



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

Violent Crime Response Team Standard Operating Procedures Examination of a Vehicle

10.25 Examination of a Vehicle

10.25.1 Purpose

This procedure provides general guidelines for processing a vehicle.

10.25.2 Equipment & Reagents

Camera
Discipline-specific equipment and reagents

10.25.3 Procedure

10.25.3.1 General

10.25.3.1.1 Whenever possible, it is preferred that vehicles be processed at the laboratory or in a controlled environment.

10.25.3.1.2 If for any reason legal access cannot be immediately granted, the vehicle should be stored, preferably inside, until the necessary warrant or consent can be obtained.

10.25.3.1.3 If it is necessary for the vehicle to be towed to the laboratory or stored at another site for future processing, all doors and windows should be secured, if possible, and all individuals handling the vehicle, including tow truck drivers, should use caution to avoid damaging or altering fragile evidence (e.g., trace evidence, fingerprints, etc.).

10.25.3.2 Documentation

10.25.3.2.1 Photographs shall be taken of the vehicle and should include the following:

- Exterior:
 - All four corners of the vehicle
 - All four sides of the vehicle
 - Close-up photographs of the license plate and vehicle identification number (VIN)
 - Close-up photographs of any possible bullet impact points, physical evidence, or other damage observed on the exterior of the vehicle
- Interior:
 - Each side of the vehicle with the doors open



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- Details such as each seating area, dashboard, steering column, instrument panel, trunk, under the hood, and after opening any storage compartments

10.25.3.2.2 A video may be taken of the vehicle and/or its contents at the VCRT Leader or their designee's discretion.

10.25.3.2.3 If the vehicle is processed at the scene:

10.25.3.2.3.1 Overall photographs shall be taken to include a reference landmark establishing the vehicle's location and shall demonstrate the vehicle's relationship to the primary scene, when possible.

10.25.3.2.3.2 Measurements should be made to the vehicle using an approved measuring technique (triangulation, rectangular coordinate, etc.). Measurements should be made to at least two fixed reference points at the scene and at least two areas on the vehicle should be measured.

10.25.3.2.4 Detailed notes shall be made to identify specific elements and information pertinent to the vehicle. Documentation should include but is not limited to:

- Make, model, color, VIN, license plate number, state of issue, and year of registration
- Exterior damage and conditions of the vehicle
- Windows up/down
- Exterior wet/dry/condensation
- Tire conditions
- Interior damage and conditions of the vehicle
- Position of the driver's seat
- Position/condition of the steering wheel
- Ignition switch intact/damaged/position
- Lights on/off
- Mileage and gas gauge
- Position of the gear shift
- Any odors present in the vehicle

10.25.3.2.5 An inventory of the contents of the vehicle and their approximate locations shall be conducted and recorded in the case notes. This process may be augmented with photographs as well.



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10.25.3.2.6 The results of any presumptive tests, including the results of any controls, shall be recorded in the notes.

10.25.3.3 Collection of Evidence

Certain evidence becomes fragile by the passing of time, exposure to the elements or environmental factors, movement, and improper handling so this type of evidence shall be collected prior to searching the entire vehicle.

10.25.3.3.1 Microanalysis

Depending on the type of crime being investigated and the circumstances in which the vehicle was involved, the collection of microanalysis evidence may be necessary.

10.25.3.3.1.1 Hair/Fiber Evidence

If hair/fiber evidence collection is necessary:

10.25.3.3.1.1.1 Each seat shall be vacuumed after photographs are made.

10.25.3.3.1.1.2 Carpet and upholstery standards shall be collected in each area in the vehicle.

10.25.3.3.1.1.3 Hair may also be collected by using a clean pair of tweezers and placed in a petri dish.

10.25.3.3.1.1.4 See **VCRT 5.0 Microanalysis** and **VCRT 10.20 Collection of Standards** for additional information.

10.25.3.3.1.2 Paint

If paint evidence collection is necessary:

10.25.3.3.1.2.1 Any damage on the vehicle shall be examined for potential paint transfer evidence.

10.25.3.3.1.2.2 If paint transfer evidence is noted, a paint transfer sample shall be collected.



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10.25.3.3.1.2.3 Paint standards shall be collected from each area of interest on the vehicle.

10.25.3.3.1.2.4 See **VCRT 5.0 Microanalysis**, **VCRT 10.20 Collection of Standards**, and **VCRT 10.27 Collection of Paint** for additional information.

10.25.3.3.1.3 Glass

If glass evidence collection is necessary:

10.25.3.3.1.3.1 Glass or plastic from broken headlights or taillights shall be collected and preserved for possible physical matches to broken glass collected at any associated scenes.

10.25.3.3.1.3.2 Known glass standards shall be collected from all broken glass on the vehicle.

10.25.3.3.1.3.3 Examinations needed for order of breakage/direction of force in glass shall be done only by individuals with a work authorization in that subdiscipline from the Microanalysis Unit.

10.25.3.3.1.3.4 See **VCRT 5.0 Microanalysis**, **VCRT 10.20 Collection of Standards**, and **VCRT 10.26 Collection of Glass** for additional information.

10.25.3.3.1.4 Shoe & Tire Impressions

10.25.3.3.1.4.1 If a tire test impression is needed for comparison purposes the following procedure should be followed.

10.25.3.3.1.4.1.1 Make sure vehicle tires are dry and at room temperature.

10.25.3.3.1.4.1.2 Clean the tire with a cloth to remove loose dirt. Do not pry rocks out of the tread and make sure there is no debris on the floor where the artboard is to be laid.

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10.25.3.3.1.4.1.3 Apply petroleum jelly sparingly to the complete width of the tire and as much of the circumference of the tire as possible.

10.25.3.3.1.4.1.4 Position an artboard underneath the tire and push the vehicle to record the first few feet of the tire impression.

10.25.3.3.1.4.1.5 Stop the vehicle and clean and apply petroleum jelly to the area on the tire remaining (the area of the tire that was on the ground when you began). Continue for almost one complete revolution.

10.25.3.3.1.4.1.6 Insert an additional board if needed (for larger tires) and remove the first board if needed to prevent front or rear tires from rolling over it.

10.25.3.3.1.4.1.7 Document the artboard with the following:

- Tire make and model
- D.O.T. number
- Direction of the vehicle if moving forward
- Position of the tire on the vehicle (right front, left rear, etc.)
- Laboratory case number (if available)
- Initials
- Date

10.25.3.3.1.4.1.8 Dust the test impression with black magnetic fingerprint powder.

10.25.3.3.1.4.1.9 Cover the test impression with clear acetate (plastic) for protection.

10.25.3.3.1.4.2 Leucocrystal violet (LCV) may be needed to enhance shoe, tire, or other impressions deposited in blood. Examinations requiring this reagent shall be done only by individuals with a work authorization in the Microanalysis Unit.

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10.25.3.3.2 Firearms

Depending on the type of crime being investigated and the circumstances in which the vehicle was involved, the collection of firearms evidence may be necessary. If firearms-related evidence collection is necessary:

10.25.3.3.2.1 The position of each potential impact point shall be measured and documented.

10.25.3.3.2.2 Bullet impact points shall be marked for identification after initial photography overviews are taken to differentiate close-up photographs of individual bullet impact points.

10.25.3.3.2.3 Photographs should be taken prior to and after the insertion of trajectory rods into bullet holes.

10.25.3.3.2.4 Fired bullets, bullet fragments, cartridge cases, etc. shall be collected whenever it is possible. If for any reason the firearms evidence cannot be collected, it shall be documented in the notes (e.g., unable to locate, would require a hydraulic rescue tool, etc.).

10.25.3.3.2.5 See **VCRT 6.0 Firearms & Toolmarks** and **VCRT 10.22 Bullet Path and Shot Pattern Documentation** for additional information.

10.25.3.3.3 Forensic Biology

Depending on the type of crime being investigated and the circumstances in which the vehicle was involved, the collection of biological specimens (e.g., blood, semen, etc.) may be necessary. If forensic biology-related evidence collection is necessary:

10.25.3.3.3.1 Any possible bloodstain should be collected when applicable.

10.25.3.3.3.2 An infrared light source may be utilized for blood searches. Examinations needed with this equipment shall be done only by individuals with a work authorization in the Forensic Biology Unit.

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10.25.3.3.3.3 Touch DNA is evidence with no visible staining but would likely contain DNA resulting from the transfer of epithelial cells from the skin to an object. This type of evidence collection may be requested in certain types of violent cases.

10.25.3.3.3.4 ALS may be utilized for the collection of semen, but can also detect other bodily fluids such as urine, saliva, etc.

10.25.3.3.3.5 Some cases may warrant the use of BLUESTAR processing for the detection of blood evidence, especially in homicide cases where the original crime may have occurred inside the vehicle and cleaned up, or if the vehicle was used to transport the victim.

10.25.3.3.3.6 See **VCRT 3.0 Biological Evidence**, **VCRT 10.5 BLUESTAR**, **VCRT 10.21 Collection of Biological Samples**, and **VCRT 10.23 Alternate Light Source (ALS)** for additional information.

10.25.3.3.4 Latent Prints

Depending on the type of crime being investigated and the circumstances in which the vehicle was involved, the collection of latent prints may be necessary. If latent print-related evidence collection is necessary:

10.25.3.3.4.1 The vehicle should be processed for latent prints in common sense areas that may have been touched and include the following:

- Exterior:
 - Trunk
 - Door handles and edges
 - Fuel door
 - Hood
 - Roof support posts
 - Windows
- Interior
 - Rear view mirrors
 - Door handles
 - Seat belt buckles
 - Gear shift

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- Windows
- Vanity mirrors
- Face of radio/console controls

10.25.3.3.4.2 If there are any areas of ridge detail that can be collected, the area shall be marked and photographed with a ruler included in the photograph (see **VCRT 10.34 Comparison Photography** for additional information).

10.25.3.3.4.3 Reagents such as amido black and solid particle reagent (SPR) may be utilized for bloody fingerprints and wet surfaces respectively. Examinations requiring these reagents shall be done only by individuals with a work authorization in the Latent Print Unit.

10.25.3.3.4.4 See **VCRT 4.0 Latent Print Evidence, VCRT 10.8 Amido Black, VCRT 10.8 Cyanoacrylate Fuming, VCRT 10.10 Latent Print Powder & Latent Lifts, VCRT 10.11 Small Particle Reagent** and **VCRT 10.23 Alternate Light Source (ALS)** for additional information.

10.25.3.3.5 The following are additional examples of items that could be probative evidence found inside vehicles:

- Arson evidence
- Drinking containers
- Other specific physical evidence (e.g., burglary tools, weapons, drugs, paperwork, receipts, stolen property specific to the crime, etc.)

10.25.3.4 Searches

10.25.3.4.1 The search of a vehicle should be an organized and systematic process. The vehicle may be divided into sections to ensure that all areas of the vehicle are searched, which may include the following:

- Underneath the vehicle
- Under the hood
- Inside the trunk
- Underneath the seats
- Along the sides of the seats
- Inside all compartments (glove box, interior door side map compartments, center console, ashtrays, etc.)

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- Underneath visors

10.25.3.4.2 Extreme caution should be used while searching underneath seats or in areas where it is difficult to see. Do not blindly reach into areas to avoid being punctured by a contaminated needle or injured by a hidden weapon. Puncture-proof safety gloves, a small mirror, and/or a flashlight can help in searching these areas without risk of exposure.