

This document has been accepted by the Academy Standards Board (ASB) for development as an American National Standard (ANS). For information about ASB and their process please refer to asb.aafs.org. This document is being made available at this stage of the process so that the forensic science community and interested stakeholders can be more fully aware of the efforts and work products of the Organization of Scientific Area Committees for Forensic Science (OSAC). The documents were prepared with input from OSAC Legal Resource Committee, Quality Infrastructure Committee, and Human Factors Committees, as well as the relevant Scientific Area Committee. The content of the documents listed below is subject to change during the standards development process within ASB, and may not represent the contents of the final published standard. All stakeholder groups or individuals, are strongly encouraged to submit technical comments on this draft document during the ASB's open comment period. Technical comments will not be accepted if submitted to the OSAC Scientific Area Committee or Subcommittees.

Best Practice Recommendations for the Safe Handling of Firearms and Ammunition DRAFT



DRAFT DOCUMENT

Best Practice Recommendations for the Safe Handling of Firearms and Ammunition DRAFT

Keywords: *Firearm, ammunition, safety, safe handling*

Abstract

This document provides best practice recommendations for the safe handling of firearm and ammunition evidence by a forensic firearm and toolmark examiner or technician. Safe firearm handling within the laboratory corresponds with safe firearm handling in general and should be practiced at all stages of an examination.

Foreword

This best practice recommendations document was proposed by the Firearms and Toolmarks Subcommittee of the Organization of Scientific Area Committees (OSAC) by submitting a request to the American Academy of Forensic Sciences (AAFS) Academy Standards Board (ASB). This document is intended to provide best practice guidelines for the safe handling of firearm and ammunition evidence by forensic firearm and toolmark examiners or technicians. This document is meant to be an overarching document in a series of documents that detail the analytical procedures for the forensic examination of firearms.

Acknowledgements

Editor:

Deputy Editor(s):

Drafting Working Group Members:

Cassey Allen	Texas Department of Public Safety - Crime Laboratory
James Carroll	Los Angeles County Sheriff's Department - Scientific Services Bureau
Steve Scott	Federal Bureau of Investigation
David Wright	Johnson County (Kansas) Sheriff's Office Criminalistics Laboratory

Consensus Group Members:

Table of Contents

1	Scope.....	1
2	Terms and Definitions.....	1
3	Recommendations.....	1
3.1	General.....	1
3.2	Pre-Examination.....	1
3.3	Handling during Examination.....	1
3.4	Test Firing.....	2
3.5	Post-Examination.....	2
	Annex A (informative) Foundational Principles.....	3
	Annex B (informative) Bibliography.....	4

1 Scope

This document provides best practice recommendations for the safe handling of firearm and ammunition evidence by a forensic firearm and toolmark examiner or technician.

2 Terms and Definitions

This document does not contain any unique definitions.

3 Recommendations

3.1 General

Firearm and ammunition evidence in the laboratory is not dangerous if handled appropriately. Safe firearm handling within the laboratory corresponds with safe firearm handling in general.

Always treat firearms as if they are loaded.

Use appropriate personal protective equipment when examining evidence contaminated with chemical and/or biohazardous material(s).

3.2 Pre-Examination

Laboratories should have a procedure to determine and document the loaded or unloaded condition of any firearm prior to, or at the time of submission or examination. When laboratory personnel are performing this function, the laboratory should have a process to assess the competence of these individuals. Records of this assessment and their authorization to perform this task should be maintained. The laboratory should designate an appropriate area(s) where these activities are to be performed.

When a laboratory must receive firearms in a loaded condition, or when the loaded/unloaded condition of a firearm cannot be determined, a procedure should be 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.

3.3 Handling during Examination

Prior to any examination, inspect firearms visually and physically to assess their loaded or

unloaded condition.

Ensure that the muzzle of the firearm is pointed in a safe direction at all times. A safe direction is one in which there is little to no risk of injury to a person in the case of unintentional discharge, and takes into account such factors as the bullet-resistance of barriers, potential for ricochet, etc.

Do 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.

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

Do not use live ammunition for ammunition capacity checks or cycling of firearm actions when “dummy” (inert) cartridges are available. If “dummy” cartridges are not available, perform any testing involving the cycling of live ammunition through the action of a firearm in an area designated for test firing and use hearing and eye protection.

3.4 Test Firing

Use hearing and eye protection at all times when test firing.

Conduct test firing of firearms only in areas that are designated for such activities.

Measures should be in place to ensure the safety of examiners during the test firing process. These may include, but are not limited to:

- in person or remote monitoring
- signage or notification to indicate that test firing is in progress
- ensuring emergency access to the test firing area

Inspect the frames and working actions of all firearms for defects, modifications, and missing/broken parts prior to test firing.

Inspect the bore of all firearms for obstructions or defects prior to test firing.

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 (a cartridge case containing only a primer, without propellant or projectile), should be considered.

Use appropriate ammunition for the firearm. If reloaded ammunition or a potentially unsafe firearm-ammunition combination must be used, exercise special caution.

Do not test fire a firearm unless familiar with its operation.

3.5 Post-Examination

When testing is complete, ensure that the firearm is unloaded prior to repackaging or return.

Secure the action of the firearm such that it cannot be loaded or fired, and physically separate any ammunition from the action of the firearm.

3.6 Incident Reporting

Laboratories should have a procedure for reporting incidents that raise concerns about firearms safety so they can be appropriately addressed by management.

Annex A (informative)

Foundational Principles

A.1 General

The best practice recommendations outlined in this document are grounded in the generally accepted body of knowledge and experience in the field of firearm and toolmark identification.

Annex B (informative)

Bibliography

- 1] Association of Firearm and Toolmark Examiners, *Technical Procedures Manual*, November 2015.¹
- 2] Bussard, ME and Stanton L. Wormley, Jr. *NRA Firearms Sourcebook: Your Ultimate Guide to Guns, Ballistics, and Shooting*. Fairfax: The National Rifle Association of America, 2006.²
- 3] Dutton, Gerard. *Firearms Safety in the Laboratory*. Association of Firearm and Toolmark Examiners Journal 1997; 29 (1):37-41.¹
- 4] National Rifle Association, *NRA Gun Safety Rules*, accessed April 20, 2017, <http://training.nra.org/nra-gun-safety-rules.aspx>²
- 5] Sporting Arms and Ammunition Manufacturers' Institute, Inc., *Technical Data Sheet Unsafe Firearm-Ammunition Combinations*, accessed April 20, 2017, http://www.saami.org/specifications_and_information/publications/download/SAAMI_ITEM_211-Unsafe_Arms_and_Ammunition_Combinations.pdf³

¹ Association of Firearm and Tool Mark Examiners, PO Box 414, Waterloo, IL 62298

² National Rifle Association of America, 11250 Waples Mill Road, Fairfax, VA 22030

³ Sporting Arms and Ammunition Manufacturers' Institute, Inc., 11 Mile Hill Road, Newtown, CT 06470