

## “KEEPING PACE” - #41

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### COLLISION DAMAGE ENERGY:

The photograph below shows a 1989 Pontiac Trans Am which struck a large truck broadside at a four-way stop in a residential neighborhood. It may be observed that neither the engine nor the front end of the Trans Am has been pushed backward. Rather, the bottom of the truck peeled off the engine hood and the top of the car. This does not take much energy (speed), because the roof of a car is attached with only a few vertical columns which have a relatively small cross section. Therefore, it does not take as much energy at all to cut through these columns as it does to push the entire front of a car and its engine backward a significant distance. I estimate that the Trans Am was traveling at about 30 mph when it struck the truck.



The roadway was wet at the time of the accident, but when I went to the scene five days later, I still found very light skid marks, as shown in the next photograph. The track width and the unusually great tire widths of the Trans Am (see third photograph) matched up completely with the measurements of the skid marks at the scene. So there was no doubt that the Trans Am had left the 118' of skid marks which were found.

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Normally tires do not leave skid marks on a wet surface, but these Goodyear Eagles are made of a softer rubber than normal. Only by thoroughly checking the accident scene, instead of assuming there were no skid marks due to the rain, was I able to calculate the true speed of the Trans Am. Using the skidding distance of 118', I calculated the speed of the Trans Am to be about 55 mph at the beginning of its skid, on a residential street which had a 25 mph speed limit.



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