

Cornering on a motorcycle

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Introduction

As I discussed at the June 2013 meeting, Arkansas is unique in that 2/3 of our motorcycle accidents are caused by us on the open road and about 1/3 are in an urban/city environment. This is the exact opposite of accident statistics in most other states. It does not take a genius to figure out that Arkansas is blessed with thousands of miles of winding, curvy roads. Many of the open road accidents are the result missing a curve and crashing. Even though I worked hard to condense the information, this article is still lengthy and covers both two wheel and trike cornering. In researching this article, I did considerable condensing and found that most articles on the subject excluded critical information. Here is my humble attempt to combine and compress all that I have read, heard, and seen in over 50 years of riding in the hope that it will help my fellow riders. It sure reminded me of things I need to keep in mind.



Training Courses: If you have not already done so, I would encourage the taking of an Experienced Rider Course to learn/reinforce the basics of motorcycle cornering. If you have never taken the basic course, I would recommend this as your starting point. Where these courses come up short is that they are almost always conducted in a parking lot which does not give you needed coaching on cornering at highway speeds. Even though you have lots of miles and experience under your belt, you still may have a lot to learn and nowhere is that made clearer than if you have a fear of corners

Tires: Modern day motorcycle tires use a "multi-arc profile" which results in the tire contact patch growing as the motorcycle is leaned into a corner. This combined with proper tire inflation has a big impact on your motorcycle's cornering capability. Over inflated or underinflated tires significantly impact cornering capability and safety. I tried mildly over inflating my tires to get more mileage and almost crashed on a flat twisty country road.

Weather/Road Conditions: Beyond stating the obvious, it is important that we look through the curve and as far down the road as possible. You do not want to discover wet leaves half way through a high speed turn since this is not conducive to good health. Adjust speed for weather and road conditions.

The Basic Mechanics of Two Wheeled Cornering:

Here is a proven sequence you should apply in every corner you encounter. There are four words to learn. Those words are; "slow, roll, look, and press." You're going to repeat those words during every corner. Talk to yourself out there--talk yourself through each corner.

"SLOW" As you're approaching the corner, you must slow to a suitable entry speed. A suitable entry speed is one that allows you to roll on the throttle and accelerate all the way through the curve. As you slow, you're going to position your bike for the turn. Position it to the outside of the turn. This means for a right turn, you're going to position your bike 2-4 feet from the left side, which is the centerline of the road. Oncoming traffic may require you to move farther right. For a left turn, position your bike 2-4 feet from the right side, or the edge of the road.

"ROLL".... Once you've set your entry speed, get back on the throttle. You don't have to whack it open, but it needs to be "open"--that is, positive throttle--all the way through the turn. Decelerating or "rolling off" mid-turn destabilizes the bike, reduces traction, and reduces cornering clearance. Smooth, open throttle is what you want. NOTE: You haven't started turning yet! You've only slowed down, then opened the throttle back up

"LOOK"..... Focus your head and eyes on where your bike is going to be in 2-4 seconds. Your bike will go where you're looking. Look as far through the turn as you can to find the exit. This is the point on the road where the turn is finished and you're going straight again. Since your bike will want to go where you're looking, do not stare down at the ground in front of the front tire. You don't want to go there! You also want to avoid looking at the edge of the road, the ditch, the oncoming traffic, the trees, the gravel shoulder, etc. Stare at those things long enough and guess what? Your bike will go there. Focus on where you want your bike to be in 2-4 seconds. NOTE: YOU STILL HAVEN'T TURNED IN YET. You're still set up on the outside of the turn and you're following the curve of the road only.



"PRESS"... Press on the handlebar to lean the bike into the turn. This requires countersteering. To lean right, press forward on the RIGHT handlebar (or pull backward on the left handlebar, if that makes more sense.) To lean left, press forward on the LEFT handlebar, or pull back on the right.

This might sound backwards, but it's the only way to steer a two wheeled motorcycle at speed. Initially, you point the front tire AWAY from the turn. This makes the bike lean into the turn quickly. Once the bike is leaned over, the front tire naturally points into the turn (right for a right turn, left for a left turn). This backward method of steering is known as "counter steering"

When you first turn the bike into the corner, you are "aiming" for the inside of the turn. Even though you're starting from the outside, you want to use all the road, therefore you want to be on the opposite side of the road during the middle of the turn. The ideal line through a turn doesn't follow the exact curve of the road. It straightens the turn somewhat. You want to finish the turn on the outside again. Outside-inside-outside. With the exception of a very slight curve, if you are team riding in formation, **you should break formation (single file)** to set up for the turn regardless of what the Road Captain says

Referring to the below diagram, pick a point on the outside of the turn just before the curve, and pick a point on the outside of the turn just after the curve, and make a little dot at each of those two points. Now, draw the straightest line you can between those two points while still within the edges of the road. See how it brushes the inside of the turn? Notice also that using this line effectively "straightens" the

curve, making it safer and easier to negotiate. A clear sign that you need help is if you are guilty of “fifty pencing” which is a British phrase used to describe beginning riders who make multiple course corrections in corners

One important note: Don't "press" until you have spotted the exit. You don't want to turn too early. Stay on your outside line, following the curve of the road, and keep looking through the turn until you see where the curve ends and the next straight begins. THAT is when you press and initiate the turn. Don't commit to it until you know for sure where you're going!

Head Position: The importance of proper head position in two wheel cornering was driven home to me by Don Hewitt. If you watch people who are good at curves e.g. Don Hewett, Honda Rick, Dan Gruben, they all keep their heads vertical in relation to the ground. It is amazing how much impact this has on your cornering until you try a corner both ways.

If this all sounds scary and confusing, that's because it is. It takes years of practice, training, riding experience, and focused learning to get good at this. However, every turn is pretty much exactly the same: SLOW, ROLL, LOOK, and PRESS. Use that same pattern every time, use the outside-inside-outside path of travel, and use good throttle control and you'll be a corner expert sooner than you think.

Trike Cornering

Introduction: It took considerable research for me to feel comfortable writing an article on trike cornering. My experience is limited to numerous test rides which probably covered all of 15 miles in total, hardly enough to be an expert. If any of you experienced trikers disagree with anything written here, please don't hesitate to contact me and I will make amends. This type of discussion ALWAYS BEARS FRUIT!



I once heard, "It's easier to teach people who have never ridden motorcycles, to ride a trike, than to teach people who have ridden 30 or 40 years." This goes against everything we ever learned. Experience, we've been told, is always the best teacher. But not with riding a trike; here the experienced must be untrained from two-wheel thinking, to three-wheel riding.

Step one in this back-to-school program is which can include instructional videos which provide an excellent though brief overview of everything we can expect to encounter on a trike. Additionally, there's a detailed safety manuals and GWRRA trike courses available , highlighting the science of trikes, along with some common sense two- and three-wheel safety approaches. Then, after a bit of Q & A with the instructors, we are ready to hit the road - or at least, the parking lot.

First Rule

Never, ever, put your feet down. There are three wheels, so you won't tip over. But most certainly you can "mouse trap" your feet under the body or rear wheels - not an enjoyable experience.

Second Rule

All units have a hand brake, just like the one in your car, and you must release it before moving out. Without a kickstand, there's nothing but the hand brake to keep the trike from rolling into Grandma's Corvette.

Third Rule

The wheelbase of a trike is roughly the same as that of the two-wheeler, but because of its bodywork, it's slightly longer and a whole lot wider. To determine just how wide, once seated, stretch out your arms -- that's the width you must allow for when cornering.

Fourth Rule

A trike involves "direct steering." Point into the direction of travel, lock your outside elbow into the turn, and then roll on the throttle through the turn - this differs from a two-wheeler where you counter steer and lean through a corner. Using the Point, Lock, and Roll system, we went into, and out of, every type of corner quicker than when riding any comparable two-wheeler. And what's more, we did so with increased confidence from not having to brake or steer around light road debris, such as sand and gravel.

Fifth Rule

Look into and ahead of your direction of travel. Look to the farthest point of the curve. Good advice, whether on two, three, or four wheels.

Sixth Rule

Use both front and rear brakes. On a two-wheeler, your rear brakes are 30 percent of your stopping power. On a trike, though, two rear wheels mean twice the stopping power, so you don't want to override your front wheel. Even in panic stops, the trike stops quickly and keeps straight.

Summary: Don't hesitate to resource other members who ride well and get them to coach you. Don Hewitt, for example, rides one of the finest lines in a corner that I have ever witnessed. He also has considerable talent in articulating what you should do and how to do it.

