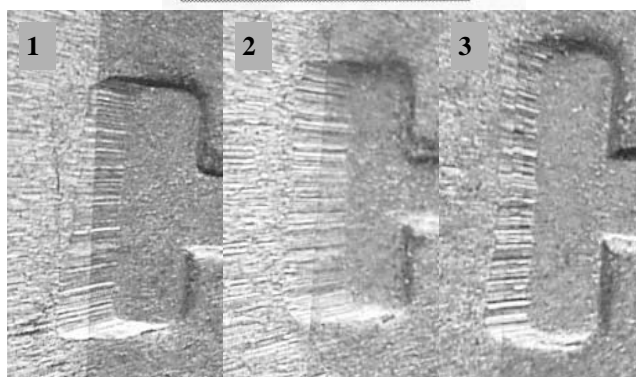
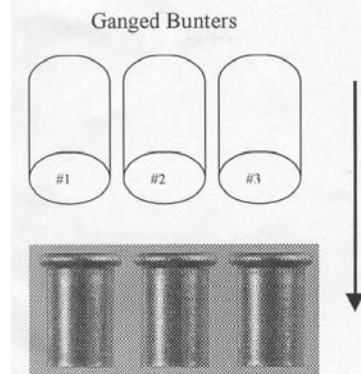
Consecutively Made Cartridge Cases

*A Technical Report By Evan Thompson and Rick Wyant
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Key Words: Consecutive, cartridge case, bunter marks, EDM, headstamps, individual and family characteristics

Past AFTE articles ("Bunters Marks and What Do They Mean?" By Ronald Dodson & Joseph Masson, AFTE Journal Volume 29 #1, Winter Journal 97' and "The Formation and Persistence in the Cartridge Casehead Forming Process, by Bill Matty AFTE Journal Volume 15 #1, 83', page 108) which have focused on the individuality of bunter marks.

To build on that information, the opportunity to collect thirty consecutively made rimfire cartridge cases, ten from three bunters from the manufacturing facility of CCI/Blount Corporation located in Lewiston, Idaho. These bunters are made by EDM (electronic discharge machining) then placed shoulder to shoulder as the material is passed underneath. The bunter's life can be anywhere between one to ten thousand. The ganged bunters move down in unison striking the pre-shaped rimfire cartridge cases. Chief Engineer Bruce Young of CCI collected the thirty samples from the discharge chute, for microscopic examination.



The unprimed cartridge rimfire cases were examined underneath the comparison microscope (Photographs #1,#2,#3) and separated into category one through three. Within each category we could see minute microscopic changes (individual characteristics) on all of the ten cases, but with common family characteristics, such as font size between each category.

Like other cartridge cases produced by multiple bunters, they share a common bin before being primed, loaded and packaged, resulting with the end customer having within a box any number of common headstamps that could have been produced by a number of different bunters.

Firearms Safety Bulletin

A Technical Report By Mike Giusto, California Criminalistics Institute in Sacramento and Michele Merritt, California Department of Justice's Riverside Laboratory

Recent casework has made us aware of a hazard involving the Intratec Model TEC-9 pistol. **Damage to the polymer frame may allow the pistol to fire without pulling the trigger and/or in full automatic mode.** The gun submitted for examination and test-firing at the crime lab had damage to the back portion of the polymer frame that encloses the rear disk cap.



Interior view of dismantled Tec-9 with damaged frame (L) and Tec-9 from Lab collection with undamaged frame (R).

Rear frame damage allows the pin on the rear disk cap to come out of the recess in the frame. The upper receiver pivots on the assembly pin and raises the back end of the upper receiver 1/8". The striker disengages from the sear allowing the firing pin to fall and strike the chambered round without pulling the trigger. The gun may continue to fire in the full-automatic mode until the striker is correctly repositioned by the upper receiver returning to the lowered position in the frame. The receiver may be lifted either manually or by gravity when the pistol is turned sideways.

It was not determined if the damage was intentional or accidental. No toolmarks were observed associated with the damage and no internal parts appeared to have been modified.

If you have any questions please contact Assistant Program Manager Mike Giusto at The California Criminalistics Institute in Sacramento (916) 227-3575 or Senior Criminalist Michele Merritt at the California Department of Justice's Riverside Laboratory (909) 361-5000.