



MRC News

Dealing with a Rear Wheel Skid

(Intermediate)

By Don Withrow

If you learned to ride by taking a novice riding class you certainly remember your instructor cautioning you to never lock up either wheel when braking. They probably told you that too much pressure applied too quickly would cause that. Hopefully, they also told you that if you lock the front wheel to immediately release the front brake and reapply. And, as a novice they likely told you that if you ever lock up the rear wheel on a surface that affords good traction that you should keep it locked – just ride it out they said. Of course the best thing to do is not to lock up either wheel in the first place.

As a novice keeping the rear wheel locked is probably wise because you haven't developed the skills necessary to do otherwise. If you're riding on a fairly flat surface, your motorcycle is near vertical and you're travelling pretty much in a straight line then it's not difficult to keep the rear of the motorcycle in line with the front while the rear wheel is skidding. Keep the rear in the rear they say.


If you're applying both brakes, and that should almost always be the case, to slow or stop and the rear wheel locks then it has no traction. The rear wheel is skidding while the front wheel is rolling and still has traction. With no traction the rear wheel is capable of going faster than the front wheel. Well now there's a brain teaser for sure. I mean after all, the front and rear are connected together so how could that be? Remember I said it is "capable" of going faster, not necessarily that it will go faster. As long as you keep the rear in the rear that won't happen.

However, when the rear wheel gets out of alignment with the front then the skidding rear wheel *can* go faster and certainly will. It has no traction and, without correction, will get farther and farther out of alignment until the bike lays down. Ouch! There's some road rash coming for sure. We call that low-siding.

So you're asking if the rear is out of alignment and skidding and you're in danger of low-siding the bike, then why

not just release the rear brake and reapply. After all, we do that if we lock the front wheel so why not for the rear? The answer is straight forward. Locking the front wheel makes you lose total control of the motorcycle. You have less than a second to release the front brake to avoid that.

When you lock the rear wheel you lose directional control of the motorcycle. When the rear is skidding the bike will continue in the same direction it was going when traction was lost. If the rear wheel is aligned with the front wheel or just slightly out of alignment you *can* release and reapply and traction will be restored. But, if the misalignment is significant and you're riding on a good surface (like asphalt), restoring traction to the rear wheel will put the motorcycle in an untenable position. The front wheel is pointing in one direction and the rear wheel is pointing in another direction. The rear cannot follow the front. Both wheels now have traction but they can't roll. Now inertia and kinetic energy (momentum) take over. The wheels can't roll but the motorcycle (mass) still has momentum. That momentum will cause the motorcycle to pitch in the general direction of the front wheel which will catapult the rider from the motorcycle. Ouch! More road rash.

So, with all this explanation and cautions how the heck to you deal with a rear wheel skid? First and foremost avoid it by practicing maximum brakes with both brakes and not locking either wheel. Second, IF the rear wheel locks and begins to skid, release the rear brake before the rear is out of alignment with the front wheel. Then reapply the rear brake. You can practice that. 

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From Sea to Shining Sea (Intermediate)

By John Cox

I've crossed the US west to east in 2.5 days. I like heading that way, the wind is usually at your back, and you aren't riding into a setting sun. Here are fifteen tips I've learned from experience, or been given by some hardcores long distance riders:


1. Hydrate, hydrate, hydrate. It is difficult to overemphasize this. Dehydration leads to poor decisions, and poor decisions lead to mishaps. You can use a camel-back to sip while you are underway, but the camel-back has limited capacity and puts weight on your back. I've settled on this: <http://www.st-owners.com/forums/showthread.php?63619-Mick-s-Hill-billy-Hydration-System> IIRC, 160 ounces of liquid goodness. A folded hand towel under the front of the Coleman kept everything level. Fill with ice/water and ride. This is just one option. Some riders bungee a cylindrical cooler to the passenger peg, which works well if you have panniers (a.k.a. saddlebags).
2. Don't dawdle at gas stops. All of that wasted time adds up. Gas up, use the facilities, and go. My stops were about 8-10 minutes. You can eat and drink on the road. I find in the heat I don't eat much, but drink H₂O constantly.
3. Wear bicycle shorts. Well... under your riding pants. They work.
4. Use Monkey Butt/Gold Bond Medicated Powder. Either works well for your comfort.
5. Carry Beef Jerky/Banana Chips. Texture, protein and potassium. Pack it on the bike, saving more time at stops. You can attach a pouch to your handlebars for easy access (the drawstring ones sold at Petco work well).
6. Down a Gatorade or energy replacement drink needed, especially if the temps are super high.
7. If temperatures are super high, pack your suit with ice at each stop. You'll enjoy about 60 minutes of evaporative cooling, and just use the leftover ice from the sack you purchased to fill the cooler.
8. Starting time is a personal choice. I start at 4 - 5 am each day, as I prefer knocking out miles early and that keeps me in a good mindset all day. I ride until 10 or 11 at night, later if needed.
9. Stop on the far side of the big city. You avoid traffic

the next morning (but leaving early obviates that as well).

10. Make sure you are super visible. Reflective tape on your panniers, helmet, and reflective strips on your suit will help you be seen, and survive.
11. Pack light (or take half of what you think you'll need). You don't need much, and if you break down, see 14 below.
12. Bring light. I carry a headlamp, which frees your hands to work on the bike at night. Some very experienced riders also Velcro the led lights used for ball caps to their panniers or to the side of their bike. It is nice to have that light when you are stopped on the side of the road.
13. Call your credit card company to tell them you'll be traveling so they don't see the multiple gas purchases and shut down the card. Bring cash for when they shut it down anyway.
14. Get towing coverage from your insurance. This will save you tons if/when your bike breaks down.
15. Finally, consider getting an ezpass/fastpass. Depending on your route, using one will save you tons of time at toll roads.

Ride Safe. 

Getting Back on the Road

Winter is a distant memory, spring has come and gone and summer is full on. It's time to stop going out to the garage for your bike time and get out on the road. You'll need to tune-up your bike and tune-up yourself so you can enjoy what warm weather gives you. Get yourself into shape with our one-day riding clinic developed just for experienced, seasoned riders – the MRC [Advanced Skills Course](#). If you have six minutes to spare watch our highlight reels [video](#). 



Night Riding Tips

By John Cox

Riding at night can be a blast, but increasing your visibility and ability to see is important. To increase your visibility, consider placing some pieces of retroreflective [Safety of Life at Sea](#) (SOLAS) tape on your helmet, perhaps one 2" diamond directly on the rear of the helmet, perhaps 1" diamonds on the helmet's right and left rear/side. Your helmet is the highest point on the bike when you are on it and is most likely to attract the attention of nearby drivers. Consider also adding some SOLAS tape or reflective stickers to your bike, or panniers. Mammals are hardwired to pay attention to things that are wide (indicates danger), so any reflective pattern you can establish that sets up a triangle helps trigger a cager's attention, even if it is unconsciously. Ever pull behind the rider wearing a dark, non-reflective jacket at night, with only the ride's rear taillight glowing? Not so attention getting...

As just mentioned, having reflective panels or piping on your gear helps you be seen, too. If you have a top case, pull off the rear lens, discard that useless piece of white backer, and replace with white SOLAS tape. Reinstall the red lens, it will now positively glow when illuminated.

To increase your ability to "SEE" (Search, Evaluate and Execute), consider improving your headlight with a better bulb, and perhaps augmenting your headlight with auxiliary lighting. I use [Clearwater Kristas](#). The Kristas turn night into day, but the volume control makes it easy not to bother oncoming drivers when full brightness isn't needed. The auxiliary lights also establish that triangle pattern I mentioned above, giving me (I hope) a slightly better chance of catching the attention of potential oncoming left turners.

Ride Safe. 

The Silent Engine Killer (All)

By Mike Nicholson

You've all seen it while pumping gas at your local gas station: "Contains at least 10% ethanol". Our Government has made a valiant effort to reduce our dependence on foreign oil. Spiking our gasoline with distilled corn by-products seemed just the ticket. Ethanol (or ethyl alcohol) may even be found at some stations sold as "E85" or 85% ethanol. Great idea, right?

Yes, ethanol is highly flammable and low emission producing. Great for powering today's modern engines, but look out... it has a dark side. Over time, ethanol (unlike pure gasoline) attacks the small plastic and rubber parts

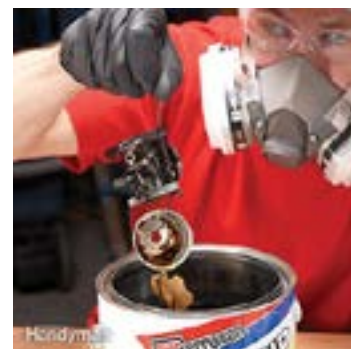
(All)

found throughout the engines fuel delivery system. Auto manufacturers realized this early on and began manufacturing engines with upgraded parts to combat the corrosive effects of ethanol. Now you can even purchase vehicles labeled "Flex Fuel" that are designed to burn E85 fuel, without engine damage.

Other problems include rapid oxidation or breakdown of the ethanol additive along with its anhydrous properties (attracts moisture); severely reduced storage life and performance reduction (in as little as 30 days from manufacture); ethanol causes gasoline to burn at a higher temperature and reduces miles per gallon traveled; and, lastly, seals and gaskets could leak fuel onto a hot engine could cause a spontaneous fire.

The weak link in the engine system

Carburetors are full of intricate plastic and rubber parts that must work precisely to meter fuel and air to a running engine. As these parts become damaged or the carburetor becomes full of water, engine failure is imminent. Operating at a constant higher temperature leads to even more costly repairs.



Although modern automobiles are manufactured with fuel injection and not carbureted, many motorcycles are still equipped from the factory with one or as many as 4 carburetors. Efforts in recent years by major motorcycle manufacturers have upgraded engines with ethanol resistant parts. Unfortunately, not all have followed suit. Also, many older motorcycles are still being ridden by owners that have had their bikes for many years. As a side note, ethanol laced fuel is proving devastating to the small engine industry. Lawn mowers, weed wackers, snow blowers, boat engines... anything that is air cooled is doomed to a reduced life span.

How to combat

First, use non-ethanol fuel. This is going to be difficult since the Federal Government is even trying to raise ethanol to 15% in gasoline. DON'T spike your gas with race fuel or AV Gas (aviation fuel). These products are still leaded and could ruin a modern motorcycle's exhaust system equipped with a catalytic converter.

Second, use a higher octane fuel (high octane gasoline burns at a lower temperature).

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Engine Killer... - Continued from Page 3

Third, use an “ethanol killer” additive product (available at your local auto parts store).

Fourth, when using machinery that requires oil and gas mix, use a high quality synthetic premix oil (helps withstand higher temperatures).

Fifth, keep fuel flowing through your engine... especially over storage periods. Better to start and run the engine periodically rather than let a vehicle sit.

Sixth, when storing power equipment, drain the tank *and carburetor* completely. Fuel stabilizers or storage additives are ok for shorter periods. Better to drain it completely and remove the risk.

Seventh, call your congressman. Let our government know that increasing levels of ethanol in gasoline is hurting the small engine industry and the consumer.

In summary, mandated levels of ethanol in our gasoline needs to be respected. Dealing with its side effects requires some vigilance to ward off potential corrosive and engine damaging effects. 🏍️



Brake and Escape

(Intermediate/Advanced)

By Don Withrow

We’ve all learned that to avoid a hazard in your path that you brake hard (maximum braking) without locking either wheel to stop before the hazard. And if you suspect that maximum braking will not stop you in time that you swerve to avoid the hazard. That’s pretty simple, right. We learned that as novices and it’s stuck with us over time.

When to swerve is pretty much a no brainer. The situation is obvious. You are travelling at a speed that will not allow you to stop for the hazard that has entered your path. So, you execute two consecutive counter-steers – one to change your path away from the hazard and one to correct your path to the original direction of travel. Hazard avoided... life is good once again.

Braking hard to stop short of the hazard is fairly simple as well as long as you and the hazard are the only ones on the roadway at the time. How often will that happen, especially in a major metropolitan area? There are nearly always other roadway users out there with you. Some to your front, your side and especially some behind you.

Situational awareness is important in all riding, even every-day riding if there is such a thing. Novice and intermediate riders are many times preoccupied with applying new skills and, therefore, aren’t totally aware of their surroundings and the actions of other roadway users. Gaining situational awareness will come with riding experience and should be top on everyone’s list to achieve.

Here’s a situation. Let’s say you are aware of your surroundings such that you know another vehicle is beside you and another behind you. Suddenly the vehicle in front of you abruptly stops or rapidly slows. You’re a safe rider so of course you have sufficient time (and distance) between you and the car ahead to brake hard and stop before you collide. Done deal, right? Not so fast there buckaroo. What about the vehicle behind you. Does that driver see what you see? Maybe they did see it, but did they see it as soon as you did so that they will be able to safely stop without running up your tail pipe? Will they be able to stop their vehicle in time? Those are very solid questions, but unless you want to leave your life in fate’s hands you don’t want to wait around to find out the answers. If the answers are yes, then there won’t be a problem. But, if the answers are no or even maybe then you’re not in a place you want to be. Why wait around to find out. **Brake and Escape!!**

You have the skills. You already know how to use maximum braking to stop in the shortest distance you safely can without locking either wheel. Hopefully, you haven’t had to use that on the street, but with any luck you’ve practiced in a parking lot or during your extended training with MRC. You also know how to swerve and we know you have practiced swerving enough to be effective when the time comes. We hope so anyway. Now you just have to put those skills together to get out of a tough situation.

So how does all this work? Pretty simple really. As soon as you notice the hazard ahead you’ll begin stopping quickly with both brakes using progressive pressure and downshifting as far as you have time for – all the way to 1st gear if possible. But, you don’t want to completely stop because that’s when the guy behind runs up your tail pipe. Not good. Instead of stopping just breakdown your speed to a manageable level and swerve to escape the nasty situation.

Which way will you swerve? Remember you are aware of your surroundings and you know that there is a vehicle beside you. We didn’t mention which side, did we? But, you know where it is. So, don’t swerve that way. Swerve the other way if it’s still there. Long before the hazardous situation developed you already knew where the clear paths for escape were. That’s where you’re going to escape to. If you’re still on the roadway you’ll be on your merry way. If you’re on the shoulder watch out for all that debris that builds up there.

The Brake and Escape maneuver is a lifesaving skill. Learn it. Practice it. Use it. 🏍️

Scooters- Maneuvers and Myths

(Novice)

By Trish Blomquist

They sip gas, they're fun, and just about anyone can learn to ride them. If you look around Virginia and Washington, D.C., it seems like scooter riders are everywhere. Who could blame them? They're simple, hip, and an economical, park-them-anywhere way to get around the city streets and traffic. But don't be fooled into thinking they're big toys or bicycles with horsepower. They are motorized vehicles that require an 'M' endorsement to operate.

The same five skills needed to operate a motorcycle are needed to operate a scooter.

MSF certified scooter RiderCoach, Don Withrow points out that there are five basic skills needed to ride a motorcycle as well as a scooter:

1. Riding in a straight line
2. Turning
3. Using both brakes to slow or stop
4. Shifting (motorcycle only)
5. Throttle control (for the motorcycle clutch/throttle control)

The obvious difference between a motorcycle and scooter is that a scooter has only one gear. Therefore, the rider doesn't have to worry about shifting and clutch control. Although the rider doesn't physically control the clutch on a scooter, the scooter does have a clutch. It's a centrifugal clutch. It operates by increasing or decreasing throttle input. As the operator rolls on the throttle (increasing input) the centrifugal clutch transfers more power from the engine to the rear wheel. Conversely, as the operator rolls off the throttle (decreasing input) the centrifugal clutch transfers less power from the engine to the rear wheel. This is why learning the skill of throttle control is important. Without throttle control, nothing else will turn out right.

Just like a motorcycle, a scooter has both front and rear brakes. The front brake lever is located in front of the right hand grip (throttle) just like a motorcycle. The rear brake lever is typically located in front of the left hand grip and operates the same as the front brake lever. Some scooters have a rear brake pedal (similar to a car) that is operated by using your right foot.

Riding in a straight line, turning and using the brakes to slow or stop are *almost the same* whether on a scooter or a motorcycle. A scooter has a shorter wheel-base and smaller wheels than a motorcycle. Smaller wheels make potholes

more hazardous. Paying close attention to road surfaces is very important.

Riding in a straight line is the same most of the time. Scooters may experience a bit of wind turbulence from time to time when vehicles pass. The scooter's lighter weight increases the effect. A scooter also doesn't have the power that a motorcycle - even with the same engine displacement. So, acceleration may be an issue on busy streets and at higher speeds. Pay attention to your blind spots. Cars and trucks have difficulty seeing you and hearing you. Scooters are quiet.

The same operator inputs are required for turning either at low speed using direct steering or at higher speeds using counter-steering. Scooters are more nimble than motorcycles in slow-speed turns, although riders need to take the scooter's floorboards into account. Counter-steering at higher speeds is the same for scooters and motorcycles.

Scooters might seem the casual way to go, but it's just as important to wear the right gear -- DOT-approved helmet, eye protection, proper shoes (not flip-flops), and rash-proof attire. After all, sliding onto the pavement at 50 mph is the same whether you're on a scooter or a motorcycle. Remember your S.E.E. (Search, Evaluate, and Execute), strategies. Motorcycles and scooters have the same risks.

Know your laws. Scooter laws are changing rapidly as legislators try to keep up with the effects of a growing scooter ridership. Scooters with 50cc or greater are legally the same as motorcycles in Virginia, and Washington, DC. The laws for riding scooters below 50cc are different in each jurisdiction. Here is a breakdown of the laws as they apply to scooters in Virginia and DC:

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MRC News

MRC News is a periodic publication written by the staff and faculty of Motorcycle Riding Concepts for the benefit and continuing rider education of our students.

Articles contained in each issue are geared to novice, intermediate and advanced riders. Readers must use their own judgement to determine the applicability of the content to their skill level.

Authors make every attempt to fully explain concepts, skills and techniques to a general audience. Interpretation is up to the individual reader. We welcome questions and comments about the content of ***MRC News***. You may address your comments to us through the [Contact Us](#) page of our website or via email to info@saddleupva.com.

Virginia

50cc (49cc) = Scooter

- Tax, Title, and Registration - Required starting July 1, 2014
- Tax: 6% of purchase price
- Title: \$10.00
- Registration: \$20.25
- Registration Length: 2 years
- License: NOT required, but you must have a Virginia ID card
- Inspection: NOT required
- Insurance: NOT required
- Helmet: DOT approved helmet required for all riders with eye protection *Note: Windshield counts as eye protection*

Other Rules

- May not *legally* travel above 35 mph
- No state laws restricting bike lane use: check local laws
- Must ride toward the right-most side of a lane
- May not travel on restricted access highways or interstates
- May park on sidewalks in some areas, check your local laws!

Anything above 50cc = motorcycle

- Tax, Title, and Registration: Required
- Tax: 6% of purchase price
- Title: \$10.00
- Registration Plate: \$28.75
- Registration Length: 2 years
- License: Class M motorcycle endorsement
- Inspection: Required for purchasing a new or used bike
- Insurance: Minimum liability coverage required
- Helmet: DOT approved helmet required for all riders with eye protection. *Note: Windshield counts as eye protection*

Other Rules

- May travel at the posted speed limit

- May not ride in bike lane
- Must obey all traffic laws
- May travel on any roads
- May not park on sidewalks

Washington, DC

50cc (49cc): Motor-Driven Cycle (Scooter)

- Tax, Title, and Registration: Required
- Tax: 6% of purchase price
- Title: \$26.00
- Registration: \$30.00
- Registration Length: 2 years
- License: Must carry a license of any class (example: regular car license)
- Inspection: Required for new and used scooter purchases
- Insurance: Minimum liability coverage required
- Helmet: DOT approved helmet required for all riders

Other Rules

- May not *legally* travel above 30 mph
- May NOT ride in the bike line
- May park on the sidewalk outside of the Central Business District

Anything above 50cc = motorcycle

- Tax, Title, and Registration: Required
- Tax: 6% of purchase price
- Title: \$26.00
- Registration: \$52.00
- Registration Length: 2 years
- License: Class M motorcycle endorsement
- Inspection: Required for new and used motorcycle purchases
- Insurance: Minimum liability coverage required
- Helmet: DOT approved helmet required for all riders

Other Rules

- May travel at the posted speed limit
- May NOT ride in the bike line
- May NOT park on the sidewalk

(Source: College Park Scooters) 