

Ralph's Accident Reconstruction Newsletter

Volume 3, Number 1—Page 2

their safety belts, the firing of an airbag may present a serious safety hazard. The firing of an airbag is a violent event, one best saved for situations where the benefits outweigh the risks and the associated costs.

The rate of change of the velocity, not the total value of delta-v, is what determines whether or not airbags will be deployed. For frontal air bags, it is only the acceleration (deceleration) in the longitudinal (front-to-rear) axis of a vehicle which is considered by the algorithm which “decides” whether or not to fire the airbags. And when the initial velocity is low, arbitrarily 10 mph or less, the airbags will not fire, regardless of the rapidity of the change in velocity. The reasons for no deployment at low speeds include that the belted occupant would derive no benefit from the airbag deployment, that deployment would significantly increase the repair bill, and that an unbelted occupant may be more severely injured by a deploying airbag than he would have been by a low-speed impact with interior components. Airbag deployments have killed many children and some adults; most, if not all, such incidents were results of careless or improper usage of rear-facing child seats, unwise seat positioning, or improper use of the associated safety belt. Airbags are more accurately described as SUPPLEMENTAL impact restraints; they are not designed to be the primary safety component for occupant protection, although airbag deployments have provided that function in a few rare cases. Airbags are fired by what is, in effect, a tiny explosive charge; proximity to the source can be hazardous or lethal.

There have been some complaints of first-degree burns received from a deploying airbag. The airbag is designed to inflate very rapidly, then deflate rapidly. The high-velocity gases escaping from a fired air bag can cause local, minor burns. Would you rather have a face with a few minor burns, or no face?

Proximity to the deploying airbag can be hazardous to life or to limb. A deploying airbag has the potential to break an arm or a leg in close proximity to its original, compacted surface. When you drive, it is wise not to have your arm across the airbag-containing portion of the steering wheel. Sit as far back from the steering wheel as you reasonably can. If you are a front-seat passenger who likes to prop feet, knees, or legs on the panel in front of you, you will assuredly experience severe pain, at the very least, if the airbag in that panel deploys. Optimizing safety in a motor vehicle requires that occupants know and consider the risks associated with the normal components of that vehicle.

I have now completed my incorporation. My new Web site is at www.RalphCunningham.net and is fully operational. My billing rates are unchanged, except for an increase in the mileage rate to \$0.40 per mile. Contact information, including my email address, are unchanged. As always, please contact me anytime you have need of the accident-reconstruction and related services I offer.

Ralph Cunningham, Inc.
Accident Reconstruction
www.RalphCunningham.net

Collision Analysis

On-road, Off-road, Marine

Pedestrian/Bicyclist

Motorcycle Collisions

Conspicuity Evaluations

Lamp Filament Evaluations

Crash Data Retrieval

Tire Failure Evaluations

Brake/Steering Evaluations

Seat Belts/Airbags



1804 Thornhill Pass, SE
Conyers, GA 30013
770.918.0973
Fax: 770.918.8076

Ralph Cunningham, Inc.
1804 Thornhill Pass, SE
Conyers, GA 30013