



INDIANAPOLIS-MARION COUNTY FORENSIC SERVICES AGENCY

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EVIDENCE SUBMISSION GUIDELINE #10

FIREARMS EVIDENCE

INTRODUCTION: Generally, crimes of violence involve the use of a firearm. The value of firearms and fired ammunition component evidence will depend to a significant degree on the recovery and submission techniques employed at the shooting event or later during autopsy. Additionally, trace evidence such as blood, hair or fiber may be adhering to exposed surfaces. All of which may yield valuable information during the investigation and adjudication of the case.

The I-MCFSFA firearm section can perform the following:

- Examination of firearms for function and safety, including test firing in order to obtain test bullets, cartridge cases and shotshells.
- Comparison of evidence bullets, fired cartridge cases and shotshells to determine if they were or were not fired from/in the same firearm or a submitted firearm.
- Examination of fired bullets to determine the possible make and type of firearm involved.
- Imaging and comparing fired cartridge cases and test shots from firearms to similar exhibits recovered in unsolved crimes utilizing the NIBIN system (see NIBIN Submission Guideline #14).
- Examination of clothing for the presence of gunpowder patterns and shot (pellet) spread patterns to determine a possible muzzle to target distance.
- Restoration of obliterated serial numbers and other markings on firearms.

To insure the maximum value of this evidence is obtained, it first must be properly identified, preserved and packaged. These steps should be documented with notes and photographs.

NOTE: Photos must contain a scale for later usage.

To insure that the appropriate analysis is completed, the contributor must submit a request card. This request card can be completed electronically, at the IMPD property room desk or at the laboratory.

This submission guideline is designed to assist you in these areas. Any situation not sufficiently explained to your specific needs may be handled on an individual basis by contacting the laboratory at (317) 327-3670 or Firearms Section Supervisor at (317) 327-3777.

A. FIREARMS

General considerations and precautions: As important as physical evidence or fingerprints may be, **safety is of greater concern**. When practicable, always render a firearm safe to handle before proceeding with further investigation or examination, but with caution so as to preserve any possible DNA trace and/or fingerprint evidence that may be present.

1. Unloading the Firearm:

- a. **Revolvers** - If cocked, cautiously de-cock the firearm using the knurled areas if possible. Preferably using a permanent marker, make two marks on the cylinder, one on each side of the top strap, to indicate the chamber

that is in the firing position. If uncocked, these marks will indicate the chamber found indexed in front of the firing pin. Your notes should contain the following information:

Appearance of cylinder as recovered:

Marks made each side of top strap

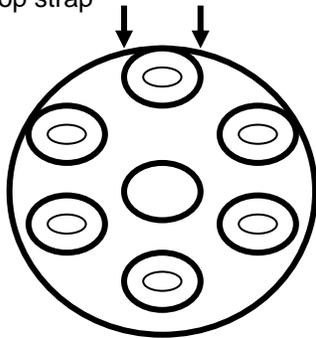
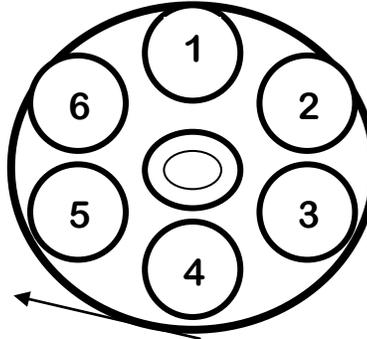
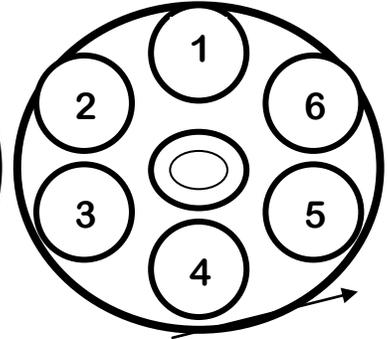


Diagram to be used in notes



Direction of rotation

Diagram to be used in notes



Direction of rotation

Example index card:

Chamber

Position	Condition	Headstamp
#1	Fired	U. S. Cartridge Co.
#2	Fired	Remington Arms Co.
#3	Fired	Winchester Repeating Arms Co.
#4	Unfired	Dominion Cartridge Co.
#5	Loaded	Western Cartridge Co.
#6	Loaded	Peters Cartridge Co.

Fired cartridge cases and unfired cartridges should be individually packaged by placing them in a sealed pill box or envelope and pertinent information placed on the container (See Projectiles: General Considerations and Precautions).

- b. **Semiautomatics / Full-Automatics:** Note the positions of any manual safety devices or cocking indicators. Carefully disengage the magazine and remove it from the firearm. Open the action and visually check the chamber for a cartridge or fired cartridge case. If possible, lock the slide to the rear and insert a plastic zip-tie into the ejection port and down through the magazine well. Then carefully release the slide forward and engage any manual safety devices that may be on the firearm.

NOTE: Make sure no unfired cartridge is left in the chamber.

I-MCFSA recommends not marking the firearm. As an alternative to marking / engraving on the firearm, use the serial number for later identification or affix a tag to the trigger guard.

The magazine, if found in the firearm, may be included in the same exhibit as the firearm for submission to the laboratory, however, if it is found not in the firearm it should be submitted as a separate item.

NOTE: If latent fingerprint processing is requested, the cartridges may be left in the magazine but should not be left in the chamber.

- c. **Shotguns and Rifles:** These are handled in similar manner to the handguns listed above. Safety and preservation of physical evidence should always be considered.

NOTE: All firearms should be submitted to the property room or laboratory **unloaded**. The firearm must be properly strapped with a nylon tie for safety as previously mentioned. The nylon tie must never be placed down the barrel of the firearm.

If a firearm cannot be unloaded or if it is unknown if it is loaded, the contributor must contact the property room or laboratory prior to their arrival, so proper arrangement can be made.

2. DNA, Trace Evidence and Fingerprints:

After the firearm is in a safe condition, examine it for trace material; i.e. blood, hair, fiber, tissue. If in doubt about proper processing, do not proceed further until contacting the laboratory and discussing the situation with latent print personnel.

NOTE: Rubber gloves and masks must be worn when DNA is collected or fingerprinting is needed. Gloves must be changed with each piece of evidence being handled.

3. Packaging of Firearms and Delivery to the Laboratory:

All firearms (both handguns and long guns) shall be properly packaged upon submittal to the laboratory or property room. Suitable packaging for firearms include: boxes, manila envelopes and paper wrapping.

If a firearm must be shipped, it is imperative that it be rendered safe and properly packaged. It should be placed in a heavy corrugated container and secured in place to prevent shifting within the container.

Firearms recovered in water should be submitted in the same water in a watertight container. However, the Firearms Section must be contacted **prior** to submission to expedite water repellent procedures. Additionally, the firearm section must be advised of the loaded condition of the firearm.

NOTE: Rifles and shotguns should not be dismantled before packaging as this could alter their evidentiary value.

B. PROJECTILES - GENERAL CONSIDERATIONS AND PRECAUTIONS

Bullets should always be handled with the utmost care to avoid destroying the microscopic striations. A visual examination of each bullet should occur to preserve obvious blood, fluid, etc. The appropriate preservation and collection techniques should be applied prior to submission for firearms examination. The bullets should be packaged and sealed in a pillbox within a sealed envelope, and the container marked for identification.

NOTE: Do not mark the bullet due to the possibility of destroying valuable evidence.

NOTE: Plastic or glass airtight containers should never be used for bullets or firearms. They could allow moisture to cause corrosion on the firearm or identifiable detail on the fired bullet. Paper or cardboard should be used.

1. Projectiles Embedded in Wood, Plaster, etc:

Unless absolutely necessary, do not attempt to dig out projectiles. Remove the portion of material in which the projectiles are embedded and submit the entire piece to the laboratory. If practical, remove a section of the material, the projectile or projectiles should be recovered by removing the material, adjacent to the projectile to prevent damage to the evidence. This procedure can be explained in detail by contacting a firearms examiner.

2. Projectile or Projectiles from a Person or Body:

X-rays should be taken to locate the position of the projectile. They should be removed with rubber-tipped forceps or by using just the fingers to prevent mutilation of the projectile. Caution should be taken as some projectiles have sharp edges.

The projectile should not be rinsed off. Proper cleaning procedures will be employed by the laboratory.

C. CARTRIDGES AND AMMUNITION COMPONENTS

1. Unfired Cartridges:

If relatively few, these should be packaged in a sealed manila envelope. Larger quantities should be grouped together as to location of recovery and may be listed as a single exhibit. The larger quantities

may be packaged in cardboard or other appropriate containers. The containers should then be marked for identification.

NOTE: All Federal guidelines must be followed in the shipment of explosive substances through the mail.

2. Fired Cartridge Cases:

Fired cartridge cases should be handled in the same manner as projectiles. A visual examination of each cartridge case should occur to preserve obvious latent print detail, blood, fluid, etc. The appropriate preservation and collection techniques should be applied prior to submission for firearms examination. Historical testing supports that significant evidence is unlikely to be recovered on fired cartridge cases, therefore they will not routinely be processed to develop possible latent prints or swabbed for possible DNA. Remember that proper packaging prevents the destruction of valuable evidence.

3. Shotshell Wads:

An attempt should be made to locate wads fired from shotshells. When a shotshell is fired, the wad or wads travel along with or behind the shot charge. When located, the shotshell wad or wads should be handled exactly as projectiles.

NOTE: In cases involving relatively close muzzle to target distances, wadding may be found in the Victim's clothing or body.

D. DISTANCE DETERMINATIONS

Muzzle to target distance determinations can be invaluable to your case if certain conditions exist. To get the most from this evidence it must be properly submitted.

Clothing should be air-dried before packaging. The clothing should then be individually packaged in clean paper bags, sealed and marked for identification. When projectiles have passed through a garment or garments, a photograph of the bullet hole position in the victim is desirable. A scale must be used when taking these photos.

Criteria that must be addressed by the investigator before a distance determination analysis will be performed at the I-MCFSA:

- A. The laboratory must be advised of a compelling range of fire dispute or the probative value of the analysis.
- B. If a range determination opinion has already been reported by an outside entity (i.e.: Pathologist / Doctor or other professional) based on scientific analysis or examination, a range determination will not be conducted.
- C. A copy of the pathology report (Homicide or Death Investigation Cases), if available, must be provided to the firearms examiner prior to range determination testing.
- D. It is required that the identified firearm be used for testing.
 - a. The firearm should be identified as having fired the bullet(s). In cases where a bullet(s) is not recovered / identified, or shotgun / other smooth barreled firearm was used, the examiner must qualify their range determination findings in the laboratory report and when testifying in court proceedings.
 - b. The firearm must be in a safe firing condition or readily restorable to a safe firing condition. See the NIBIN standard operating procedures for the definition of readily restorable.
- E. The firearms examiner must be furnished with evidence ammunition for testing. In the event that evidence ammunition is not present in sufficient quantities or additional ammunition was not recovered, similar laboratory ammunition will be utilized.
- F. The requestor / submitting agency must advise the firearms examiner of any known intervening / intermediate object(s) that were present.

- G. The requestor / submitting agency must advise the firearms examiner if more than one firearm was being discharged toward the target being requested for analysis.
- H. The requestor / submitting agency must advise the firearms examiner of the weather conditions (if outdoors) at the time of the shooting and whether the garment was exposed to the elements.
- I. The requestor / submitting agency must clearly identify the garment / object (Item #) to be examined for gunshot residues.
 - a. It must be made clear to the firearms examiner which article of clothing is the outermost garment and how the garments were worn at the time of the shooting.
- J. It is preferred that the garment to be tested be packaged individually to avoid cross contamination. Any deviations from this will be documented in the firearms examiner's work notes and will be qualified during testimony. Failure to properly package evidence to be examined for range determination testing may result in the request being cancelled.
- K. The requestor / submitting agency must advise the firearms examiner how the garment was removed from the victim (cut or pulled off) or any rough handling concerns.
- L. If a firearms examiner is asked to conduct a range determination based on a photograph, the photographs received must be scaled 1:1.
- M. If the request is to examine a questioned garment for the presence of gunshot residues and the questioned garment is suspected of not containing a bullet hole (i.e. person shot on exposed body, etc.), this will be examined on a case by case basis with prior approval of laboratory management.

E. FIREARM SERIAL NUMBER RESTORATION

The serial number of firearms may be removed or altered in an attempt to prevent the identification of the original owner. The serial number may be restored depending on the method and degree of the obliteration or alteration.

All modern firearms manufactured post the Gun Control Act of 1968 are required by federal law to be stamped with a unique serial number. Many firearms, particularly shotguns and rifles made prior to 1968 are not serialized so the absence of a serial number does not necessarily indicate an altered firearm.

When a number is stamped into a metal object, the properties of the metal are changed. Although the visible number may have been removed, often the altered metal has not. Utilizing chemical, magnet or electrolytic techniques that react with the altered metal, the original stamped number may be revealed. This is commonly referred to as "raising the serial number", but the restored visible characters are not always permanent.

Package the firearm as previously described assuring that no additional marring can occur to the obliterated area. Do not place any covers or substances on the obliterated area.

REFERENCE: Evidence Submission Guideline #10 adapted from Indiana State Police Laboratory Physical Evidence Bulletins