## GOING AROUND THE BEND
## (And Staying in Control Along the Way)

*By Paul Nuccio, Regional Lead Instructor, Harley-Davidson Rider's Edge®*

One of the great joys of motorcycling is skillful cornering: artfully working your way through a curvy, twisting road in complete control of your machine.

You know what I mean: Slowing to just the right entry speed, looking ahead to see what the curve holds in store, pressing on the handgrip in the direction of the turn, then rolling on the throttle and accelerating smoothly through the curve.

What's that? You say that's not what you're thinking when you ride through a curve? Then maybe it's just the instructor in me that thinks that way. Or maybe it's that the proper cornering technique I just described has become a part of you, and you do it without thinking about it.

Or maybe – just maybe – you never learned that technique, and you've just been winging it all these years (or months, as the case may be).

Whatever your level of experience and/or formal training, it never hurts to brush up on your cornering. After all: Cornering mistakes are a common cause of motorcycle crashes.

Let's start by taking an in-depth look at the method officially prescribed by Rider's Edge and the Motorcycle Safety Foundation (MSF): Slow, Look, Press, and Roll.

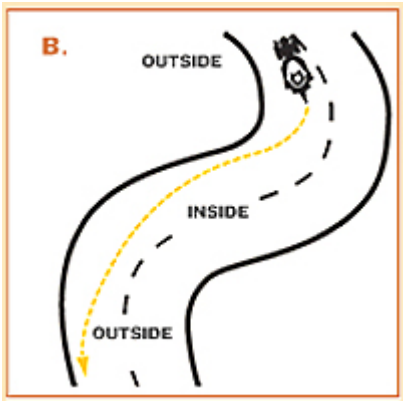
### SLOW

The first key to proper cornering is to enter the curve at the right speed. Usually, this means slowing down – either by braking (remember to always use both front and rear brakes) or by simply rolling off the throttle. In either case, remember that it's always better to err on the side of entering too slow. This is especially true on unfamiliar roads, where you may not know how sharp the turn is or what lies beyond it.

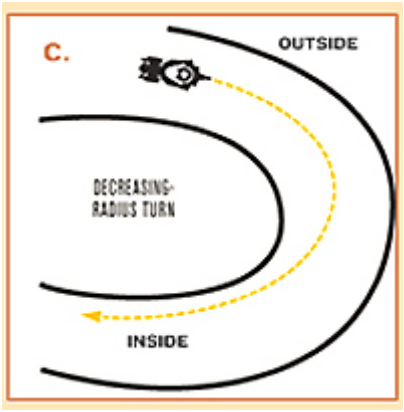
If you go in too slow, you can always speed up as you go through the curve. But if you go in too hard ... well, now you're opening yourself up to some unfortunate possibilities.

For one thing, braking in a turn is problematic. It compromises your traction and increases the risk of going into a skid or losing control of the motorcycle. If you're going too fast and don't brake, you risk crossing the centerline (and

*A. In a standard corner, such as the right-hand one illustrated here, approach by setting up in the outside of the curve (away from the direction of the turn), as shown, then go toward the inside of the curve as you enter it. As you exit, return to the outside position. This gives you the most direct line through the turn, resulting in a more gradual, more controlled turn.*




*B. In an "S" curve such as this one, look again for the most direct line. In this case, it means starting again on the outside, hugging the inside line through the curve, then returning to the outside position upon exiting. Note that in this example, the rider exits the turn in the right-hand lane position. Once you are clear of the turn, return to the preferred lane positioning.*




*C. The proper approach to a decreasing-radius turn is very similar. Again, approach from the outside position, then work your way inside through the length of the curve. This gives you more margin for error on the outside should you find yourself caught off guard by the sharpness of the curve. Note: A decreasing-radius turn provides an exception to the Slow, Look, Press,*

facing the obvious potential consequences), or running off the road entirely into who knows what. (According to the MSF, running off the road, usually in a curve, accounts for more than 40 percent of motorcycle fatalities.)

Another important thing to remember is to downshift (if necessary) as you slow down, because you want the motorcycle to be in the proper gear when you get to Step 4, rolling on the throttle.

To summarize: Use both brakes, downshift if necessary, and err on the side of entering a turn too slowly.

## LOOK

Approaching a turn at the proper entry speed also gives you the best opportunity to execute Step 2: turning your head and looking where you want the motorcycle to go. Keep your eyes up, turn your head in the direction of the turn, and look as far ahead into the turn as you can. This accomplishes (at least) two things: It helps you gather as much information as possible about what lies ahead, and it helps tell the rest of your body what to do.

Look for what may lie ahead: the sharpness of the curve, potential obstacles, gravel, an animal, wet leaves ... anything that would prevent you from negotiating the curve as you might like to. React as needed by slowing further, adjusting your line, or even executing an emergency stop, if necessary. As I like to put it: Be paranoid. It only takes one completely unexpected event or circumstance to end your riding day ... or worse.

One of the things many instructors harp on (or should I say "emphasize") on the training range is the head-turning component. It doesn't come naturally to a lot of riders, and the benefits aren't necessarily obvious. "I am looking through the turn but with my peripheral vision," is a common defense.

But it's not just about seeing. Turning your head in the direction of the turn, I believe, helps "alert" your body to your intentions. Whether it's the balance neurosensors in your inner ear getting involved or whether it's a purely psychological phenomenon, I can't say for sure. But it definitely seems to have an effect.

## PRESS

As you enter the turn, initiate the turn by pressing forward on the handgrip in the direction *and Roll technique, in that you should maintain a steady throttle through the curve and not accelerate until you are well on your way out of the curve.*

## CORNERING IN GROUPS

Another common question is: "When I'm riding in a group, should I stay in the staggered formation through a curve or take my best line?"

The answer is ... it depends. Through gentle curves, it's usually best to stay in formation. But through tighter "twisties," riding in single file is probably better – as long as you're all on the same page.
What I recommend is talking to the ride leader before the ride or asking the question during the pre-ride meeting: "Are you going to give the single-file signal when we go through curvy roads?" The answer you want to hear is, "Yes."

When the single-file sign is given, it's also important to remember to adjust your following distance. In staggered formation, the normal following distance to the rider immediately ahead of you (in the opposite side of the lane) is one second. When you switch to single-file, that rider will be directly in front of you, so you should ease your way back to create more space: two seconds or more is recommended.

The most important thing to remember is: Don't do anything you're not comfortable with. Group riding can create a sort of "peer pressure." Don't succumb to it. If they're taking curves (whether in formation or single-file) too fast for your comfort level, don't be afraid to speak up. If they don't take your concerns seriously, you may not want to ride with that group anymore.

of the turn (e.g., press the left handgrip to make a left turn). This will cause the bike to lean in the direction you want it to go. This technique is called "countersteering," a phenomenon of physics that can be confusing or even controversial. But for our purposes here, it's probably best to think of it in these simple terms: Press left, lean left, go left. Press right, lean right, go right.

Here's another tip I like to use on the range: Don't just press forward, but down and forward. I tell students to press toward the front axle of their motorcycle. It's a more natural motion than pressing directly forward (depending on the configuration of your bike) and may help you get a better feel for how the motorcycle responds.

## ROLL

The last step in the process, rolling on the throttle through the turn, is also somewhat counterintuitive (like countersteering). Students often think to themselves, "Why would I want to speed up in a turn?" It's not how people turn in cars. But a motorcycle is different (to state the obvious). It has a lot more "inputs" than a car does and will handle better if you roll smoothly on the throttle (not "gun it") through a turn.

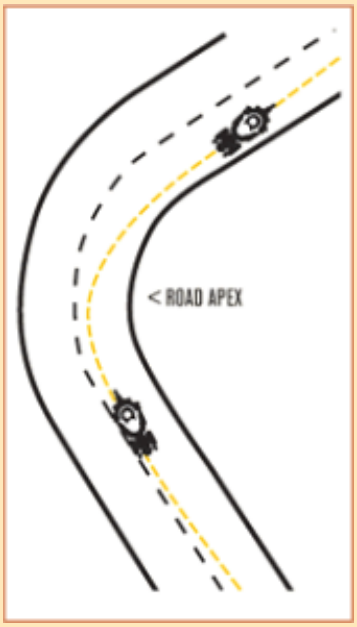
Perhaps the most important word in that last sentence is "smoothly." Keeping a steady hand on the throttle will help stabilize the bike as you corner and keep it from experiencing a "rocking horse" effect. Any time you're in a turn, you want the suspension to be stable to maximize handling ability and traction. On the range, instructors will often check for a steady throttle by listening. If they hear a lot of rrr-rrr-rrr (instead of a steady rrrrrrr), they know the throttle is not steady.

Of course, you don't necessarily want to accelerate throughout a turn – but you don't want to coast, either. On longer curves, maintain a steady speed through the middle, then accelerate out of it. One reason for accelerating out is that it will naturally help pull the bike back into an upright, vertical position.

## THE RIGHT LINE

Another important aspect of proper cornering is choosing the right "line." In most basic situations, that means taking an "outside-inside-outside" path through the curve.
What this technique does is "flatten out the turn"; that is, take the most direct path through the turn. It takes best advantage of the full width

## "DELAYED APEX" TURN




A "delayed apex" turn is a technique that gives you a better opportunity to see around a curve before making the turn. Approach a little more slowly than you otherwise might and go a little deeper into the curve before starting your turn. As you enter, turn your head and get a good look at what's around the corner, then, if everything's "all clear", press on the handlebars in the direction of the turn and roll on the throttle as you exit. It's not the quickest way through, but it's the more prudent approach in certain situations.

## GET THE EDGE

Of course, the best ways to improve your cornering skills are 1) take a class, and 2) practice. If you've never taken a basic MSF or Rider's Edge course before, you'll be surprised how much you'll learn – even if you've been riding for years. If you have taken one before, consider taking an Experienced Rider Course. Contact your local Harley-Davidson dealership to find out if they offer the Rider's Edge New Rider Course or Skilled Rider Course.

## A WORD ABOUT COUNTERSTEERING

Chances are, you learned how to countersteer when you were five or six years old. Because if you've

of road and allows you to take a turn less sharply. It involves less leaning and braking, which gives you better traction. Plus, if you were to suddenly find yourself in a predicament, it puts you in a better position to straighten up the motorcycle and stop quickly.

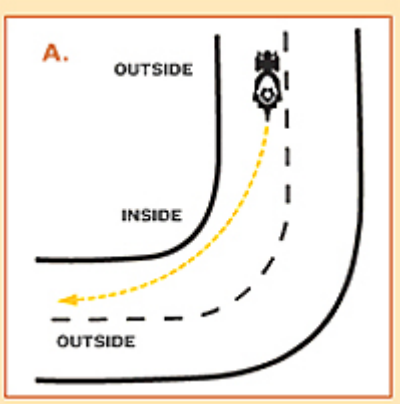
A more advanced cornering technique is called a "delayed apex" turn.

This technique is not the most "efficient" (that is, "fastest") way through a turn, but it can be useful when you have reason to believe the approaching turn may hold a surprise.

Perhaps you can see that you'll be turning into a shaded area, and you're concerned there may be moisture or even ice on the road. Or a gravel driveway looms just beyond the turn.

Basically, a delayed apex turn involves swinging a little wider than normal as you approach, then turning a little more sharply a little deeper into the turn. This gives you a better angle of view to scout out potential hazards. It also means you'll be turning a little bit more sharply, so adjust your entry speed accordingly – in other words, "slow down!" Once you see that the road ahead is clear, you can roll on the throttle with greater confidence.

## PATH OF TRAVEL




ever ridden a bicycle, you've utilized this mysterious technique, whether you realized it or not.

Crudely put, countersteering means turning the handlebars to the left to make the bike (or motorcycle) go to the right or vice versa. It's a counterintuitive concept, something of a phenomenon of physics, often the subject of fascinating debate (and arguments), and can easily confuse riders more than it clarifies things. But here's the scoop ...

What keeps a motorcycle upright is not your amazing balancing skill but the gyroscopic effect of the spinning wheels. That's why it's so stable at speed, but falls over so readily when you slow down or stop. These gyroscopic forces do some unexpected things. For instance, when you push on the right handgrip, turning the front wheel slightly to the left, the gyroscopic effect pushes the bike into a right-hand lean. And this lean is what initiates the turn.

It's not necessary to understand the science of countersteering, but understanding its effects can help you be a better rider. For instance, if you find yourself fighting your bike to make your line as you go through a curve, there's a good chance it's because you're trying to "steer"it instead of "countersteer"it. Next time you find yourself in that situation, try pushing on the handgrip in the direction of the turn – and marvel at how readily your bike dives into that corner!