

Just the Basics – 4 – Get A Grip!

I guess this article could be about the theory of unintended consequences. The development of air bags in cars has caused a re-evaluation as to how people should grip the steering wheel. The latest batch of air bags has accelerated the discussion. Unfortunately the vast majority of drivers have no idea the discussion is even happening.

Air bags were first introduced as an option in 1973. Driver side air bags became mandatory in 1986. The mid '80's saw the introduction of passenger side air bags. Now, many cars boast of having 7 or 8 bags. There are air bags in doors, in the seats as well as in the dash and steering wheel.

The first air bags were not much larger than the steering wheel and they were supposed to prevent the drivers face from impacting the wheel. The first photo shows deployed air bags from the late 80's or 90's. I base this on two factors: 1) you can see the passenger bag in the photo and 2) the driver side bag is larger than the originals but much smaller than the current standards.

As you can see from the second picture, today's air bags are much larger. In addition to preventing contact with the steering wheel, they are now designed to prevent the driver from hitting the windshield. The picture shows the *partially* inflated bag virtually encompassing the entire space between the driver and the windshield.

You can also see a side curtain air bag covering the side window.



This has caused a re-evaluation of the best way to grasp the wheel and the way to add steering input while not causing further personal injury in the event of air bag deployment. The result is an 8 & 4 hand position and use a "Push - Pull" shuffle technique.

Here is a steering wheel with the most common hand placements. The red, at 12 O'clock, is what I call the Idiot Position. The driver has virtually no control in case of an emergency situation. When the air bag explodes, it will force the hand up and pin it to the roof of the car. When that happens the arm can be dislocated from the shoulder and the arm can also be broken as well.

The usual 10 & 2 position, in orange, is better as long as there is no

steering input when the bag goes off. The vast majority of steering input when in a 10-2 position results in one arm being at 12 O'clock or beyond. Hello dislocated shoulder and broken arm.



Here is a picture of a Formula 1 racing steering wheel. And you thought your radio controls on the wheel were a bother! The F1 drivers must use the 9 & 3 “racing” grip, which is in yellow on the Porsche wheel. It is the grip I use on track. It affords the most control in case of a blow out or an off track excursion. Since the hands are forced into opposite directions (one up and one down), it is much easier and quicker to bring both of them back to straight. The problem

here is if you are at a fairly tight steering angle, your arms are basically crossed. (I use a hand-over-hand process in that case.) Like many other track oriented cars, I have an aftermarket steering wheel in “Yaller”. It does not have an air bag, so I do not have to worry about having a permanent imprint of my watch on my forehead from an air bag deployment. I have racing seats with 6 point racing harnesses that keeps me tightly strapped to the seat. This negates the effectiveness of an air bag and I don't have to worry about accidental deployment due to high G forces. Also, my steering wheel is also removable so I can drag myself out of the highly bolstered seat. But I digress...

Enter the 8 & 4 Shuffle or “Push – Pull” steering. You do this by placing your hands at the 8 & 4 O'clock position, in green. The goal is to never have your hands reach the 12 O'clock position, or beyond, on the wheel.

As you enter a left turn, you will push the steering wheel up with your right hand towards the 1 O'clock position, while reaching for the 11 O'clock position with your left. Then you grip and pull down the wheel with your left hand while moving your right hand back down to the 4 position. You are moving both hands up (or down) simultaneously. One hand is on the wheel and the other getting ready to grip the wheel.

To unwind or unwrap the steering, let the wheel slide through your hand rather than reversing the process. The caster settings on the car will naturally straighten it out. To see a good in car explanation and demonstration of this by a police academy driving instructor, please click on this video: https://www.youtube.com/watch?v=e5IJL6rwe_8

There are two situations where this may not work as desired.



The first would be if the wheel has a flat bottom, like the VW wheel on the left. You could end up grabbing nothing but air as the wheel is turned. Also, as you let the wheel slide through your hand as you straighten out, it may be unsettling as the flat bottom passes.

The other situation would be if you have paddle shifters that move with the wheel. You may not tap the paddles or possibly tap the wrong one in the middle of a turn.

Other than that, I believe the 8 & 4 push-pull method is the way to go with newer cars.

This takes a bit of practice, usually 3 or 4 weeks, to feel comfortable with it. Once you try it a few times, you can tell pretty quickly that it is an easier and safer proposition.