

# BMMC Rider Training

## Leaning Your Motorcycle



### A. Learn to Trust Leaning

There are riders among us who are clearly afraid of leaning their bikes. Leaning is a crucial element of riding and a critical skill to master so that you have the option to use it when necessary. Motorcycles will safely lean probably more than most riders ever venture to find out about, given that the traction is good and other inputs/actions have not used up your traction reserves.

Here's a hypothetical example:

"I was leading four bikes through some tight twisty back roads northwest of Kirkland on our way to Bagdad, AZ. I misread (my bad) an approaching turn at the end of an uphill right turn. Still at 50mph, I set up wide in my lane and entered the turn. To my surprise, it was a decreasing radius turn, with a car coming in its lane in the opposite direction. I maintained my throttle (to keep my ground clearance), looked to the exit point of the turn (to maintain my path of travel, and not fixate on the car), pressed harder on the right grip (to increase my lean angle), and rode it through even though my floorboard was dragging. The bike simply stuck to the pavement, easily made the turn, and I rode on."

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What's the point here? Our rider trusted his bike, and himself to do what he had trained to do. Had he not pressed harder on the handgrip to increase his lean angle, the bike would have run wide and possibly hit the car. If he had backed off on the throttle but maintained his line and lean angle, the bike would have squatted down, lost lean clearance, and possibly unstuck the rear tire (can you spell low-side?). If he had backed off the throttle and touched the brakes the bike would have squatted but stood up (the physics involved would cause the bike to straighten up by applying the brakes) and it would have run wide (exactly the worst thing to have happen). He was fortunate that the road was in excellent shape and clean with great traction.

Our rider's initial mistake of misreading the road was corrected by applying the leaning techniques most motorcycles are capable of, but many riders never attempt, or learn to use. However, the *most* important thing he re-learned was to not enter a turn at speed when he couldn't see the entire turn. He should have slowed to about 40mph before entering that turn since he couldn't see all the way through it.

## **B. Your Riding Skills Arsenal**

Leaning is part of the arsenal of CRITICAL riding skills necessary to master in order to fully enjoy riding and give the rider the ability to react properly. Leaning, high effort braking, throttle/clutch control, traction management and strong visual skills are the CRITICAL SKILLS that must be learned and mastered to survive for many years/decades of riding.

Ok, so how do you get to that level?

1. Take an experienced rider course.
2. Sign up for some "Track Days" on your bike.
3. Read some of the excellent books available at many bookstores.
4. Ask experienced riders who have done these things.
5. Practice, and get familiar with what your bike, and you, can do.

The *Practice* part is, by far, the most important. But where should you start?

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## C. Practice

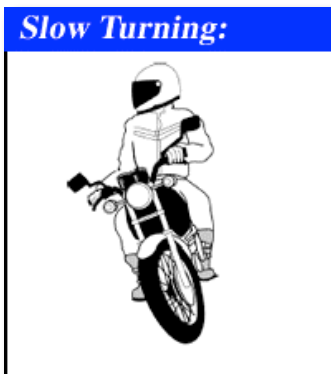
Start with slow maneuvering to build up your trust in your bike and in yourself. Keep in mind that a motorcycle turns by leaning, especially at speed. Speed, here, is defined as anything above about 15mph where the gyroscopic effect takes place on most motorcycles. At very low speeds (<15mph) on a motorcycle, you can turn without leaning simply by turning your handlebars back and forth, however, turning with the bike straight up is not a natural movement. The motorcycle is designed to lean.



By way of an example, if you walk your Road King around in a circle with the bike straight up, it will have a turning radius of about 22' to 24'. If you lean the bike over to its lean angle limit, that same Road King will turn in 16' to 18'. So, if you're able to lean your Road King over only about as much as it leans while sitting on its kickstand, you can make a U-turn on a 20' wide street with no problems. If you try to turn with the bike straight up on that same 20' wide street, you

won't make it. You'll wind up having to back up that 800lb. bike and duck-walk it forward to make that turn.

The first thing to do is get familiar with the "friction zone" and using the *rear* brake. The friction zone is the area on the clutch between fully open and fully closed. As you let the clutch out and the bike starts to move, you're entering the friction zone. With the motorcycle in the friction zone, keep your foot on the rear brake and feather it as the bike starts to move. By doing this you are making the motorcycle think it's going faster than it is.



Try going slowly in a straight line. Remember to keep your head and eyes up. Begin making turns at 3 to 5mph by turning your head from left to right. Your body should be straight up as your bike leans under you (see diagram to the left).

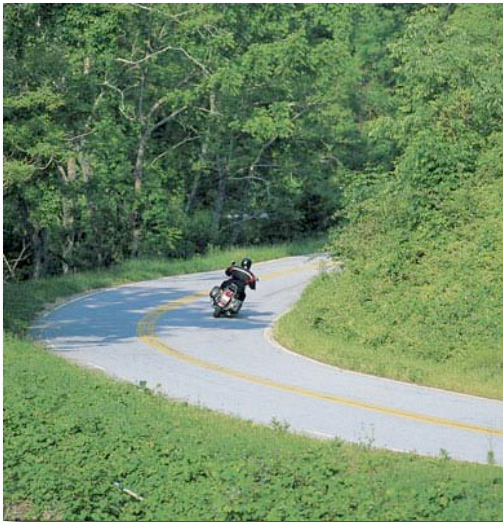
Now, get your speed up to 15mph or above, let the clutch out all the way, get off the rear brake and start pushing the handgrips back and forth. Hold the throttle steady and let the bike weave from side to side. The bike wants to lean, so let it. In fact, above 15mph it *must* lean when you push on the handgrips (it's a physics thing).

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Once you get familiar with the sensation, slow down to 5mph or so and try to duplicate that side to side leaning sensation while in the friction zone and putting a little pressure on the rear brake. Set up 6 cones in a straight line at 14' apart and begin weaving through them. As this exercise gets easier, start cutting the distance to 13', then 12' apart.

When you get bored with the cone weave, start turning circles. Start with no markers and big 30' or 40' turns. Have a person stand in the center of the circle and focus on that person's face as you ride around them; that should keep you from looking down at the ground. In addition, that person can tell you how far you're leaning, the further the better.

I know this sounds like a lot of work, but it *will* save you from injury, or worse. All it takes is a few hours of practice.



Enjoy your ride!

If you find you are not comfortable with your *critical skills* level of riding, then adjust your riding style to make sure you don't put yourself in a situation you are not able to respond to.

- Learn from every ride.
- Be honest with yourself about your abilities.
- Realize you *do* have much to learn and gain.
- Push yourself, but trust yourself.

It is VERY satisfying when it all comes together.

Hope this helps.