

It's the "G"s that KILL!

SNEAK UP on a friend, from behind, with a baseball bat. Heft the Louisville Slugger to a vicious angle and give your friend the full "G" treatment.

An impractical stunt? Definitely—except to dramatically demonstrate what happens when a person's head hits an automobile dashboard in a 40 mph traffic accident.

The same "G"s of impact that affect a baseball hit by a bat, or jet pilot in a tight pull-out, are the primary causes of death in auto accidents.

WHAT IS A "G"?

One "G" equals the force of gravity which holds you on the ground; this is, in other words, your weight.

If a car traveling at 30 mph crashes into a telephone pole, it will usually decelerate to zero speed within a distance of about two feet. This deceleration rate is 483 feet per second per second. The acceleration rate of gravity is 32.2 feet per second per second, and the car slowed down 15 times as rapidly. Therefore we can say that the car was, upon impact with the telephone pole, in a 15 "G" crash.

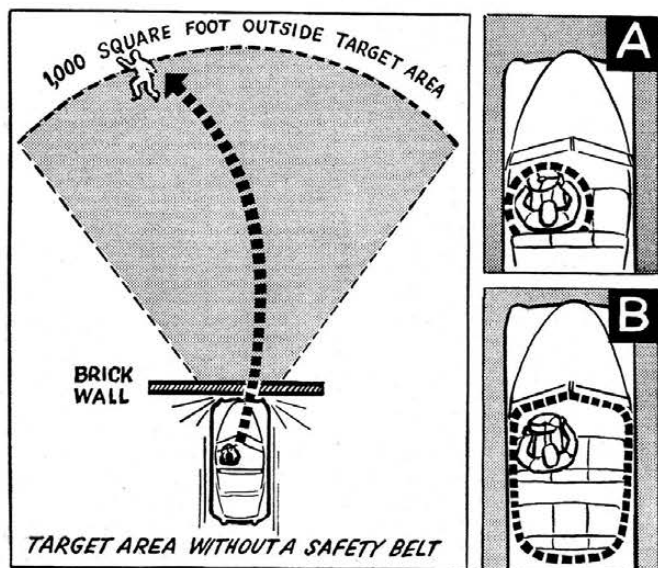
At the moment of the crash the occupant is moving as fast, of course, as the car, and as the car comes to a full and sudden stop his body continues forward at approximately 30 mph—and hits the dashboard and/or windshield.

The average car dashboard will crumple, with this bodily impact, about two inches; the occupant's 30 mph forward speed is reduced to zero in this measurable space. His rate of deceleration becomes 5800 feet per second per second which is equal to 180 "G"s impact!

While our driver or passenger of the telephone pole accident might survive the 15 "G" car impact he couldn't live through the 180 "G" crash of his body against the interior of his automobile.

THE MANGLED MILLIONS

38,200 people were killed last year in automobile accidents



Head-on collision converts victims into human bullets that land within an approximate 1000 square foot target area. Fig. A. In any accident, with a safety belt, occupants are held to approximately 2 to 10 square feet inside car. Fig. B. Without a safety belt the victims can smash against any part of car's interior, against each other, or be thrown out in "target area"

in the United States. Results of crash injury research conducted by the Indiana State Police and Cornell University's Medical College indicate that nearly 80 out of 100 of these people could have survived if they had been able to control the "G"s of impact.

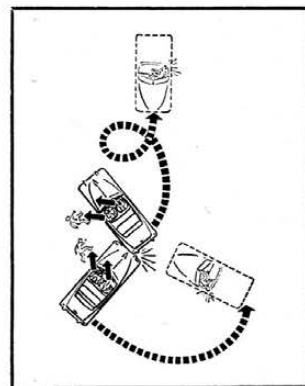
Two major types of accidents cause the most deaths or serious injuries on the American highways. They are:

1. Head-on collision with a stationary object or another car.
2. Spin-type crash, or angular two car contact.

In crash type Number Two the occupants are thrown from the spinning cars with tremendous centrifugal force. For example, in a spin at 30 mph within a radius of five feet, a car



"Sandwich" crash forces occupants, on impact sides, onto the street to be mangled between the colliding cars



Spin type collision forces occupants through sprung doors. The passenger is battered about inside the car

occupant may develop over a ton of moving energy, easily enough to smash open the door and project the victim into the street.

In both types of accidents the victims are catapulted through space in the direction established by the angle of the car's impact.

The "target" area inside of an automobile is approximately 75 square feet. If, however, the victim of a car accident should be thrown through the windshield or out the door, we can assume he will land anywhere within a thousand square foot area; this is based on physical evidence, where injured or dead have been found thirty feet from the remains of the vehicle—and this at only 30 mph!

THE ONLY PRACTICAL SOLUTION

Automotive crash injury experts agree that the use of safety belts by drivers and passengers is the most practical way to prevent car deaths and injuries.

A safety belt, firmly attached to the car frame beneath the seats, reduces the potential "target" area of an occupant to two to ten square feet, depending upon auto interior dimensions and the size of the occupant. This means that the potential danger area is reduced 100 times.

A safety belt allows the occupant to "wear" his car like a protective suit of armor. The relative slow-down of the vehicle in a crash and the elasticity of the safety belt greatly reduces the potential victim's crash deceleration, and enormously increases his chances of walking away from the accident.

With a safety belt the car occupant need not fear being thrown out, as in a spin-type crash, to be crushed as his car careens in a circle; neither does he have need to fear—at least as much without a belt—a skull-cracking head impact into the dash or windshield.

A safety belt is not a cure-all. Nothing can save a crash victim when the car is "totaled," or when the engine rips through the firewall to rest in the victim's lap. Fortunately this type of accident is relatively rare.

The need for safety belts is proven; it is our hope that education—instruction in the WHYs and HOWs of safety belt use—will result in a higher level of security driving.