

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

1. The focus of the National Integrated Ballistic Information Network (NIBIN) is to provide federal, state and local law enforcement agencies with investigative leads by comparing digital images of fired cartridge cases from different crime scenes. The NIBIN database utilizes BrassTrax HD3D, an automated acquisition station for capturing images of fired cartridge cases, and MatchPoint+, a viewing station for reviewing correlation results. High-resolution images captured by the BrassTrax HD3D acquisition station are stored on regional servers maintained by the Bureau of Alcohol, Tobacco and Firearms and Explosives (ATF). Utilizing MatchPoint+, an analyst can review the correlation results and compare the images side by side on a computer monitor. If a potential association (a hit) is located during the review process, the associated agency(ies) are notified via a NIBIN Quick Hit (NQH) memo. If the agency desires, confirmation of the hit can be conducted by an examiner using a comparison microscope.

B. Responsibility:

Assigned Unit personnel or other laboratory-authorized individuals who have been trained by ATF, Forensic Technology, Inc., and/or a NIBIN Authorized Trainer to use the equipment.

C. Safety:

PPE shall be used at the analyst's discretion.

D. Procedure:**1. NIBIN Entry Protocols****a. Exhibits that may be entered:**

- i. Cartridge cases fired in semiautomatic and fully automatic pistols.
- ii. Cartridge cases fired in semiautomatic, fully automatic, bolt action, pump/slide action and lever action rifles.
- iii. Shotgun shells fired in semiautomatic, slide/pump action, lever action and bolt action shotguns.
- iv. Any firearm that is magazine fed and/or designed to eject cartridge cases after firing.

b. Exhibits that should not be entered:

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- i. Cartridge cases or shotgun shells that lack sufficient or repeatable characteristics within the breech face and firing pin impressions to assist in the correlation review. The analyst's discretion will be used to make this determination.
- ii. Images of cartridge cases or shotgun shells fired in revolvers, break open shotguns, derringers and single shot firearms.
- iii. Evidence cartridge cases that are consistent with having been fired in the above type weapons.
- iv. Any law enforcement officer's duty weapon, unless extenuating circumstances apply.

2. Entering Case Information into BrassTrax HD3D

a. Creating case records

- i. The procedure outlined in the BrassTrax HD3D users guide will be utilized to create a new case record and to enter the case information.
- ii. Case ID – The “DSS” or “ID” number section or the eleven digit Weapon Destruction Unit number. A dash (-) separating DSS or ID and the case number digits is optional.
Examples: DSS13-1234, ID-13-9876, or 40001652345
- iii. Event Type – Will be selected based on the information provided by the submitting agency. The event type should be the offense associated with the case.
- iv. Occurrence Date – The date of offense provided by the submitting agency.
- v. Case Supervisor – The analyst responsible for the case.
- vi. Originating Agency – The police agency submitting the evidence. If the agency is not listed, a note of the submitting agency should be made in the comment field.
- vii. Originating Agency Reference – The submitting police agency's case number.
- viii. High Profile – Shall be used at the discretion of the analyst.
- ix. Comment – Any additional comments about the case can be entered at the discretion of the analyst.

b. Creating cartridge case exhibit records

- i. The procedure outlined in the BrassTrax HD3D users guide will be utilized to create a new cartridge case exhibit and to enter the exhibit information.
- ii. Exhibit number:
 - a) Cartridge cases from an unknown firearm will use the case submission number or the number designated by the analyst.

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- b) Test fired cartridge cases will include the submission number of the firearm, the test fire number, and “TFCC”.

iii. The following fields will be added in the cartridge case exhibit screen:

Caliber

Make of ammunition

Firing Pin shape

Firearm exhibit number (if applicable)

Composition (composition of cartridge case: nickel-nickel, brass-nickel, etc.)

Breech face class characteristics

Category:

- Crime Evidence (items collected from a crime scene)
- Test Fire – Returned (use for firearms which will be returned to their rightful owner, or otherwise released from law enforcement custody)
- Test Fire – Terminated (use for all other firearms). If test fires are obtained from a firearm submitted in the case, the event type for the cartridge case exhibit will be changed to “test fire”.

c. Creating firearm exhibit records

i. The procedure outlined in the BrassTrax HD3D users guide will be utilized to create a new firearm exhibit and to enter the exhibit information.

ii. Firearm exhibit number - Use the submission number of the weapon or the number designated by the analyst.

iii. The following fields will be added in the firearm exhibit screen:

Caliber

Make

Model (if known)

Type

Serial Number

- If obliterated and could not be restored enter “Obliterated” or “Oblit.”
- Serial number restoration results may be entered in the Comments field.
- If the firearm does not have a serial number, enter “N/A” or “none.”

d. Acquisition Parameters**i. Centerfire Cartridge Cases/Shotshells**

- a) The analyst will acquire the following regions of interest:

Breech Face

Full Headstamp

Firing Pin

Ejector marks (if present)

ii. Rimfire Cartridge Cases

- a) The analyst will acquire the following regions of interest:

Full Headstamp

Firing Pin

iii. Other Acquisition Parameters

- a) The analyst will follow the BrassTrax HD3D acquisition protocols outlined in the BrassTrax HD3D users guide to orient the cartridge case/shotgun shell and capture the digital images.
- b) If a cartridge case/shotgun shell is oriented outside of the above parameters, a remark shall be made in the comment field stating the reason for the deviation.
- c) In the event that reference collection parts (e.g. firing pin, slide, etc.) are used to obtain test fired cartridge cases/shotgun shells, the images of the respective areas need not be captured. A remark shall be made in the comment section describing which parts were replaced.

e. Correlation Results

- i. Acquired exhibits will automatically correlate against the statewide database. In the event an agency requests a search of other geographical locations, the analyst will perform a manual correlation for the region requested.
- ii. Using the Rank Sort feature, the analyst will review (at minimum) the Top 20 best scored results of the correlation.
- iii. Once the correlation results have been reviewed and there are no hits, the Top 20 Rank Sort results will be printed and kept in the case file.
- iv. The correlation request may be deleted from the correlation results list.

f. Generating Hits

- i. If the analyst reviewing the correlation results locates a potential hit, they will mark the cases as an unconfirmed hit according to the MatchPoint+ users guide protocols after a second analyst has reviewed the potential hit.
- ii. If a hit has been microscopically confirmed by a firearms examiner, the analyst will mark the hit as “confirmed,” using the steps outlined in the MatchPoint+ users guide. The analyst will note in the comments field who confirmed the hit.

g. Case Records and Reports

- i. A preliminary NIBIN Quick Hit memo (NQH) will be issued for unconfirmed hits.
 - a) The NQH memo will be technically and administratively reviewed by the Unit supervisor or designee prior to being released.
 - b) The original NQH will be furnished to the main case file located in the Evidence Receiving Unit.
 - c) A copy of the NQH will be sent to the submitting agencies involved with the unconfirmed hit.
 - d) A copy of the NQH will be maintained in the firearms case file.
 - e) A notation in JusticeTrax will be made, stating the case numbers involved and the date the NQH memo was sent.
 - f) If the unconfirmed hit involves a destruction gun from the Special Licensing and Firearms Unit, the analyst will fill out the Weapon Destruction Unit form letter and attach it to the NQH memo.
 - g) If a candidate for comparison is not found, the case can remain in the custody of the laboratory until either the case is completed, or a report is issued stating that NIBIN entry was made, no hits were developed, the evidence is being returned to the submitting agency unworked, and if further examination is required, to contact the laboratory.

h. NIBIN Hit Maps

- i. If a hit is related to four (4) or more cases, a NIBIN hit map will be created using a word processing program and will be saved in the folder “NIBIN Hit Maps” located on the network drive.
- ii. The map will be part of the NIBIN Quick Hit memo and is subject to review.
- iii. Each box on the map shall contain the laboratory case number, the agency and agency case number, the type of crime, and the caliber(s) of submitted cartridge cases.
 - a) Firearms submitted in the case will have the caliber/make/model/serial number listed.

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- b) Different colored fonts and arrows will represent cartridge cases that share/may share a common origin.
 - c) Dotted arrows will indicate unconfirmed hits. Solid arrows will indicate confirmed hits.
 - d) Maps will be updated as additional hits are made and/or hits are confirmed on the microscope.
 - e) Updated maps will be added to the associated case jackets as additional documentation.
- i. Maintenance and Quality Assurance**
- i. The NIBIN monthly check will be completed, by the fifth of each month, by the assigned analyst. The Top 20 Rank Sort correlation results and case information pages will be printed and stored in the NIBIN Monthly Control Log binder located in the NIBIN room. Refer to FA SOP-33 Equipment Maintenance Schedule for instructions.
 - ii. Tests and Calibrations activities are maintained in the BrassTrax HD3D software. This report can be generated at will.

E. Equipment:

- 1. BrassTrax HD3D acquisition station
- 2. MatchPoint+ viewing station

F. References:

- 1. BrassTrax HD3D users guide (located on the BrassTrax computer)
- 2. MatchPoint+ users guide (located on the MatchPoint+ computer)
- 3. FA SOP-33 Equipment Maintenance Schedule