

## AIR BAGS: CRITICAL CRIMINAL EVIDENCE

by David C. Folsom

The investigation of motor vehicle crashes has become an increasingly dynamic field of crime scene focus. Post-collision law enforcement practitioners charged with the critical responsibility of examining the causation of vehicle crashes must often rely upon physical evidence to establish, confirm, or disprove witness accounts. In many cases, witnesses are not reliable due to the brevity of incident perception or prejudicial connection.

The scene of a major crash or collision involving a fatal injury must be procedurally treated as a crime scene. The routine establishment of the scene will afford the preservation of evidence required to determine the contributions to a particular crash. Once the scene is protected, the investigator or crime scene technician must conduct an examination for macroscopic evidence. Macroscopic evidence being any evidence which may identify elements of a collision. These elements will include the identity of the driver and passenger locations inside the vehicle at the time of collision.

In cases involving a motor vehicle crash, it is imperative that a driver be identified as an element of "*corpus delicti*." The offenses of Vehicular Homicide, D.U.I. Manslaughter, Manslaughter by Culpable Negligence, or Reckless Driving all require the suspect be an operator or driver of a vehicle. Sometimes the driver may be uncooperative or deceptive.

Consequently, the reliability of statements from involved persons should not be considered conclusive.

The employment of driver and passenger side air bags afford investigators a relatively new evidence source in identifying the driver of a vehicle involved in a crash. During a frontal collision, sensors in the bumper will activate inflators to fill the air bags with gas. Thresholds among models and manufacturers differ, but generally work under the same principle. Most vehicles equipped with air bags will experience a deployment with as little as 10 to 12 mile per hour collisions.

Restrained and unrestrained occupants are contacted by the air bag which is constructed of a cloth fiber weave. The construction of air bags are such to deliberately impede the forward movement of vehicle occupants during a collision. It is during this contact that the transfer of physical evidence occurs.

The contact between an air bag and a vehicle occupant may result in transfer of fiber, skin, blood, and other bodily fluids, all of which may be vital in determining the pre-collision location of the driver or passengers. The transfer evidence will require the meticulous collection of the air bag, clothes worn by the vehicle occupants and in some cases comparative body fluid or skin samples.

Fiber evidence can be vital to attaching individual persons to location, if the fiber is known. Usually, when dealing with fiber evidence, an examiner

cannot specify an absolute source, but may be able to conclude that sufficient characteristics match. A deduction can then establish a common source between the evidence and a known source. The fiber twist, chemical components, and construction material can be analyzed and compared to identify an occupant location. In October 1995, traffic homicide investigators with the Tallahassee Police Department investigated a crash in which a single vehicle struck a tree at a speed in excess of 90 miles per hour. One occupant was ejected and died at the scene. The other occupant survived and identified the deceased victim as the driver. A crime scene technician meticulously recovered the vehicle driver side air bag at the scene of the crash. No passenger side air bag was present in the vehicle. The clothing of the deceased and surviving occupant was collected.

All items were forwarded to the Florida Department of Law Enforcement for examination. Subsequently, a fiber was located woven into the weave of the air bag fiber which matched fibers from the pants of the survivor. This single fiber was crucial at trial when the jury found the survivor guilty of manslaughter by culpable negligence.

Blood, skin, and other fluids may also be located on the air bag. The use of deoxyribonucleic acid (DNA) in comparing blood samples upon an air bag with a known source may help establish occupant location. The blood trajectory must be considered when identifying sources. A vehicle in motion may cause blood, and other body fluids to be affected by

forces against the vehicle and occupants. The use of blood may be used to establish the presence of an occupant in a vehicle, but depending on crash dynamic, may not exactly identify the occupant location directly. Unrestrained occupants may be violently propelled against several points inside a vehicle during collision kinematics.

The presence of skin upon an air bag may be an excellent source of evidence. An air bag engages the occupants with force and friction burns to the forearms and face are common. The transfer of skin and hair may occur during this contact between exposed skin and air bag fibers. Fibers of air bags are generally of synthetic construction and will sometimes generate heat from friction against other fibers or skin.

The collection of the air bags and associated physical evidence must be conducted with attention to detail and care. The investigator or crime scene technician should always follow standard procedures in the collection of air bag evidence. Preparation for the collection will begin by obtaining the necessary containers and instruments prior to the removal of any evidentiary items.

Paper bags and sterile gloves should always be utilized. It is extremely important that evidence from the investigator, crime scene or evidence technician, handling the evidence does not contaminate the air bag or controlled items such as clothing. The technician should wash their hands thoroughly prior to handling any evidence. It is imperative that cloth evidence which may contain fluids not be sealed in plastic or air

absent containers. Mildew or other sources of deterioration may contaminate the article and preclude it from use as evidence.

Once the clothes are removed from the occupant, they must be placed in a bag immediately to prevent contamination. The evidence collector must not mix the clothes of occupants in the same container. These clothes should not be placed on surfaces which may contain fibers. Specifically, if any items are collected during an autopsy or any medical examination, the evidence collector must immediately secure the clothes and not risk contamination by moving them from surface to surface.

If possible, suspects must not be transported in the same vehicle to the location where the clothes will be removed. Physical contact between suspects may transfer fibers and complicate analysis. Also, the occupants clothes should be taken as soon as is reasonably possible.

The clothes should be placed in a paper bag then sealed and labeled. The label should contain the date, location, and time the clothes were seized and the initials of the person seizing the evidence. Case agency identification numbers in use by law enforcement departments will enhance identification procedures.

After the clothes from the vehicle occupants have been secured, then the removal of the air bag is in order. The air bag should be removed as soon as possible. If a delay is necessary in removing the air

bag, the interior of the vehicle should be stored away from moisture and dust contamination.

If possible, photograph the deployed air bag prior to removal from the vehicle. After photographs have been made of the air bag, mark the top of the air bag to denote the positioning at the time of deployment. If more than one air bag deploys, mark and remove each separately. The deployed air bag may be removed by cutting it away from the steering column by the use of sharp clean scissors. A paper mat should be placed under the air bag during its removal. This will facilitate the collection of loose fibers which may fall as removal is completed.

The air bag may contain body fluids from the occupant and should be placed in a paper bag for reasons previously mentioned. After the air bag is secured in the paper bag, it should be sealed and labeled including the name of the person claiming the evidence, the date, and the location of removal.

The use of air bags may be the key to proving or disproving elements of a criminal offense involving a vehicle. In any case, physical evidence remains constant throughout the years during appeals processes whereas, witness statements may be less reliable. The proper collection of air bag evidence is critical and necessary.

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