

TENNESSEE BUREAU OF INVESTIGATION
Forensic Services Division

Firearm/Toolmark Standard Operating Procedures Manual
NIBIN Cartridge Case Triage Procedure



24.0 NIBIN CARTRIDGE CASE TRIAGE PROCEDURE

The National Integrated Ballistics Information Network (NIBIN) is a ballistic imaging network designed for the acquisition and comparison of known and unknown cartridge cases (test fires and crime scene evidence). The NIBIN system is an Individual Characteristic Database (ICD). See NIBIN Procedure Section 17 for additional information.

24.1 Scope: Images of cartridge cases are entered into the NIBIN system pursuant to evidence submissions to the TBI. These submissions will have a Firearms Analysis or NIBIN-only request. Firearms cases submitted with a Firearms Analysis request will continue to be analyzed according to policies outlined in the FTIU Standard Operating Procedures. Cases submitted with a NIBIN-only request will be screened for suitability for entry into the NIBIN system and will not undergo microscopic comparisons. Verification by an examiner trained in the use of the NIBIN system will occur upon the identification of any possible associations.

24.2 Precautions/Limitations: Screening or triaging evidence cartridge cases for NIBIN entry shall not be misrepresented as a microscopic comparison. The results of this screening process shall not be used for court testimony. If a possible association results from a screened/triaged cartridge case entered into NIBIN, this information may be disseminated as an investigative lead prior to microscopic confirmation. For a Hit determination to be made, the evidence in question must be physically examined and microscopically confirmed by a trained firearm examiner.

24.3 Related Information:

24.3.1 Range of Conclusions Appendix 4

24.3.2 Test Fire Reference Collection Appendix 9

24.3.3 Worksheets Appendix 1 – NIBIN Triage Worksheet

24.4 Instruments:

24.4.1 IBIS BrassTrax 3D System

24.4.2 IBIS Matchpoint + System

24.4.3 Stereomicroscope

24.4.4 Forensic comparison microscope

24.5 Reagents/Materials: None

24.6 Hazards/Safety: None

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24.7 Reference Materials/Controls/Calibration Checks:

24.7.1 A NIBIN performance check will be conducted annually to ensure proper performance of the equipment.

24.7.2 Proficiency tests will be performed annually by each forensic scientist or forensic technician using the NIBIN equipment.

24.7.3 Test fired cartridge cases entered into NIBIN are maintained in the Test Fire Reference Collection (See Appendix 9). Evidence samples entered into NIBIN are returned to the submitting agency. Test fired cartridge cases submitted by an outside agency shall be treated as evidence samples and will be returned to the agency.

24.8 Procedures/Instructions:

24.8.1 The NIBIN/IBIS User Guides and Training Manuals shall be followed.

24.8.2 The firearm examiners and forensic technician(s) in the FTIU will be authorized by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE) to make independent entries into the NIBIN system.

24.8.3 The firearm examiners and forensic technician(s) shall ensure suitability of the items being entered. Examination for suitability will include screening/triaging to determine the probable number of firearms represented by the evidence cartridge cases. If suitable, one cartridge case from each triaged group should be entered into the NIBIN system. The firearm examiners and forensic technician(s) shall ensure that:

- Any evidence cartridge cases selected for entry into NIBIN should have sufficient individual characteristics within the firing pin impression and/or breech face marks on the primer to affect a match. The firearm examiner or forensic technician should select the best cartridge case from each group for entry. If necessary, more than one sample may be entered if different individual characteristics reproduce better on different exhibits. Each sample must be uniquely identified in the NIBIN system.
- The firearm examiners and forensic technician(s) shall ensure the images acquired are of acceptable quality, and the ring placement is correct on breech face and firing pin images.
- Any information about the results of screening/triaging of evidence cartridge cases to each other and the selection of certain specimens for entry into NIBIN should be documented in the case notes.
- The screening/triage process does not require verification by a second firearm examiner.



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24.8.4 The firearm examiner or forensic technician will search through the correlations for any possible associations. If no associations are found, this information will be disseminated in the form of a report.

24.8.5 If a possible association is made, the firearm examiner or forensic technician will mark the related images in Matchpoint as an unconfirmed hit and will print a NIBIN Lead Notification from the NIBIN system. The possible association will be verified by a firearm examiner, and the possible association/investigative lead information will be disseminated to each of the requesting officer(s) or agencies by report, email or phone call.

24.8.6 If the requesting officer or agency requests confirmation of the possible association, all evidence must be submitted or resubmitted for microscopic comparison and confirmation by a trained firearm examiner. If the NIBIN Lead is microscopically confirmed as a Hit, the linked items will be marked as Confirmed Hit(s) in the NIBIN system. The firearm examiner will disseminate this information to the requesting officer(s) or agencies by report, email, or phone call, and a copy of the NIBIN Lead Notification may be forwarded to the regional ATF/NIBIN Special Agent.

24.9 Records: The firearm examiner or forensic technician shall document their findings in the form of handwritten notes, computer generated notes, photography, and/or by utilizing FTIU worksheets. An abbreviated firearm worksheet may be used for NIBIN-only firearms. An abbreviated cartridge case worksheet may be used for documenting triage results. The firearm examiner or forensic technician shall print the NIBIN Lead Notification or No NIBIN Lead Notification report for each exhibit correlated and maintain this report in the case file. All Confirmed Hits shall be documented in the case file(s).

24.10 Interpretations of Results: The NIBIN equipment provides a list of possible matches. In order for a Hit determination to be made, the actual evidence must be physically examined by a trained firearm examiner. Screened or triaged cartridge cases shall not be represented as being microscopically compared to one another.

24.11 Report Writing: Most NIBIN report writing can be found in the Range of Conclusions Appendix 4. Reports may be generated identifying possible associations, with a request to have the evidence submitted for microscopic confirmation. An official TBI report is required when a NIBIN Hit has been confirmed.

24.12 References:

IBIS BrassTrax User Guide, Version 3.2, Forensic Technology, 2020.

IBIS Matchpoint User Guide, Version 3.2, Forensic Technology, 2020.

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Association of Firearms and Toolmark Examiners Training Manual, March 3, 2001.

Association of Firearms and Toolmark Examiners Procedures Manual, July 9, 2001.

Association of Firearms and Toolmark Examiners Glossary, 5th Edition, 2007.

“Forensic Examiners Firearms Recall/Safety Warning List”, FBI Laboratory.