

Firearms Section

National Integrated Ballistics Information Network (NIBIN) Standard Operating Procedure

1. **Scope**

Method used for entry of test fired and evidence cartridge cases into the Integrated Ballistics Identification System (IBIS), to identify potential links between shooting incidents.

2. **Definitions**

a. Acquisition -

The digital imaging of various firearm-related markings on cartridge cases into NIBIN.

b. BrassTRAX -

A 3D/2D imaging system capable of automated imaging. It is the acquisition station which can acquire cartridge case information for entry into IBIS. This system is managed by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) and operated at the Maine State Police Crime Laboratory.

c. Correlation -

The automated comparison of an acquired digital image to other images in the databases using an algorithm that provides a list of ranked, possible matches based on various characteristics (Caliber, Firing Pin Impression Marks, Breech Face Marks) to establish likelihood that the cartridge cases were fired from the same firearm. The correlation review is done off-site.

d. Firearms Examiner -

The forensic scientist performs comparisons and analyses of fired cartridge cases via comparison microscopy and testifies to the results in court.

e. Integrated Ballistics Identification System (IBIS) -

The technology that allows for the automated digital imaging of fired cartridge cases so that they can be correlated against an electronic database of images to determine whether various shooting incidents can be linked to the same firearm or to a particular firearm.

f. Investigatory Lead / NIBIN Lead -

Also known as an unconfirmed hit, it is a correlation that indicates the likelihood that two or more cartridge cases were fired in the same firearm. They must be confirmed by a trained firearms examiner.

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- g. Match Point -
The correlation stations where results from computer searches are reviewed by a trained technician. This is done off-site.
- h. Microscopic Comparison -
The process employed by a trained firearms examiner to determine if the fired cartridge cases came from the same firearm.
- i. National Integrated Ballistics Information Network (NIBIN) -
The program managed by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) that automates the imaging of cartridge cases for the purpose of identifying, targeting and prosecuting firearm offenders and their source of crime guns.
- j. NIBIN Entry -
Fired cartridge cases and test fires from pistols, rifles, and shotguns that are submitted by police agencies are evaluated, prepared, and entered into the NIBIN system.
- k. NIBIN Hit -
The result of two or more firearms ballistic evidence acquisitions that have been confirmed as a match by a firearms examiner. NIBIN Hits are based on correlation review of digital images using MatchPoint Plus™ and microscopic confirmation by a firearms examiner. This information/intelligence can be used for investigative purposes and is suitable for court purposes.
- l. NIBIN Lead -
An unconfirmed, potential association between two or more pieces of firearm ballistic evidence based on a correlation review of the digital images in the NIBIN database by either a firearms examiner or a trained NIBIN technician. A NIBIN Lead is intended to provide a lead for investigative purposes.
- m. NIBIN National Correlation and Training Center (NNCTC) -
The ATF facility located in Huntsville, Alabama that performs timely correlation reviews for multiple NIBIN Sites and provides training for Qualified NIBIN Users.

3. **Training**

- a. The ATF oversees the training of members for acquisitions. This triage and acquisition training is complete after passing a competency exam. Only members that complete the Basic NIBIN User Training Course delivered by the NIBIN National Correlation Training Center (NNCTC) are authorized to operate any component of NIBIN.

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4. Calibration

- a. An automatic calibration is performed after every 50 acquisitions. Records of these calibrations can be found in the IBIS system under Tests and Adjustments.

5. Procedure

- a. The Section Supervisor, or designee, will be appointed as the on-site NIBIN Administrator.
- b. NIBIN Screening / Preparation
 - i. Recovered firearms and / or cartridge cases that meet the testing criteria for NIBIN shall first be examined as indicated by current General Firearms Examination Methods and Comparative Analysis Methodology.
 - 1. Evidentiary Fired Cartridge Cases
 - a. Characteristics of each cartridge case will be reviewed to determine if it has potential for entry.
 - b. If multiple cartridge cases were recovered from an incident, one representative sample from each firearm will be selected to be entered into IBIS. This triage will be done utilizing the comparison microscope.
 - 2. Crime Guns
 - a. Firearms, to include firearms of any caliber that eject the fired cartridge case during its cycle of operation, will be test fired and at least two (2) samples obtained.
 - b. Submitting agencies can test-fire their crime guns and submit at least two (2) test-fired cartridge cases.
 - c. One representative sample will be entered into NIBIN.
 - ii. NIBIN Acquisitions will be documented and retained with the case folder.
- c. NIBIN Entries / Acquisitions
 - i. BrassTRAX Standard Image Acquisition protocols will be followed.

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1. Test fired cartridge cases will be given a sub-item indication in LIMS (i.e., Item 001A), and a 'Test Fire' indication in IBIS (i.e., Item 1A-TF).
 2. Evidence cartridge cases will not have the test fire indication.
- ii. The examiner acquiring the images will review the cartridge case data to ensure the information is consistent with the item(s) being entered into NIBIN.
 - iii. Cartridge cases will be searched in Zone 1 of the database, which contains evidence from Connecticut, District of Columbia, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, and West Virginia. If there is reason to believe the evidence may be associated with a different location, a request can be made to search additional zones.
- d. Correlations
- i. NIBIN National Correlation and Training Center (NNCTC) conducts correlation examinations and provides NIBIN possible hits/leads.
 - ii. Correlations with positive results:
 1. Will be recorded by the creation of a NIBIN Hit request under the case in LIMS.
 2. Will be reported to the submitting agency.
 - iii. Correlations with negative results:
 1. Will be included in case notes. No report is necessary.
 - iv. NIBIN correlation results are an investigatory lead. Microscopic comparisons are required for confirmation, if necessary.
- e. Evidence Disposition
- i. Upon successful entry into BrassTRAX, the test fired cartridge cases and evidence cartridge cases will be either retained at the Crime Laboratory or returned to the submitting agency. The evidence disposition will be documented in LIMS.