
E19 Identifying Markings on Fabric Consistent With Being Created by a Cycling Taser® and the Application of Infrared Photography to Locate Suspected Taser® Probe Markings on a Police Officer's Uniform

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Learning Overview: After attending this presentation, attendees will have learned about characteristics of markings left on fabric by a cycling Taser® in the drive stun mode and how they can be distinguished from extraneous marks and defects on a fabric.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by provided scene investigators and laboratory personnel with information that can be useful in analyzing and comparing statements and electronic data to help determine events that transpired in certain incidents where the use of a Taser® is in question.

Attendees will be made aware of some common characteristics found during the examination of markings created when a cycling Taser® X26 comes into contact with a fabric composed of polyester, and how infrared photography can be used to find these markings. This presentation covers a high-profile officer-involved shooting incident, the shooting of Walter Scott by North Charleston police officer Michael Slager. An analysis of the Taser's® download data revealed two more activations of the Taser® than the officer accounted for in statements immediately following the incident.

The officer's final radio transmission prior to the shooting, which is when the officer claimed that the Taser® was taken from him, was followed by two additional activations of the Taser®. An examination of the officer's uniform shirt was determined to be a necessary investigative step to assist in the reconstruction of events that transpired during that incident. It was hypothesized that a Taser® could create unique markings (unique as in class characteristics and not unique to a particular Taser®) when cycling and coming into contact with a fabric.

A garment's composition and history are essential to many types of analyses ; a uniform shirt that had been purchased together with the evidence shirt and worn alternately by the officer with the evidence shirt was obtained for the purpose of creating exemplars of markings left by the probes of a Taser® when used on the garment in the "drive stun" mode. Infrared photography was used to examine areas where the Taser® came into contact with the test garment as the dark blue dye of the uniform shirt obscured any visual examination for possible markings. Numerous applications of the Taser® to the garment were performed and common characteristics were noted. As the Taser® probes are a fixed distance apart, the marks left on the garment were also a similar distance apart. The bottom probe typically left a larger mark than the top probe, which helps to determine the orientation of the muzzle when examining questioned marks suspected to have been created by a Taser®. Another common characteristic was that the dark discoloration created by the cycling Taser® would typically bypass threads on the top of the weave pattern (standard weave in this case).

Many variables were also explored during the testing process to account for the dynamic events that preceded the shooting. For example, stretching the garment when applying the cycling Taser® would cause marks to be closer together when examined after the tension was released. The garment was sprayed with a saline solution to simulate perspiration prior to the application of the cycling Taser®. Research is continuing in this area and this presentation covers only the preliminary experimentation that was initiated to analyze the veracity of statements made by the subject officer and unexplained activations of the Taser® that were discovered when the download data was analyzed.

Officer Involved, Taser®, Infrared Photography