

AUTO DEFECT CASES

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I. INTRODUCTION

Auto defect cases are often referred to as “crashworthiness.” Crashworthiness is the use of vehicular design to provide protection to occupants once a foreseeable collision occurs during the use of an automobile. Once a foreseeable accident occurs, auto manufacturers are required to design vehicles that provide adequate protection to the occupants to prevent unnecessary or avoidable injuries.

If you routinely handle standard automobile injury cases, you will often encounter situations where there is inadequate coverage or insurance available, either from the driver at fault or through your client’s underinsured motorist coverage, to adequately compensate your client for his or her injuries. This is particularly true in cases of serious or catastrophic injury. In these cases, you owe a duty to your client to explore all avenues of recovery. This includes evaluating and recognizing any potential auto defect cases. This paper will address several areas of crashworthiness including, seat belt litigation, air bag litigation, interior padding of vehicles, seat backs, and rollover accidents.

II. INITIAL INVESTIGATION

The initial investigation which you conduct and the information you gather can be the decisive factor in whether you win your case. The first thing you must accomplish in analyzing an auto defect case is to gather, locate, and preserve all relevant evidence. The failure to do this from the very beginning can destroy any potential auto defect case.

A. Preserving the Evidence

The first question asked in any case should be “Where did the accident happen, where are both cars now, and who has had access to them?” It is imperative that you immediately secure the car driven by your client by storing it in a locked and covered area. The car should not have any parts removed, disassembled, or altered. The other car involved in the accident should be located and, if possible, purchased and put into storage as soon as practical. If you cannot purchase the other vehicle, make sure to photograph it exhaustively. The importance of preserving the vehicle in its

original condition can quickly become evident when a defense attorney explains to the court that your case should be dismissed or limited because they are unable to determine what, if any, defect existed at the time of the accident because you allowed the evidence to be altered.

Once you have the car or cars securely stored away, you should make sure that the cars are in the same condition as immediately following the accident. The police report, ambulance report, fire department report, and tow truck records may indicate the condition the car was in immediately following the accident and before anyone touched it. Do everything in your power to ensure that the vehicles are not altered from their condition immediately after the accident.

The next step is to find out if any news crews covered the accident, and whether they took photographs, video, or film footage. A starting place for news or video footage of an accident is a news service, if you have one in your area. If you think your accident was on the news, you can call them and ask them to check their film. If they have it, they will duplicate all the coverage available for a reasonable fee.

Once you have the cars stored away and the reports from anyone who was at the scene, the next course of action is to get your investigator to talk with each witness listed on the accident and other reports. The primary witnesses I focus on depends on whether the reports indicate any removal or destruction of the vehicle to gain access to the passengers. If that was necessary, talk to the witness involved first and find out exactly what they did, what tools were used, who was there, who helped them, what did it look like before they started, why did they need to use that particular tool, and whether it was because the car was extensively damaged or because of the severity of the injuries that they needed to have more room to work around your client. Regardless of whether the vehicle was altered by emergency personnel, always talk to the tow truck driver and find out what he did when he got to the scene, how he hooked up to the car, what equipment he used, what part of the car he hooked up to, whether he used chains, whether anything fell off, whether he had to remove anything during the towing, where he took it, who had access to it, whether anyone has come and looked at it, and

whether it is kept locked up. You should talk to all emergency personnel at the scene.

The car itself should be fairly well preserved and your file should be sufficiently documented as to who had access to the vehicle and what was done from the time of the accident until you obtained it and locked it up. The next area which needs to be “preserved” is the accident scene itself. This does not mean you should wait until the vehicle is completely “preserved” to begin this work. It should be done as soon as you find out about the case. The reason is fairly obvious in that skid marks, debris, chalk marks, etc. will disappear shortly after the accident, and, without proper documentation that evidence will be lost forever. On the accident reports or other reports, look to see if any photos, videos, measurements, etc. were taken, by whom and when. Have your investigator find these people and talk to them as soon as possible. The field notes may be thrown away shortly after the accident if not requested quickly. It is also possible that some of the people on the scene keep their field notes at home, but not necessarily as part of the official file or investigation.

The attorney who will actually be taking the deposition and trying the case should go to the accident site. Your perspective of what you see may be slightly different than your investigator’s or you may see something which a photograph missed. It is also important that you be able to cross-examine any expert on the layout of the scene and, if you have not been there yourself, you may not be able to think it through fast enough in trial. You should have your investigator with you, and hopefully, they will be able to answer any questions that may come up during your inspection. This will allow you to get a feel for exactly where people and vehicles were in relation to other objects which you can later use as points of reference (trees, houses, etc.). By doing this, you will be fixing all of the important data which you have preserved in the proper sequence, location, and importance.

B. Photography

What should you photograph? Photos should be taken of anything that will change, disappear, or otherwise become unavailable. Keep in mind, however, that every photo, video, etc., however,

potentially will be discoverable.

Photographs should not just be taken of the automobile involved in the incident and the location of the event, but of your client both before and after surgery or any hospital visit. The photographs allow you to explain the pain, mental anguish, and embarrassment without ever saying a word. Without them, however, you could talk all day and still not get the full impact across to the jury. Also keep in mind that photographs or videos are a good way to show the history of injuries. This is especially effective for cases where the injuries do not appear severe by the time you get to trial. A good example is that of severe brain injury. The photographs of your client before and after surgery and the healing process go a long way toward showing the jury the severity of the injury, even though your client may appear physically “normal” now. The photographs which you take to show the scars and injuries shortly after the accident may be important in determining the biomechanics of the incident and your client. This is another reason why the photographs should be taken as soon as possible after the accident and by a professional. The primary injuries shown in the photo may be a massive scar from brain surgery, but the key to your case could be whether or not there was any bruise to the facial area.

C. Data Acquisition

Where do you get all this information? The simple answer is from a good investigator. The place to begin to look for investigators is through other attorneys who have handled the type of case you need investigated. Ask them who they would recommend and why.

It is important that the investigator understand what you are looking for, what you are trying to find out, and what you will need to prove. It is also imperative that your investigator give you the “bad” information as well as the good. You must make sure that your investigator understands that you want all the information he finds, no matter how bad, for two primary reasons. First, you can be assured that the defendant will have all that information and use it to the best of their advantage. The second reason is that if you are given what your investigator believes to be the “bad” information, you have an opportunity to

examine it and possibly use it to your advantage.

Cases are won or lost by the investigation which is done. If you have the best investigation, talked to all the witnesses and have your theories backed by strong investigation, that will make a definite impression on the defendant. However, if you have done a sloppy job on investigation, the defendants will take that to be an indication of how you will handle the case as a whole. The question of why should I pay some investigator to fly in and stay in a hotel when I can save money by using a local investigator is a difficult one, but the real question should be can you afford not to have the best investigator? The extra money you spend in the beginning may save you ten times that amount later. You may be able to avoid several depositions just by the quality of statements taken in the initial investigation.

After you have all the information necessary to find the people or data you are looking for, what do you do? It is my opinion that you, as the attorney handling the file, have to have a goal in mind when you are discussing the information with your investigator. Your perspective in a restraining system/seatbelt failure case will be different than in a rollover or roof crush case. The difference between information and data from my perspective is that information is the broad overview, but data is the key bits of information necessary to prove your case. The information gathered during the initial investigation may very well turn out to be what makes or breaks your case. When the question arises as to how much investigation you should do, always err on the side of excess. It is much easier to look back on the initial investigation and say that you really didn't need all the gathered information than it is to look back and say that you would have had a better case had you only talked to an additional witness or taken an additional photograph.

One of the most important factors to consider is what evidence you have to show your client was belted. The fact that they were not belted at the time the police, EMS, etc. arrived does not necessarily mean that they were not belted at the time of the collision. The belt could have been removed by your client immediately following the accident, the belt itself could have come undone during the collision, or some passerby could have removed the belt and either left, or been asked to

step aside.

It is possible to show belt usage by stretching of the belt, material transfer on the D-ring, bruises and injuries which are consistent with belt usage. Additionally, you could check with anyone who saw your client get into the car before the collision who might remember the belt being worn, and others who could testify regarding the habitual use of the belt. There are some people who will not even start a car without their belt being on. It is also possible to show the probability of belt usage by the area of impact of your client with the interior of the vehicle.

III. SEATBELT RESTRAINT SYSTEMS

With the introduction of mandatory belt usage laws in most states during the 1980s, seatbelt usage in America has risen dramatically. As a consequent of tens of millions of people now wearing their seatbelts, numerous design flaws in seatbelts have come to light. When the seatbelt restraint system fails, catastrophic injuries occur. A few of the most common restraint system defects are discussed below.

A. Inertial Unlatching

Millions of cars in use in America have seatbelts with the release button on the front face of the buckle. In severe frontal collisions, rollovers and side impacts, the release mechanism can be inertially disengaged when the back of the buckle hits a hard part of the seat structure or of the human body such as the iliac crest of the pelvic bone or hip. While several manufacturers originally denied the existence of the defect, and described the demonstration of the defect as a parlor trick, the crash test films in the public domain (NHTSA) clearly showed the belt unlatching in frontal collisions. This ultimately led to the acknowledgment that it is possible that such a release is possible. In the period since 1990, there have been several landmark cases against both American and Japanese manufacturers for this defect.

B. Three-Point Belt/Slack

Slack is one of the most devastating deficiencies of the restraint system because the seat belt is rendered virtually useless. With three-inches of

slack introduced into a restraint system, the injury potential increases fourfold. Moreover, slack can cause a restraint system to fit improperly, which can result in submarining under the lap belt. There are scenarios where slack can be introduced from the manual three-point belt system. Retractors that do not lock timely, fail to stay lock or slip lock can create a condition where the occupant is effectively unrestrained. Most retractors today still only have a single locking feature that can easily be defeated because the pendulum can stick where the lock bar fails to properly engage.

Another problem with the three-point belts is the anchorage points and resultant belt fit. Belts are designed to fit a fifth percentile of females and up to the ninety-fifth percentile of males. Unfortunately, a large segment of the population is excluded. As such, these belts are uncomfortable and do not fit properly. Accordingly, people take steps to make belts less irritating – place them behind or under their arm.

C. Door on Door-Frame Mounted Passive Belts

In the 1980s some manufacturers introduced belt systems with the outboard anchorage of the belts mounted in the structure of the door and the door frame. The purported reason was to increase belt usage in their vehicles; another basis was to avoid putting in airbags. The unfortunate danger of this design is that in a foreseeable collision, such as a rollover and/or side impact, when the doors open, the belts move away from the occupant, allowing partial or complete ejection which completely eliminates the restraint feature of wearing the belt. Studies have shown that doors open in almost 10% of accidents. These systems also create a risk of submarining under the belt because the anchorage points are mounted too far forward and high.

Additionally, two point “automatic” belts coupled with manual lap belts create a false sense of security for the driver or passenger because they may believe that the automatic belt is sufficient to restrain them. Additionally, the design of the belt automatically coming across the chest, induces the user to forget to put on the lap belt. The injuries which result from this design include abdominal injuries, broken necks, and occasionally

decapitations.

D. Rear Seat Lapbelts Only

The dangerous nature of rear seat lapbelts was understood and has been discussed by the manufacturers, as well as medical literature, for over twenty years. There have been numerous incidents in which the unbelted front seat occupants in frontal collisions survived with minor or no injury while back seat passengers, wearing their lap only belts, suffered paraplegia, abdominal injury, head injury and, in some instances, death. Government and private testing revealed that lap belt only designs were extremely dangerous, particularly with children. The belts are designed for the iliac crest of the user to absorb the energy; however, the pelvic bones of children are not fully developed, and the lap belt cuts into the soft abdominal region of the body while the upper torso rotates forward. The same condition occurs in adults when the belt moves over the bony area and into the abdominal region. This condition can arise from the inherent geometry of the passenger, submarining, or improper adjustment. The consequences of the belt moving into the abdominal area include severe disruption of the bowel, damage or severance to the spinal cord, and exsanguination (bleeding to death).

In children over the age of twelve and in adults, the injuries can also include severe head injury or death from striking the frame of the front seats or the window sills when the torso is propelled forward. As a consequence of adverse publicity from jury verdicts against American manufacturers, and through public exposure of the defect by automotive safety groups throughout the country, in late 1988 the National Highway Traffic Safety Administration, after seven years of delay, finally adopted a rule requiring shoulder harnesses in the rear seat outboard positions for motor vehicles sold in the United States beginning with the 1990 model year. Unfortunately, the regulation does not require a shoulder harness in the rear center position, which is where most adults place small children for the obvious reason of greater protection in side impact collisions. Many SUVs, that routinely carry children, still do not have shoulder harnesses in the rear center seats.

E. Seat-Integrated Seat Belt

The seat-integrated belt is by far the safest design for seat belts. This system incorporates the lap and shoulder harness actually into the seat of the vehicle. This seat belt design greatly improves the safety and prevents slack, ejection and submarining. Mercedes Benz, BMW, and Audi all have vehicles that now incorporate a seat-integrated system. To date, however, this system is not yet available on most domestic or Japanese vehicles.

IV. AIRBAGS

Airbags are factory-installed occupant protection systems designed to inflate during an accident sequence so as to provide some protection to the occupants in certain types of frontal collisions. The airbag concept was originally invented in the 1930s, and has been proposed and in some instances, used by manufacturers since that time. Airbags have been studied, tested and evaluated by the automobile manufacturers since the 1960s and by the Department of Transportation starting in 1969. Originally the airbags were designed to provide protection for occupants which were unbelted. General Motors manufactured some of their vehicles with airbags and offered them for sale to the public in the mid seventies. General Motors did not promote or encourage the sale and later used the lackluster sales record to argue that the public did not want airbags when in fact, they were generally unaware of the airbags being available.

Airbags are generally designed to deploy in frontal collisions, although more vehicles have recently introduced side impact airbags. The airbags deploy upon activation of one or more of the sensors located in the area of the front bumper or side. The system is designed not to deploy at low speeds, typically those under 7-10 mph.

One problem relating to airbags occurs when passengers, particularly children, are not in the position anticipated in the manufacturer's crash tests. The term "out of position" generally is interpreted as being located in a position not specifically set out by the manufacturer. There are several instances in which the passengers are seated in the proper position, but could be leaning to one side or the other or sitting forward when

the airbag is deployed. This danger was understood by the manufacturers since the airbags were first designed, and in fact, is one of the reasons the manufacturers gave for not implementing airbags.

Other potential hazards relating to airbags include, failure to deploy, slow or partial deployment, untimely deployment, deployment with too much force, and injuries resulting from the gas being expelled, including burns and inhalation injuries.

V. SEAT BACKS

A properly designed and sturdy seat back is nothing more than another form of a restraint system. While seat belts protect you in frontal and side collisions, a seat back is actually the restraint system designed to protect you in a rear impact. Since your body will have a tendency to move towards the direction of force, your body will move towards the rear of the vehicle in a rear-end collision. Unfortunately, seat backs fail leaving catastrophic results behind to not only passengers sitting in the seats, but also passengers and children sitting behind seat backs that fail.

Seat backs can fail under a variety of circumstances. The two most common types of failures are the failure of the seat back support system to hold in an upright position and the deformation of the seat back frame itself. Other failures also result from the deformation of the mounting system that holds the seat to the vehicle and the total collapse of the vehicle floor. When an automobile front seat fails in a rear end collision, usually the seat back suddenly moves rearward as a result of the force of the occupant's body. This results in extremely hazardous conditions, which include ejection rearward out of the failed seat and possibly through the windows or doors of the car, interior impacts with the interior structures of the vehicle, reduced effectiveness of the seat belt resulting in slack caused by the collapsed seat belt, and injuries to rear seat passengers who are struck by the rearward moving seat in front of them.

One of the main objectives of a seat is to guard an occupant in a protectable rear-end collision by retaining the occupant within a survivable zone. Normally, when a seat back collapses, the occupant slides rearward until he strikes an object

in the rear seat. Sometimes the sliding occupant then rebounds violently back upward. This many times results in brain damage and spinal cord injuries. The main reasons seat backs are still failing is the lack of any meaningful standards and the failure of the auto manufacturers to make any reasonable effort to design sturdy seat backs that will not collapse. Many seats in automobiles are barely more sturdy than a lawn chair. Seat back safety has lagged far behind seat belt, air bag, fuel system, and other vehicle safety components. When analyzing any catastrophic case, you should always examine carefully all of the seat backs in the vehicles to make sure that they remained in their full upright position.

VI. INTERIOR PADDING

The easiest aspect of vehicle safety is the design of the vehicle interior. Incredibly, most vehicles are designed without a “friendly interior.” This means that many vehicles have very little to no padding on the interior structures of the vehicle, including the roof and pillars that connect the roof to the structure of the car. Many researchers have opined that fifty percent of all serious head injuries could be reduced if only one-inch of padding were added to the interior of vehicles. Many head injuries are caused by the steering assembly and other interior parts of the vehicle, such as the windshield or instrument panel. Anytime one of your clients suffers a head injury in an automobile accident, you should ask yourself and inquire how that injury occurred, i.e., what part of the interior of the car did the occupant’s body strike. Cases can be made against auto manufacturers for failing to design “friendly interiors” of their vehicles by placing adequate padding over the windshield, instrument panel, and other interior aspects of the vehicle.

Vehicle manufacturers have been very hesitant and slow to support tougher standards on padded vehicle interior, despite the fact that auto manufacturers know that many serious injuries are caused by inadequate, unfriendly vehicle interior. Increased interior padding for occupant protection has been shown to be effective by the manufacturers’ own test. Moreover, adding increased interior padding is very efficient from a cost standpoint. Accordingly, cases of inadequate vehicle interior padding are very feasible given the low cost of the padding and its effectiveness.

VII. ROLLOVER ACCIDENTS

Good crashworthiness cases involving rollovers are plentiful. Rollover accidents constitute approximately thirty percent (30%) of all injury collisions. A rollover event is among the most violent of all collisions. Anytime you have an injury case in which a vehicle rolled over, the possibility of a rollover case against a vehicle manufacturer should be considered.

The fundamental defect of many SUVs and light trucks that cause it to roll over is that they are too short, too narrow, and too tall. The relationship of these values can be expressed in terms of the stability index. This is a mathematical comparison used by the automobile industry for years to predict vehicle stability. Essentially, vehicles closer to the ground with the wheel bases wider apart are more stable. The vehicle stability index can be used to predict the vehicle’s rollover propensity. Although the stability index is an important part of any rollover analysis, you cannot rely solely on this comparison to support the allegation. Other factors such as the steering, suspension, and handling of a vehicle can affect the vehicle’s propensity to roll over.

Data is available to calculate and compare rollover rates of almost all vehicles relative to other vehicles in similar classes. Most manufacturers will predict rollover rates for their vehicles during the design and development phase and you can discover documents discussing this matter. Auto manufacturers attempt to design vehicles that will have a comparable rollover rate to vehicles in its class. The best case is when you can show that the vehicle is a “statistical outlier.” That means that the vehicle has a rollover propensity or stability index higher than vehicles in its same class.

When evaluating a rollover case, it is important to determine whether or not there was any “trip” mechanism. The best rollover case is where a vehicle rolls over on flat, even pavement. Theoretically, vehicles can be designed to not roll over in almost any scenario as long as the car is on level, flat pavement. Once a trip mechanism is in place; however, the prosecution of these cases becomes more difficult. A trip mechanism is a ditch, rut, rock, object, curb, or anything that the wheel of a vehicle can strike, which can increase

roll propensity regardless of the vehicle's stability. Any vehicle will roll over if you get it sliding sideways fast enough and then dig in the leading set of tires and cause a trip. For example, if the truck slides off the road on all four tires, and then one or both of the leading two tires dig into the soft earth or ditch, then the truck goes over, this is a trip and a very hard case to win or settle. The same is true if the vehicle's wheels hit a curb, ditch, or some other obstruction in the roadway. If the rollover begins on the road or hard shoulder, and the initial lift of the wheel is off the ground, it is simply caused by the vehicle tumbling over the friction of the tires on the ground, this is a true rollover event caused by dynamic instability. Early investigation analysis is critical in these cases to determine whether or not there is a trip mechanism that will lead to a defensible case.

VIII. ROOF CRUSH

When a vehicle rolls over, the roof of a vehicle is obviously subject to deforming. The goal of a vehicle manufacturer is to design a vehicle's roof and supporting structures (the A and B pillars) so that the vehicle compartment remains intact during a rollover accident. Unfortunately, many vehicles do not have sufficiently sturdy roof structures to provide adequate protection in a rollover collision. Rollover collisions can result in the deforming of the pillars and collapse of the roof structure which minimizes the area of the occupant zone or envelope, and this can result in contact by the occupant with the interior part of the vehicle, leading to catastrophic results, such as brain and spinal cord injury.

It is important in analyzing any rollover case to look at the roof structure of the vehicle to determine if there is a roof case against the automobile manufacturer. One must, however, be careful to attempt to evaluate whether the injury was truly caused by roof crush or an inadequate restraint system, or both. Restraint system and roof crush go hand in hand. Regardless of the roof's performance, serious injury can result if the restraint system allows the occupant's head to move around in the vehicle too much.