

# An Overview

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## Crashworthiness In Utah

For nearly 30 years, American courts have recognized that vehicle manufacturers must provide a reasonably crashworthy vehicle design to minimize accident injuries to vehicle occupants. In the seminal case of Larsen v. General Motors Corp., 391 F. 2d 495 (8th Cir. 1968), the Eighth Circuit Court of Appeals, in recognizing the crashworthiness doctrine, noted: "We perceive of no sound reason, either in logic or experience, nor any commanding precedent, why the manufacturer should not be held to a reasonable duty of care in the design of its vehicle, consonant with the state of art to minimize the effect of accidents. The manufacturers are not insurers, but should be held to a standard of reasonable care in design to provide a reasonably safe vehicle...At least, the unreasonable risk should be eliminated and reasonable steps in design taken to minimize the injury-producing effects of impact."

There is not much reported case law in Utah on crashworthiness. However, the doctrine has been recognized, sub judice. See, Whitehead v. American Motors Sales Corp. 801 P. 2d 920 (Utah 1990). There are also a number of 10th Circuit cases recognizing the crashworthiness principle. See e.g., Harvey v. General Motors Corp., 873 F. 2d 1343 (10th Cir. 1989), Cleveland v. Piper Aircraft Corp., 890 F. 2d 1540 (10th Cir. 1989) and Fox v. Ford Motor Co., 575 F.2d 774 (10th Cir. 1978).

In crashworthiness cases, the focus is on the enhancement of injuries caused by what is often referred to as the "second collision." This is the collision between the vehicle occupant with the interior or exterior of the vehicle which occurs moments after the initial collision or accident. In some cases, crashworthiness theories can be made in cases where a defect also contributed to the cause of the initial accident. For

instance, sport utility vehicles (the most notorious of which is the Jeep CJ7) are often involved in rollover accidents. The cause of the rollover may be attributed to defective design (a high center of gravity combined with narrow track width) while the injuries may be exacerbated by a poorly-designed seat belt system permitting ejection, a vehicle interior which is poorly padded and not "crash friendly" or a poor roof design which permits excessive roof crush during the rollover. In some instances, accidents may also be precipitated by defective braking systems which cause premature brake lock-up. In many cases, the defective condition of the vehicle does not cause or contribute to the accident, but the manufacturer's failure to design a crashworthy vehicle results in excessive or unnecessary injuries.

It is our belief that many plaintiff's attorneys frequently overlook crashworthiness theories in their analysis of potential avenues for recovery for seriously injured clients. While these cases are extremely difficult, costly and time-consuming undertakings, where the client has suffered severe and disabling injuries disproportionate to the impact speeds or severity of vehicle damage, the crashworthiness of the vehicle should be evaluated.

Crashworthy design strategies used by automotive engineers to attenuate crash forces can be organized into five categories. Federal Motor Vehicle Safety Standards (FMVSS) address each of these categories.

First, a safe design should prevent intrusion of objects into the passenger compartment. This objective is addressed by FMVSS 204 (steering control, rearward displacement), 214 (side impact protection), 216 (roof crush) and 219 (windshield zone intrusion). For example, excessive roof crush of belted occupants during rollover accidents can

cause devastating spinal cord injuries, resulting in quadriplegia.

Second, safely-designed vehicles should include effective passenger restraint systems. FMVSS 202 (head restraints), 207 (seats) and 208-210 (belts, airbags and other passive restraints) address this objective. Many of the recent crashworthiness cases have centered around defective seat belt systems. For instance, American cars manufactured prior to the 1988-89 model years contain tension relief "comfort features" (also known as "window shades") which allow for excessive slack during accidents. Automatic seat belt systems are also suspect, particularly those which attach to the door since doors frequently open when subjected to collision forces, causing occupants to become unrestrained. Automatic seat belt systems are also suspect because they are ineffective in preventing accidents when the manually attached lap belts are not worn. Serious injuries to rear seat occupants have also occurred due to the failure of manufacturers to install rear seat shoulder harnesses in 1970's and early 1980's-era vehicles. During rear-end impacts, poorly-designed seats may collapse causing serious back and neck injuries.

The third design objective is to prevent the ejection of unbelted occupants. Accident statistics make it clear that, in the vast majority of accidents, occupants are best protected if they remain inside the vehicle. FMVSS 206 requires minimum door latch and hinge strength and FMVSS 212 provides windshield retention requirements. Defects include inadequate door latches and hinges, windshields which pop out and non-laminated side windows which allow ejection on side impacts. For instance, during the mid-1970's, passenger cars were required to have

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bonded windshields, but light trucks were not. In order to achieve minimal cost savings, many light truck manufacturers continued to produce non-bonded windshields. When these popped out during accidents, they provided a dangerous portal for ejection of the occupants.

The fourth design objective is the creation of a "friendly" interior, one which assists in absorbing forces rather than enhancing injuries. Smooth, rather than sharp surfaces, distribute forces over the surface area. Padding and collapsible steering wheels absorb energy when struck, and distribute deceleration over time, much as a safety net dampens a fall. FMVSS 201 addresses occupant

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protection in interior impacts by providing design standards for instrument panels, seat backs, interior compartments energy-absorbing steering wheels and columns. In Valdez v. Southern Pacific et. Al, a case tried in Utah Federal District Court several years ago, a \$2 million jury verdict was obtained against the manufacturer of a railroad tamping car, in part because the manufacturer failed to provide any interior padding or occupant protection. Many light trucks are also deficient with respect to padding in roof pillars, window pillars, dashboards and seat back areas.

Finally, a safe design should minimize the danger of post-accident fire or explosion. This objective is addressed by FMVSS 301 (fuel system integrity) and 302 (flammability of interior materials). The well-known Ford Pinto cases, for instance, involved an unreasonable risk of post-accident fire due to the placement of the fuel tank. More recently, a Georgia jury awarded damages of over \$100 million again General Motors in a case involving a defectively designed GMC fuel system.

Since crashworthiness cases deal with enhancement of injuries, there are always complex issues concerning causation of injuries and how injuries caused by the lack of crashworthiness

are to be apportioned from the injuries which would have occurred had the vehicle been safely designed. There is no published Utah case law concerning how apportionment and causation issues should be addressed, and there are at least two distinct lines of cases concerning causation and apportionment.

The position adopted in the RESTATEMENT (Second) OF TORTS, 433 and 434, places the burden on the defendant manufacturer to show that the plaintiff's injuries, or some of them, would have occurred anyway had a crashworthy design been provided. This rule is followed in many states. See, e.g., Mitchell v. Volkswagenwerk, AG, 669 F.2d 1199 (8th Cir. 1982); Fouche v. Chrysler Motor Corp., 103 Idaho 249, 646 P.2d 1020 (Id. App. 1982).

However, in a recent case applying Wyoming law, the 10th Circuit held that the burden of proof was with the plaintiff to show not only the cause of her injury but also to prove the extent to which the non-crashworthy design enhanced the injuries. The Court held that the plaintiff may be required to show what injuries would have occurred had the accident happened and the vehicle been reasonably crashworthy. Harvey v. General Motors Corp., supra.



Until this issue is addressed under Utah Law the plaintiff must prepare evidence sufficient to meet the burden of proving the degree to which plaintiff's injuries were enhanced by the uncrashworthy design. This burden of proof can be met by obtaining expert testimony from a biomedical engineer or an expert in occupant kinematics, and is a critical component of the case.

Attorneys studying the viability of a

crashworthiness case must also consider whether their client was wearing a seat belt. Utah Code Ann. 41-6-186 (1988) provides: "Failure to wear a seatbelt does not constitute contributory or comparative negligence and may not be introduced as evidence in any civil litigation on the issue of injuries or on the issue of mitigation of damages." However, in Whitehead v. American Motors Sales Corp., supra the Utah Court stated in dicta that the presence of seat belts may be admissible when offered to show that the vehicle was manufactured with a crashworthy design. Nonetheless, in that case, the Utah Supreme Court upheld the trial court which excluded all evidence of seat belt usage at trial. 801 P.2d at 928. Although the Federal Motor Vehicle Safety Standards recognizes that a large percentage of vehicle occupants do not wear seatbelts, if the plaintiff is not belted at the time of the accident, a crashworthiness case is certainly more challenging.

## **Conclusion**

Over the past 30 years, vehicle manufacturers have made many advances in the area of crashworthiness safety. Unfortunately, in many instances the mistakes of the past are repeated in pursuit of decreased manufacturing costs and increased profits. Crashworthiness litigation will continue to compensate victims of unsafe design and provide economic incentive to manufacturers to use crashworthy design alternatives.