

## **DRIVE TO SURVIVE >> AVOIDING DUMB ACCIDENTS**

Cars may be safer these days, but drivers are dumber!

Most accidents are dumb. At least one participant had to do something dumb, and usually both did. Our goal here is to make it less likely that you will be the dumb one—and to help you avoid dumb drivers. This is basic stuff that you need before you can learn more advanced maneuvers. Before pilots can do aerobatics, they must be able to take off and land.

### **The Mirror Trick**

Do you have a blind spot on each side of the car? Do you swivel your head a lot before changing lanes? When I took driver's education, back in the dark ages, cars often had only a center mirror. A left-outside mirror wasn't uncommon, but two outside mirrors were, and cars that had them often had no way of adjusting them from inside the car, so they were always maladjusted. So we all learned to swivel our heads like a fighter pilot if we wanted to change lanes without removing fenders from our own or someone else's car.

Today's cars have mirrors on both sides, and the one on the right is convex, so it covers a wide area. Unfortunately, most of us don't know how to use them. Many drivers don't use their mirrors at all. Many people getting into a strange car adjust the center mirror and perhaps the left outside mirror, ignoring the right mirror completely. Anything they drive should have a bumper sticker, "Caution—Driver May Turn Into You Without Warning!"

Take this magazine to your car and sit in the driver's seat. Look at the left mirror. Can you see the edge of your car? Yes?

Now look at the right mirror. Can you see the edge of your car? Yes?

Then you're doing it wrong. The center mirror is for looking behind you. The side mirrors are for covering your blind spots. You don't need three mirrors to see behind you. A recent driver education course graduate told me he was taught to adjust the mirrors until he could see the edge of the car. This tells me that driver education is still doing it wrong, which doesn't surprise me. Have you asked a recent high school graduate, "What countries border the United States?" or "What countries did we fight during World War II?" They don't know that either.

Here's how to set your mirrors correctly:

1. Lean over until your head touches the side window glass. Now adjust the mirror outward until you can see the edge of the car—with your head touching the side window glass.
2. Now lean over until you're in the middle of the car. Adjust the right mirror out until you can just see the edge of the car—with your head in the middle of the car.

3. Now sit in your normal position. The center mirror should show what's behind you. The left mirror should show who is in your left blind spot. The right mirror should show who is in your right blind spot.

I take no credit for discovering this method of adjusting the mirrors. I learned to adjust my mirrors farther out than the lamented driver's ed instructor had told me by near-accident, literally. I changed lanes and discovered a Ford in my target spot.

"I don't get it," I thought. "I looked in my mirror." So I drove up next to a car and pulled forward until he was in my left blind spot. Then I adjusted the mirror outward until I could see him. I did the same thing for the right side. Since then I've adjusted the mirrors outward. Then I began to see people recommending it. The National Motorists Association recommended it. Denise McCluggage, at [www.roadrunning.com](http://www.roadrunning.com), recommended it. And Radar Reporter described adjusting the mirrors this way. Since then I've taught it.

### **The Trick Mirror**

In some cars, adjusting the mirrors all of the way outward isn't enough. My seating position is such that I just adjust most mirror all the way out. The right mirror, with its "Objects May Be Closer Than They Appear" warning, is convex, so it covers the blind spot adequately. On some cars the left mirror, using flat glass by federal edict, may not. I've developed the habit of swiveling my head often or just moving it to the right until I can see the blind spot.

In a store one day I discovered a small rectangular stick-on mirror with a matte-black plastic frame, almost matching the mirrors on my car, designed to fit on the lower inside edge of the left mirror and angled outward to eliminate the blind spot. It looks better than the round ones on trucks, and it works like a charm. You can buy these unobtrusive stick-on mirrors at most auto parts stores.

### **The Two-Second Rule**

In some states, if you get a speeding ticket, you have to take one of those godawful defensive driving courses. One thing they teach right is the two-second rule. Back in the Mesozoic Age they taught us how many car lengths we should stay behind the car ahead at what speed. It was complicated, and most drivers never figured out how long a car was anyway. I always wondered, what kind of car? A Cadillac stretch limo or an Austin-Healey Sprite?

The two-second rule works. Simply watch the car ahead pass a fixed object, then count "One thousand one, one thousand two." You should cross the same object at about two (longer in bad weather, of course).

This rule is simple, effective, and easy to remember. If you follow it, two things will happen:

1. You will be very unlikely to hit the car ahead of you. This is especially important in states where the guy behind is always at fault, even if the guy ahead is his accomplice in an insurance fraud scheme, which has become a major scam industry.
2. Countless cars will cut you off, pulling in front of you without signaling. For some reason, most of them will then immediately slow down. This is a test of maturity. If you have the maturity of a saint, you will ignore them, drop back, and give them two seconds. If you whip around them and slam on your brakes, collecting their car into your back seat, you failed the maturity test.

### **Avoiding the "Crossing the Median" Fender-Bender**

Actually, this type of accident isn't always a mere fender-bender. I saw a fatality happen this way. While crossing a median and stopped in the middle of it, whether turning left or making a U-turn, most people do two things wrong. They stop with the tail of their car sticking out into the traffic lane, even when the median is wide enough to take their whole car and protect it from traffic. And they forget they're driving on the right and move to the left.

## How to Maximize Antilock Brakes

The average driver does not understand Antilock Brakes (ABS). Such brakes may be the biggest active safety invention of the latter half of the 20th century, but sadly they are misused and misunderstood enough to make them far less effective than they should be.

Antilock Braking Systems, invented by Daimler-Benz in 1954, have since become highly sophisticated. A computer reads wheel lockup on each wheel (or each axle on some vehicles), and releases brake pressure for a split second to unlock the brakes then reapplies brake pressure. Antilock systems act as normal brakes until lockup occurs, then you will feel and hear the pumping action. As the pedal vibrates or pulsates, you'll hear a pumping noise. If this is the first time you've ever heard this noise and felt this pulsating, and it's an emergency, you will naturally assume something is wrong with the brakes, lift your foot and start pumping them—as several police officers did with early ABS-equipped police Chevrolet Caprices. This is a mistake, and for some people, a fatal mistake.

### ABS Practice Exercises

To practice before an emergency, drive to a road deserted enough that you can safely do a few hard stops. Check the rear view mirror to make sure you're alone, accelerate to 30 mph, then stand on the brake pedal, hard. Listen for the noise. Note the pedal feel. Keep your foot on the pedal until the car stops. Then try again with a little less pressure. Instead of pulse-pulse-pulse-pulse, you'll not pulse... pulse... pulse... pulse. Now do it again until you can modulate the brakes enough that you feel that pulse about once a second. This is threshold braking, which will give you the shortest stopping distances because the brakes are at optimum, right at the threshold of lockup. Beyond this, the ABS pumping can actually lengthen stopping distances. In a panic, it's best to stand on the ABS brakes too hard and let them do the modulating than it is to be too easy on them and fail to stop on time.

If you can't learn threshold braking, it's better to use full ABS and try to steer gently around the problem, which brings us to the second exercise. On a deserted road, to do a panic full-ABS stop and simultaneously make a very gentle land change to the left, then back again, simulating the situation in the Turning While Braking Illustration.

Practice this carefully, preferably where it won't hurt you if you spin, like a big parking lot without curbs. (Of course, the parking lot security guard won't understand.)

Extra braking problems come when it's wet or snowy or when you can't get the threshold technique down. Some cars are very sensitive. Others can easily be held on the threshold. Go past the threshold, and on cars without ABS, one or more wheels will lock up. If it's both front wheels, you'll slide in a straight line. If it's both rear wheels, the rear of the car will come around, and, unless you release the brakes and counter-steer, you'll spin. If one front or one rear wheel locks and slides, things become difficult. The car will jerk in one direction or another or become directionally unstable. The best solution is ABS brakes, standard equipment on all Mercedes-Benz cars sold in the U.S. since 1989.

Insurance companies say antilock brakes don't lower accident rates. They've decided that accidents involving ABS cars hitting others have gone down, but accidents involving non-ABS cars hitting ABS cars have gone up. Drivers on non-ABS cars following ABS cars don't have control, so they pile into the ABS cars. Additionally, one-car accidents go up. Many drivers successfully avoid something in their way but in the process lose control of their car and smash into something else all by themselves. Why?

Because a locked wheel cannot steer. You've probably learned this if you've ever stood on the brakes in panic then tried to turn to avoid the source of the panic. As you slid into the problem, you may have said, "Eureka! A locked wheel does not steer!" No, it's like a brick sliding down the road, and bricks don't steer. That's why bricks don't have steering wheels.

Locked wheels also scrub off rubber from the tire, causing a flat-spotted tire. Flat-spot a tire, and you'll have to replace it or put up with an awful vibration. If a racing driver flat-spots a tire or tires, he has to make a pit-stop. At high speeds, vibration can tear apart a car or make it crash due to instability.

To avoid this, many people were taught to stay off the brakes during emergency maneuvers, which is sometimes justified. At the accident avoidance simulator at the Bondurant School of High Performance Driving, you drive down the middle of a "road" bounded by pylons. The road widens to three lanes, each with its own traffic light. At the last second, two of the lights, including the one in your middle lane, turn red, and you must go for the green lane.

If you slam on the brakes, you won't make the turn. You'll transfer weight forward, loading the front wheels and unloading the rears. If you lock the brakes, you can't steer, so you'll run the red light in the middle lane. If the brakes aren't locked up, the tail (unloaded) will come around as the front wheels (heavily loaded) will really steer the front. So you'll have a lurind, cone-filled spin, and Mr. Bondurant will have taught you a lesson you'll never forget.

*This article is an excerpt from Curt Rich's book, Drive to Survive!*

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