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Safe Handling of Firearms and Ammunition



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Foreword

This document provides guidelines for the safe handling of firearm and ammunition evidence by forensic firearm and toolmark examiners or technicians. This document is not intended to detail the analytical procedures for the forensic examination of firearms.

The American Academy of Forensic Sciences established the Academy Standards Board (ASB) in 2015 with a vision of safeguarding Justice, Integrity, and Fairness through Consensus Based American National Standards. To that end, the ASB develops consensus based forensic standards within a framework accredited by the American National Standards Institute (ANSI), and provides training to support those standards. ASB values integrity, scientific rigor, openness, due process, collaboration, excellence, diversity, and inclusion. ASB is dedicated to developing and making freely accessible the highest quality documentary forensic science consensus Standards, Guidelines, Best Practices, and Technical Reports in a wide range of forensic science disciplines as a service to forensic practitioners and the legal system.

This document was revised, prepared, and finalized as a standard by the Firearms and Toolmarks Consensus Body of the AAFS Standards Board. The draft of this standard was developed by the Firearms and Toolmarks Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science.

Questions, comments, and suggestions for improving this document can be sent to the AAFS-ASB Secretariat at asb@aaafs.org or 410 N 21st Street, Colorado Springs, CO 80904.

All hyperlinks and web addresses shown in this document are current as of the publication date of this standard.

ASB procedures are publicly available, free of cost, at www.aaafs.org/academy-standards-board.

Keywords: *firearms, ammunition, forensic analysis, safe handling, safety*

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Safe Handling of Firearms and Ammunition

1 Scope

This document provides best practice recommendations for the safe handling of firearm and ammunition evidence during forensic analysis.

2 Normative References

There are no normative reference documents. Annex A, Bibliography, contains informative references.

3 Terms and Definitions

3.1

primed cartridge case

A cartridge case containing only a primer, without propellant or projectile.

3.2

dummy (inert) cartridge

A cartridge that does not contain primer, propellant, or explosive charge and therefore cannot be fired

4 Recommendations

4.1 General

4.1.1 Laboratories shall ensure all personnel handling firearms and ammunition are properly trained or have protocols for collaborative evidence collection with properly trained personnel.

4.1.2 The examiner should use caution and due diligence when handling, packaging, or transporting firearm and ammunition evidence.

4.1.3 The examiner should use personal protective equipment when examining evidence contaminated with chemical or biohazardous materials.

4.1.4 Ammunition should be stored in a safe condition and following manufacturers' recommendations to prevent deterioration or discharge.

4.2 Pre-examination

4.2.1 Authorized personnel should perform a check of all firearms submitted to the FSSP to determine if the firearm is loaded or unloaded.

4.2.1.1 This check should be conducted prior to any transfers of the firearm from the initial secure storage location.

4.2.1.2 The laboratory should designate appropriate areas where these checks are to be performed.

4.2.1.3 The loaded or unloaded status should be documented.

4.2.2 The laboratory should establish qualification criteria for authorized personnel to conduct the checks and provide competency testing or training as needed.

4.2.2.1 Records of competency testing and training should be maintained by the laboratory.

4.2.3 When a laboratory receives firearms in a loaded condition, or when the loaded or unloaded condition of a firearm cannot be determined, the laboratory shall have a procedure in place to ensure that appropriate caution is exercised, and steps are taken to ensure the safety of all personnel until such time that the firearm can be unloaded.

4.2.4 Firearm examiners and technicians should inspect ammunition prior to use to ensure safety.

4.3 Handling During Examination

4.3.1 Prior to any examination, the firearm examiner or technician should re-inspect each firearm to assess their loaded or unloaded condition.

4.3.1.1 If the firearm is loaded, steps should be taken to unload the firearm prior to any further examinations.

4.3.2 The examiner should ensure that the muzzle of the firearm is pointed in a safe direction at all times.

NOTE 1 A safe direction is one that minimizes risk of injury in the case of unintentional discharge, and takes into account such factors as the bullet-resistance of barriers, potential for ricochet, etc.

NOTE 2 This section is not meant to forbid forensically necessary examinations, such as examination of the bore, but such circumstances demand additional precautions.

4.3.3 The examiner should not place a finger or other object on the trigger of the firearm unless it has been confirmed that the firearm is unloaded, or until ready to test fire.

4.3.4 Unless required for a specific test, the examiner should, when practical, remove the magazine or any ammunition source and leave the action of the firearm open to demonstrate its unloaded condition.

4.3.5 The examiner should not use live ammunition for ammunition capacity checks or cycling of firearm actions when dummy (inert) cartridges are available.

4.3.5.1 If dummy cartridges are not available, any testing involving the cycling of live ammunition through the action of a firearm should be performed in an area designated for test firing while using hearing and eye protection.

4.3.6 Ammunition shall be considered live at all times.

4.3.7 Ammunition shall be safely handled, transported, and stored.

4.4 Test Firing

4.4.1 The examiner should use hearing and eye protection at all times when test firing.

4.4.2 The examiner should conduct test firing of a firearm only in areas that are designated for test firing.

4.4.3 Measures should be in place to ensure the safety of examiners and others present during the test firing process. These may include:

- a) in person or remote monitoring;
- b) signage or notification to indicate that test firing is in progress; and
- c) ensuring emergency access to the test firing area.

4.4.4 The examiner should not test fire a firearm unless familiar with its operation.

4.4.5 The examiner should inspect all firearms for defects, modifications, and missing or broken parts prior to test firing.

NOTE An examiner may also check available literature for recall or safety information.

4.4.6 The examiner should inspect the bore of all firearms for obstructions prior to test firing.

4.4.7 If there is any doubt as to whether a firearm can be safely fired by hand, alternative means for test firing, such as the use of a remote firing device or a primed cartridge case, should be considered.

4.4.8 The examiner should use ammunition designed for use in the firearm.

NOTE If it is necessary to use reloaded ammunition or a potentially unsafe firearm-ammunition combination, exercise special caution.

4.5 Post-examination

4.5.1 When testing is complete, the examiner should ensure that the firearm is unloaded prior to repackaging or returning to storage.

4.5.2 If possible, the examiner should secure the action of the firearm such that it cannot be readily loaded or fired.

4.5.3 Any ammunition should be physically separated from the firearm.

4.6 Incident Reporting

4.6.1 Laboratories should have a procedure for reporting incidents that raise concerns about firearms and ammunition safety, to allow them to be addressed by management.

Annex A (informative)

Bibliography

The following bibliography is not intended to be an all-inclusive list, review, or endorsement of literature on this topic. The goal of the bibliography is to provide publications cited informationally, and publications relevant to the standard.

- 1] Bussard, M.E. and S.L. Wormley, Jr. *"NRA Firearms Sourcebook: Your Ultimate Guide to Guns, Ballistics, and Shooting."* The National Rifle Association of America, 2006, Fairfax, VA 22030.
- 2] Dutton, G. "Firearms Safety in the Laboratory." *Association of Firearm and Toolmark Examiners Journal*, vol. 29, no.1, 1997, pages 37-41.
- 3] National Rifle Association, *NRA Gun Safety Rules*^a.
- 4] Sporting Arms and Ammunition Manufacturers' Institute, Inc., *"Technical Data Sheet Unsafe Firearm-Ammunition Combinations"*^b.

^a Available from <https://gunsafetyrules.nra.org/>.

^b Available from <https://saami.org/technical-information/unsafe-firearm-ammunition-combinations/>.

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