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Section 9

General Guidelines for Photographing Tire Impressions

Introduction

The purpose of this document is to describe the proper method of photographing tire impression evidence by qualified personnel.

Recommended Equipment Includes:

- Professional camera, minimum 35mm or digital SLR with a minimum eight (8) megapixel native resolution, with interchangeable lenses, manual override for exposure and focus
- Detachable flash with a six (6) foot extension cord or a flash with remote capabilities to allow for sided lighting
- Remote shutter release
- Sturdy tripod mount capable of various angles and positions
- Artificial light sources (e.g., flood lights, flashlights)
- Level/Angle finder
- Suitable B&W and color negative film or digital storage media
- Flat rigid scales
- Tape measure
- Photographic log
- Reflector
- Device for blocking ambient light

Procedure for Tire Impression Photography¹

A typical standard operating procedure should include the following:

- 1) Locate visible impressions to be photographed.
- 2) Prepare photographic log or worksheet as per agency policy
- 3) Select suitable film or digital media.
- 4) Once the overall, midrange and close-up views of the area have been documented without scales and markers, photograph the overall and midrange views of the area with identifying markers and scales using appropriate lighting.
- 5) To document details of the impression for examination, photograph close-up views of the impression with identifiers and scales using appropriate lighting. Each image must fill the frame with the impression and scales:
 - a) Mount camera on tripod with the focal plane parallel to the impression.
 - b) Manually focus on the bottom of the impression and close aperture to maximize depth of field (e.g. set aperture to f16 or f22).
 - c) If using digital camera, set camera to the highest resolution and uncompressed or with lossless compression. (e.g. RAW or TIFF).
 - d) Take multiple overlapping exposures, mapping the entire tire impression, In this manner:
 - Light each overlapping section of the impression to bring out maximum detail. For a long tire impression, a series of overlapping photographs of 12 inches each should be taken. A tape measure should be extended along side the entire length of the impression for orientation purposes.
 - e) Multiple exposures using various settings/bracketing and lighting techniques may be required. A minimum of three images should be taken with oblique lighting at least 100 degree increments around the entire tire impression.
 - f) If impression is processed (e.g. with fingerprint powder or chemicals), re-photograph after each process.

¹ Reference SWGTREAD Guide for the Forensic Documentation and Photography of Footwear and Tire Impressions at the Crime Scene