

“KEEPING PACE” - #58

(Page 1)

LEAVING CHILDREN IN PARKED VEHICLES IS HAZARDOUS:



This photograph shows a 1985 Oldsmobile Delta 88 in New Jersey which sustained a short circuit fire in its door lock switch while a nine-month-old child was strapped into a child's seat in the rear of the car. His adult babysitter had parked the Oldsmobile, turned off its ignition, and gone into the house momentarily to get her mother. The short circuit in the door switch locked the doors, so passersby could not open the doors. By the time they were able to break the rear window, the fire was so intense that they could not rescue the child. The child perished.

Most people never think about the fact that some electrical wires in vehicles remain energized, even after the ignition key is turned “off.” Thus, a short circuit fire can occur at any time.

In another such case in Alabama, a child died in a van from a short circuit arcing fire which occurred while her grandmother went inside a department store for a few minutes to pay a bill.

(Continued on Page 2):

“KEEPING PACE” - #58

(Page 2)

WHY DIDN'T THE AIR BAG WORK?



The photograph on the left shows a cinder block wall which the driver of this BMW went through during an unintended acceleration accident. The driver of the BMW parked parallel to the front door of a building, went inside briefly, came back out, strapped on her seat belt, and then accelerated forward about 30 feet into the wall.

Besides wanting to know what was wrong with the accelerator mechanism, the driver also wanted to know why her air bag did not deploy, even though she was not injured. The answer is that the cinder block was soft enough to slow the BMW down more gently than a concrete wall as the block gave way. This resulted in comparatively low g forces. The damage on the front of the BMW indicates a Delta V, or ΔV , of approximately 15 mph.

To avoid nuisance trips, such as when the car goes over rough railroad tracks, most air bag systems require a ΔV of roughly 20 mph before they will deploy. (For a ΔV of 35 mph, see issue #11).

There was also nothing wrong with the BMW's accelerator. This was another case of pedal misapplication.

Sincerely,

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Forensic Engineer

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