

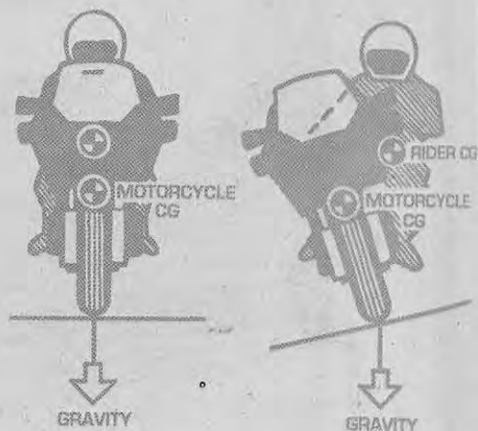
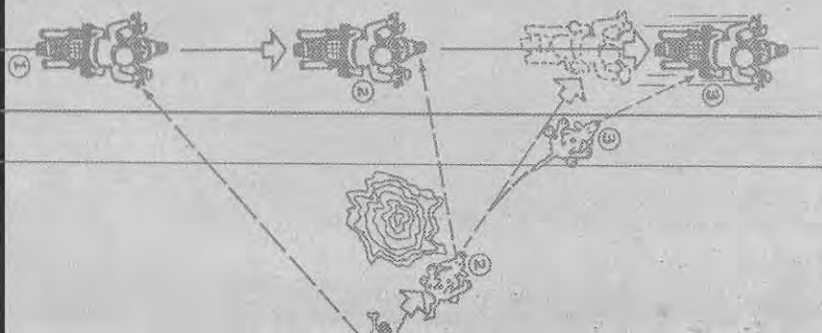
# Booby

FIGURE 8



ID  
4x4  
JRB

# Traps



# CHAPTER 5

## BOOBY TRAPS



### Surface Hazards

**H**ere's Biker Bob tooling along his favorite curvy back road, braking smoothly before each turn, scrutinizing the shape of the curve ahead to plot the right line, leaning the bike by pushing on the low grip, and rolling on the gas to maintain speed and ground clearance. You can't see his expression inside his Shoei, but he's had a grin on his face for the last 50 miles. This, thinks Bob, is what motorcycling is all about.

But as Bob rolls on around the next apex, the front tire momentarily steps sideways. Bob's heart leaps into his throat, and his survival reactions take over; he snaps off the throttle. The rear tire instantly releases its grip on the pavement. Before he can comprehend what's happening, the machine slams down on its side and squirts off into the ditch in a trail of sparks and shattered plastic. Bob won't even remember coming off the low side. His next memory is of sliding, sliding, sliding, and how unforgiving the pavement feels hammering through his leathers.

As he painfully gets up, Bob reaches for his throbbing left elbow and recoils as he feels something slippery. In spite of the pain, he twists his elbow around to look

for the source of the blood. There's a liquid, but it isn't blood. Rubbing his glove finger in the liquid, he smells it. Diesel oil! Biker Bob has just had a lesson about surface hazards. He had been so engrossed in the curves and the speed that he had failed to notice a trail of spilled diesel oil.

The very thing that makes motorcycles so much fun to corner is also their Achilles' heel: Two-wheelers demand traction just to balance upright. If a car or sidecar rig loses traction on one or two tires, the driver can be pretty ho-hum about it. But if a two-wheeler loses traction on even one tire, the rider will be lucky to avoid a fall-down.

Instinctively, we all know this. But we may not understand how to detect surface hazards, or what to do about them. Even when we see changes in the road surface, we don't always consider how different surfaces change the traction equation. And when a tire suddenly loses its grip on the road, our survival reactions tend to work against us. Let's think about some common surface hazards and then consider some techniques for keeping the rubber side down even when we encounter slippery spots.

Remember that two-wheelers are balanced by constantly steering the front wheel from side to side. Front-end geometry helps balance the machine automatically by constantly steering itself into a balanced condition. To turn, we unbalance the machine until it falls over into a lean, and we control the angle of lean by adjusting pressure on the grips. Balance is so automatic that we may not think about how traction is related to balance. But it is important to understand that balance depends on front tire traction, whether it's the front-end geometry balancing itself or the rider making steering inputs. You can slide the rear tire in a straight line without necessarily falling down, but a front wheel skid usually results in a fall-down.

## Traction

That rolling grip between the rubber tire and road surface is really a matter of the rubber changing shape slightly to conform to the little dimples and bumps in the road's surface. So we need to consider both the tire and the surface. Slide your hand over some carpet and you'll feel resistance as your skin tries to conform to the lumps and bumps of fiber. Slide your hand over a plastic countertop, and there is much less resistance, or traction, because there are fewer lumps or bumps into which your skin can squeeze. Dribble a little water on the smooth countertop, and you'll see that traction decreases even more. A rough concrete road provides more traction than a shiny steel plate.

Hard rubber has less traction than soft rubber because compliant rubber can quickly squish into the surface irregularities. That's also why too much pressure in a tire reduces traction. If a tire is overinflated, it can't as easily squish into conformity with the pavement. Lower pressure improves traction, which is an advantage for unpaved roads but would overheat the tire carcass at highway speeds. So tire pressure is a compromise between traction and reliability.

With correct pressure in your tires for highway speeds, how much surface area would you guess your tire contact patches have? Would you say that both tires together have about as much area as this page you're reading? Would it surprise you to know that the total contact patch area of both your tires is about the same size as the palm of one hand? Considering that tire traction is the connection between the bike and the road, we should never scrimp on tires, and we should check frequently to ensure that tire pressures are correct for the load we intend to carry.



## Study the Surface Texture and Color

Biker Bob crashed because he was allowing his mind to wander just enough to be distracted from the road surface. Creative thoughts, scenery, and even cornering lines must always be secondary to surface traction. What should Bob have been looking for?

One key to spotting surface hazards is recognizing that you have a pretty good idea of the available traction of the surface under your tires at the moment. A change in the texture or color of the surface ahead indicates a possible change in traction. For example, if your tires are on slippery mud, you know by the feel that the road is slick. The color and texture of the mud are visual cues that the road is slippery. A change in the color and texture of the mud is an indication that the road surface is changing, and you can predict the traction changes. If the road ahead looks more like dry asphalt, traction may improve. If the light-colored concrete you're riding on has streaks of something dark and shiny, you can predict that traction might be worse if your tires cross over the streaks.



The change in color and texture of these side-by-side lanes is a clue that there are also changes in traction.

So, the technique for spotting potential traction changes is looking for changes in surface texture and color. Had Bob been observing the surface, he might have noticed the shinier look of the spilled oil dribbled down the road, the slightly darker appearance, or the rainbow colored sheen, and realized that traction was getting scarce.

## Slick Surfaces

Most of us understand that frost is slippery, and we know what frost looks like. We can see the white color or perhaps observe the twinkling crystals of frozen water. White plastic lane markings are almost as slippery as frost, and they are just as obvious. But some riders haven't yet figured out how slippery white plastic can be. Shiny steel construction plates are obviously smooth textured, hinting at very little traction. Railroad tracks get polished smooth by passing traffic. Less obvious are the grease traps left in the center of left turn lanes by idling vehicles, spilled fuel





White plastic arrows and other markings can be slippery when wet. Just keep your tires off the plastic.



That steel construction plate ahead is not only slick but the rough texture at its edges could be loose gravel.

that blends with the color of the asphalt, and various contaminants that collect on the road surface during dry weather.

As with that countertop experiment, slick surfaces get even slicker when wet. Rainwater mixes with the contaminants to form a slippery lubricant. It takes about a half hour of downpour to wash off the accumulated drippings and droppings, especially if it hasn't rained for a while. That's why smart riders take a break during the first half hour of a fresh rain.

Any soft paving material that wears away quickly can be slippery when wet. Bricks have reasonably good traction when dry, but the brick dust mixes with rain-



It takes about a half-hour of steady rain to wash away road contaminants.

water to make slippery clay. Wooden bridge decks and railroad crossings can be slick when wet, as the wood particles mix with water to form a slimy paste. You won't get reliable texture or color clues about such hazards because the particles look the same as the rest of the surface. Just file away in your brain that when wet, bricks and wooden surfaces get just as slippery as wet clay.

## Loose Stuff

We must also be aware of flat debris such as a flattened soda can, a pizza box, or a crushed plastic oil bottle on the road's surface. If you put your tires over any such loose objects, your tires could lose traction with the road. For instance, if you happen to be braking when your front tire rolls up on top of that crushed plastic oil bottle, the tire can grip the plastic, causing the plastic to slide down the road like a ski under your front wheel. If it isn't obvious, you'll lose steering, and if you don't quickly release the front brake, you'll lose balance.

Gravel acts like little ball bearings, rolling around under the tire and lifting the rubber off the pavement surface. In many parts of the country, highway crews seal coat the road's surface by spreading loose gravel over tacky oil and then letting traffic grind the gravel into a new layer. They don't always put up warning signs, or the signs may not follow the crew down the road. Loose gravel on the road has a rough texture and often a lighter or different shade of color. A companion clue for loose gravel on the pavement is the painted lines disappearing under the stones.

Sand, dirt, and mud are more insidious with gravel, because such loose stuff may be the same color and texture as the hard surface underneath. Best clues for such hazards are how the pavement relates to the surrounding roadside. When you see construction taking place ahead, whether a shopping center or a bungalow is going up, be prepared for dirt and mud to be tracked out onto the surface by the tires of construction vehicles. In farm country, be aware of field work adjacent to the road. Farm equipment can track a lot of fresh mud or dirt onto the road. Be wary of pavement downhill from a field being irrigated.



The seal coating operation is obvious here, but if there are no signs or cones, your only warning may be the different surface textures.

In the spring, in climates where temperatures drop below freezing in the winter, leftover sand from wintertime maintenance tends to gather near intersections, usually collecting as a berm toward the outside edges of the wheel tracks. Out in the country, roadside dirt and sand can drift onto the surface at any time of year, yet look just like the hard paving. Here, the relation of the road to the roadside is the best clue. Wherever there is a dirt bank uphill from the road, be wary of loose dirt or sand that may have drifted out onto the surface.

Narrow canyon roads in the southeastern U.S. typically don't have ditches. Such roads in dry climates are infamous for loose sand being blown out by strong winds



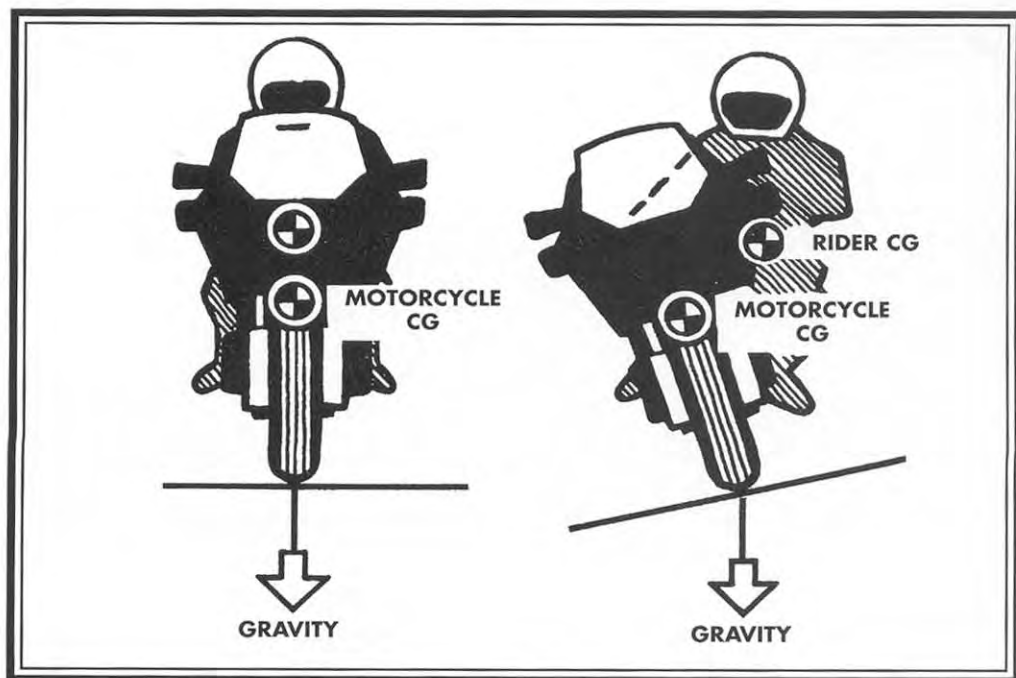
That may look like only a little water on the road, but actually it's 6 inches of slippery mud, which has washed out of the fields.



or washed onto the surface during thundershowers. A rain shower can flush several inches of slippery mud over the surface wherever the road dips to a lower elevation than the surrounding landscape, especially where there is no ditch to catch the spillage. You may catch a glimpse of dirty color, but your best clue is simply being aware of where mud could wash out, and conserving traction when you see any evidence of a traction problem.

## Conserving Traction

If the whole lane has a traction problem, such as loose gravel, it is important to reduce lean angles in turns, and to avoid any sudden throttle, steering, or braking inputs. On slippery or loose surfaces, it is just as important to avoid suddenly rolling off the throttle. In Biker Bob's situation, his panic survival reaction to roll off the gas transferred weight off the rear tire and applied engine braking that demanded more traction. The front tire wiggled on the diesel oil, but the rear tire slid out. Maybe Bob couldn't have saved the day by smarter control, but perhaps staying on the gas would have conserved just enough traction to slither through the oil without falling.



Try to keep the wheels perpendicular to slippery surfaces.

Okay, let's assume Bob knew what to look for, and he spotted the oil. What could he have done about shrinking traction? The trick is to conserve whatever traction you've got. On Bob's road, the oil was in only one lane. Bob could simply have slowed down and kept his tires out of the oil. And even if the oil spill covered the whole road, Bob could have modified his line to get the bike vertical as he crossed the slippery section.

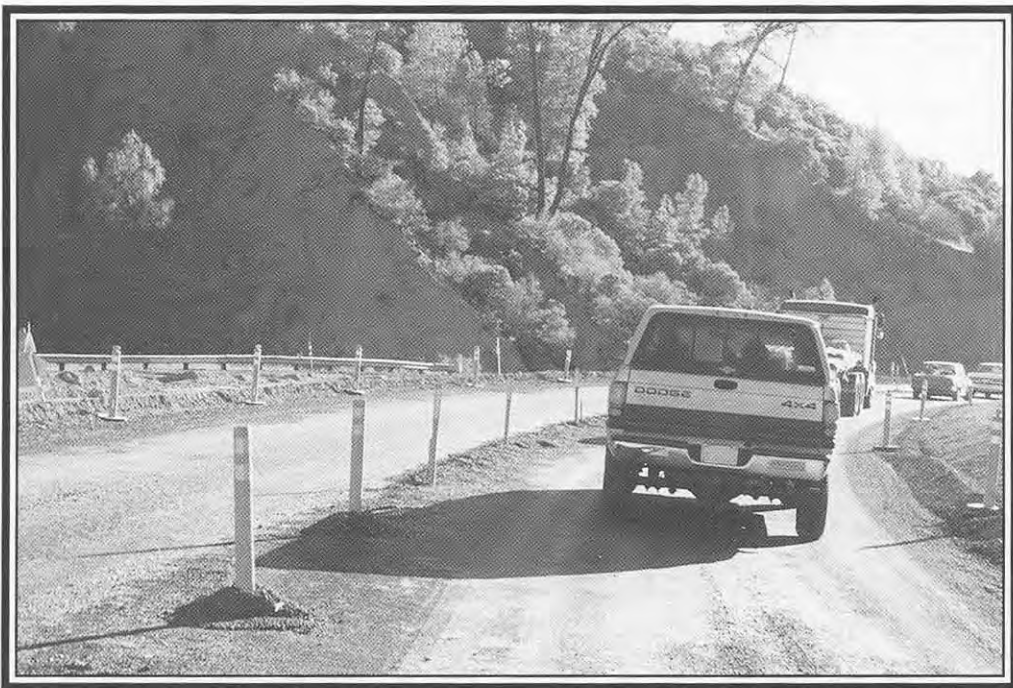
What about road camber? What if the road slants off to one side? The veteran tactic is to counterbalance the motorcycle to keep the tires perpendicular to the road surface. If the tires do slide, the bike can slide sideways with less risk of falling down. It's the same tactic that's used for riding across a patch of wet grass, glare ice, or loose gravel on a surface that isn't level.

Reducing speed for corners also reduces traction demands. The slower the speed, the less the side loads on the tires to push it around the corner. Let's imagine Bob approaching what appears to be a seal-coated section of road with deep, loose gravel. Bob could straighten the bike up and brake hard to scrub off speed before reaching the gravel, then release the brakes and roll back on just enough throttle to stabilize the bike.

For loose gravel, follow the slick surface tactics, except for using the throttle. The dirt bikers use the throttle to steer through loose gravel. Of course if you don't have those big doggie knobby tires, you won't be able to throw a rooster tail, but follow the dirt biker's advice: When in doubt—gas it! Unless you've got knobby tires that provide better sliding control, it's best to keep your feet on the pegs and your speed down.

Ah, but you never ride off pavement, right? Except for detours. Faced with a detour on some highway construction project, you can either turn around and go home, or ride the dirt. If you are faced with a muddy detour, remember that a narrow motorcycle doesn't have to follow the truck tracks. Look for the best traction. Find a strip of road that hasn't been churned to a mess, put your tires over the best surface, and follow the slippery surface techniques, including leaning the bike to keep the wheels perpendicular to the surface.

If your motorcycle does get stuck in a muddy rut, it becomes difficult to balance, and the bike may fall over. Don't be a hero. Let the bike fall but get out of the way so you don't fry your calf or break your leg in the process. Plastic is cheaper than surgery.



Faced with a detour on a highway construction project, you can either turn around and go home, or ride the dirt.

## Riding Practice

If the thought of riding on wet grass or slippery mud makes you nervous, you aren't alone. But sooner or later you're going to have to ride on a slick or loose surface. The solution is to gain skill rather than worry about trying to avoid surface hazards. Borrow someone's dirt bike and practice with those knobby tires at first.

Find a nice gravel farm road or explore those dirt roads up in a national or state park. Wait for the snow to melt, put on all your crash padding and go find some slippery and loose surfaces to ride on your street machine. Ride slowly around the back lawn. Try that fire road or power line road.

Watch for texture or color changes ahead. Remember the techniques:

- ★ **Reduce speed;**
- ★ **Weight on footpegs;**
- ★ **Pick best surface, follow smooth lines;**
- ★ **Steady throttle hand;**
- ★ **Bike perpendicular to the road surface.**

Once you've put in a few hours on some unpaved back roads, you'll lose a lot of paranoia about a few little patches of gravel or a slippery wooden bridge on that coast-to-coast trip.



Despite the rough road surface, the real hazard is that raised edge of pavement on the right.

## Curbs Ahead

Rider Ralph is cruising down a four-lane divided arterial on a warm summer evening, minding his own business and thinking about what he will do when he gets home. As he rounds a curve, he notices some construction cones and then his headlight illuminates a sign that says Bump. Ralph observes that the pavement ahead has a different texture, and when his front tire bounces down onto the road's surface, he realizes the old asphalt has been ground away in preparation for repaving. A novice rider might have been unnerved by the tires wiggling around in the grooves, but Ralph is a veteran rider, and he knows the bike will find it's way through a little uneven pavement.

Ahead on his left, a pile of construction debris is cordoned off, and cones direct traffic back toward the right lane, where there is a section of smooth concrete. Ralph eases the wiggling bike over toward what appears to be smoother pavement. But suddenly, just as his front wheel reaches the concrete section, the handlebars are yanked from his grasp. The bike seems intent on falling over on its right side.



Pushing as hard as he can on the grips to countersteer the machine upright, Ralph can't maintain balance. The bike crashes over hard on its right side with Ralph's leg trapped between the frame and the road. His motorcycle ride is over for the evening and for the months it will take for the torn flesh and broken bones to heal.

## What Happened?

What caused Rider Ralph's crash was the exposed edge of a slab of concrete pavement that had been left in place with the surrounding asphalt ground away. The raised edge of the concrete formed what you can think of as a curb right out in the middle of the street. For an automobile driver, merging into a curb in the middle of the street might have resulted in a front end bent out of alignment, or a dented wheel rim. For a motorcyclist, attempting to cross a concrete edge can quickly result in a spill and serious injuries to both bike and rider.

Rider Ralph isn't the only motorcyclist who has been surprised by a hard pavement edge, and that includes veterans who you would think have learned everything. What appears to be just a bump or a crack in the pavement suddenly upsets the bike, and the hapless rider can't maintain balance. Let's call such raised pavement edges *edge traps* because of the way a motorcycle wheel gets trapped against the edge of the raised "curb."

The basic problem is that two-wheelers are particularly vulnerable to raised pavement edges and grooves. Too many riders don't understand how hazardous an edge trap or even a small groove can be. And road maintenance departments don't seem to understand enough about two-wheelers to understand why so many motorcycle accidents occur in construction zones, or what to do about it.

## Countersteering

Remember, a two-wheeler is balanced mostly by steering the front wheel, whether that's a result of front-end geometry or rider input at the grips. For example, if a motorcycle starts to fall over to the left, we can steer the front wheel more to the left to rebalance. The term for this balancing act is *countersteering* because we initially steer opposite, counter to, the direction we want the motorcycle to lean. It's also how we control direction. To turn right, push on the right grip. To straighten up from a right turn, push on the left grip.

Countersteering explains why edge traps are so hazardous to two-wheelers, while only a jarring, wheel-bending inconvenience to other vehicles. A car or a sidecar rig can slide sideways without losing balance, but if a two-wheeler loses traction on the front wheel for more than a couple of seconds, it becomes difficult to maintain balance. Easing up to a curb, you can maintain balance right up to the point where the front wheel contacts the edge. After that, with the tire scrubbing along the edge of the curb, you can't countersteer to maintain balance.

When you find yourself in a lane where the pavement has been gouged away, the feeling of the rough surface prompts you to start looking for a smoother place to ride. There's that smooth shoulder beckoning you to ease on over, or that nice new pavement on the other lane. But if you try to ease over the edge, your front tire is likely to get trapped, and you'll lose balance. It's important to recognize that even a modest pavement edge can cause a spill if you attempt to ease over it at a narrow angle.

In tests conducted years ago by the Motorcycle Safety Foundation, professional riders attempting to swerve around an obstruction from pavement to a gravel shoulder and back onto the pavement again were amazed when several crashes occurred.



These steep edges are a big hazard to motorcyclists.

Looking a little more closely, the experts discovered that a spill was more likely if the rider swerved back toward the pavement edge at less than a 45° angle.

Edge traps come in a variety of disguises. You'll have to spot them for yourself because you're probably never going to get a warning sign that says edge traps. Newer asphalt often sinks under the pounding of traffic, exposing the sharp edge of adjacent concrete pavement—a common situation where an older road has been widened or lanes repositioned. Old paving several layers down may shift or sink, allowing a groove to form at the surface. When a road is repaved, there will be a steep raised edge above the shoulder until it is filled and graded. And even when the



Heads up! That pavement edge ahead wanders across your lane.

shoulder is graded level with the pavement, your front tire can sink in the soft gravel and be trapped on the edge. Any location where you must cross a raised pavement edge is a serious hazard.

## Changes in Texture or Color

Whenever you approach a work zone or observe a change in the pavement ahead, think of Rider Ralph and start looking for edge traps. As with all surface hazards, the trick is to look for changes in surface color or texture. You already have some idea of the surface you're riding on. When you see a different surface ahead, you should be prepared for the transition from this surface to the next. Even at night, you should be able to distinguish between asphalt and the smoother, lighter appearance of concrete, or the shinier appearance of a polished steel construction plate or streetcar rail.

If you don't have to change lanes, just stay away from those edge traps, especially those "curbs" at the sides of a lane where pavement has been ground away. Even if there is a pavement edge sauntering into your lane, you can usually sneak by a few inches away. The key is to avoid letting your front tire get close to a raised edge or groove.



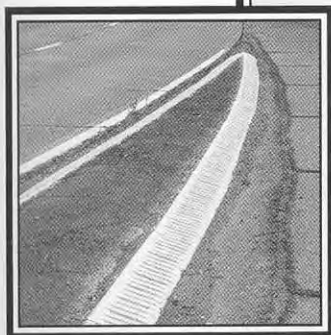
If you have to cross a raised pavement edge in the street, treat it like you would this curb. Point your front wheel straight at the curb, and roll on a little throttle to drive the tire up and over.

But what do you do when cones force you to cross over a hard edge, as in Ralph's situation? How do you get across an edge trap without falling? The trick is to cross aggressively at a maximum angle, rather than attempting to ease over, and use a little horsepower to bounce the front wheel up. Imagine trying to ride your motorcycle over a curb, up onto the sidewalk. First, you'd want to slow down to avoid bending a rim. Then you would want to get the bike pointed straight at the curb, or at least at a 45° angle, and roll on some throttle to bounce the tire up over the edge. To change lanes over a hard pavement edge, first swing away, then steer back at a wider angle, get a good grip on the bars, and roll on some throttle to drive the front tire up onto the higher surface.

## White Curbs

One insidious type of edge trap is the white line between two merging traffic lanes. For instance, the on-ramp to a freeway may be separated from the freeway





You might be tempted to change lanes over that white line, but don't do it. That white line is painted on a low curb that could knock the tires out from under you.

lane by a long white line, providing an acceleration lane. But sometimes the white line is painted on a curb-shaped lane divider. Such curbs form serious edge traps, and they are particularly difficult to see at night. Since we can't always predict whether a solid white line is painted on a level surface or on a divider curb, my tip is to avoid crossing solid white lines at merging locations. Where it is safe to change lanes, the solid white line changes to white dashes.

## Slick Edges

Railroad tracks can form great booby traps for motorcyclists, even when the



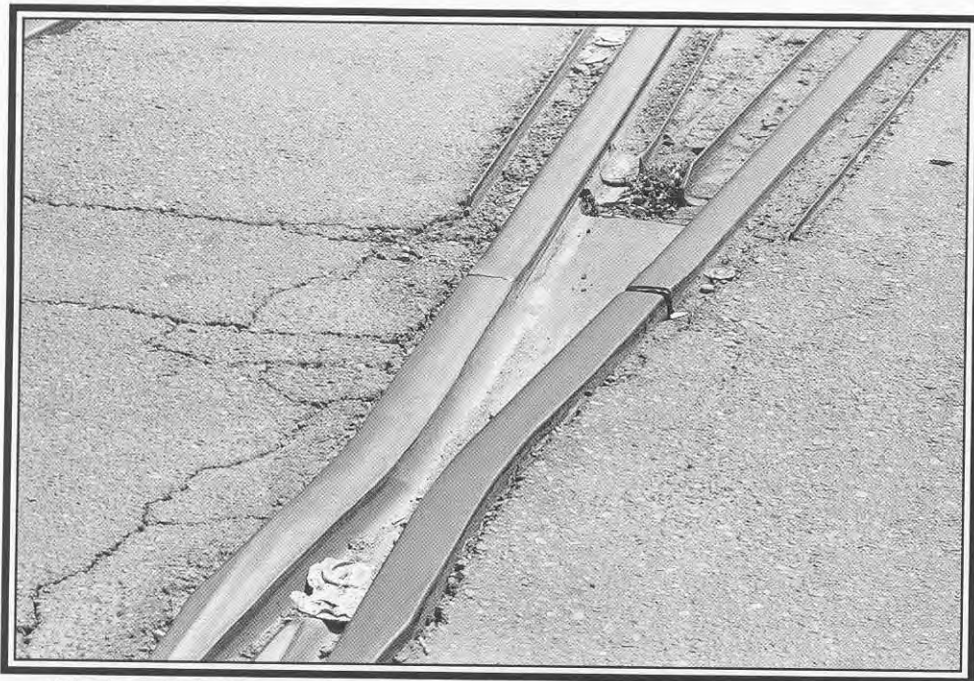
San Francisco's cable car tracks provide a lot of grooves and shiny steel to cross.

rails are level with the surface. Remember, if the front tire starts to slide sideways or gets captured by a groove, it instantly gets harder to keep the motorcycle balanced upright. Railroad crossings are hazardous when the tracks cross the street at a narrow angle, at a curve in the road, or parallel to your path of travel. Streetcar tracks are especially dangerous, because the rails often run down the middle of a lane or wander from lane to lane. Cable car tracks, with two streetcar rails plus a steel-lined cable slot, such as those in San Francisco, are a special challenge.

The important tactic for negotiating rails is to keep your tires out of the grooves, and when you must cross a rail, treat it as an edge trap. Swing away from it, then steer back across at an angle. Try to get the motorcycle vertical and stable as you cross the rail, even if you have just completed a swerve. Assume that the wood, plastic, or steel covers adjacent to the rails at street crossings are slippery even when dry, and treacherous when wet. In industrial areas, some railroad spurs are used only occasionally, so you shouldn't be surprised by gaping holes and deep grooves near the rails that never seem to get fixed.

## X and V Traps

Sometimes you will encounter two railroad or cable car tracks that cross each other or come together in the middle of the street. Such connections form serious X and V traps where a motorcycle tire can slide into the V or even drop into a narrow slot and wedge tight with obvious consequences. When you observe such X or V traps in the street or grooves in the planks, the trick is to pick a path of travel that gets around the traps, or at least crosses them at the maximum angle you can achieve in the maneuvering room you have available.



Railroad spurs in industrial areas can have a lot of nasty edge traps.

## Construction Plates

Those giant steel plates construction crews use to cover holes in the street may get polished to a shine, but the edges are just as hazardous as any slick surface. The plates are thick enough to form edge traps. There is an additional reason to stay



It's a good idea to stay away from the edges of steel construction plates.

away from the edges: the plate may be a few inches narrower than the hole in the street or may have shifted under the pounding of truck traffic. Where a normal automobile tire would bridge a 4-inch slot at the edge of a plate, a motorcycle tire might be just narrow enough to drop in for a serious visit.

While it's important to pay primary attention to other vehicles while riding in traffic, a veteran rider knows to maintain awareness of surface hazards as well and to choose a path of travel that puts the tires on the most tractable pavement. When you spot an obvious hazard that you know you'll have to cross, you can simply maneuver your motorcycle to cross it correctly, and continue to focus on traffic.

According to the famous Hurt Report from 1981, only 4 percent of motorcycle accidents were triggered by surface hazards. That's why rider training courses don't waste any time on edge traps. But remember that the Hurt Report was based on accidents in the Los Angeles area. Other cities such as Seattle; St. Louis; or Washington, D.C., have different surface hazards than Los Angeles. So you might want to practice some edge crossing exercises on your own before you get the big test out on the streets. And always keep edge traps in mind when you are riding in an unfamiliar area.

## Curb Warnings

One of the reasons riders get snagged by edge traps is that we don't usually get fair warning of the problem. Road contractors are given specific signs for different construction situations. For example, the suggested warning sign for a change in pavement elevation might be Bump. The construction contractor may get reports that a surprising number of motorcyclists have crashed in a work zone, but it won't be clear why the accidents occurred. The common misconception is that it's just a matter of an inexperienced rider or excessive speed. Various warning signs have been tried, including Abrupt Lane Edge, Motorcyclists Use Extreme Caution, and Motorcycles Do Not Change Lanes. If Ralph had seen a sign that said Curbs Ahead, he might have understood the problem. *What do they mean Curbs Ahead? Do they mean curbs along the side of the road or curbs out in the middle of the road? Holy*





Translation: Stay away from the edge of the pavement.

*Kawasaki! If there are curbs out in the middle of the road, I'd better be cautious or find a different route!*

## Riding Practice

Here are some riding exercises you can practice to gain experience crossing edge traps. Be sure to wear your crash padding just in case you haven't quite absorbed the correct techniques yet. Ride a figure-eight path over different edges such as 2 x 4 or 2 x 6 wood that's at least 6 feet long, a low curb, a stiff garden hose, or a large-diameter rope at least 10 feet long, concentrating on positioning your motorcycle to cross as close to a right angle as possible. Use a bit of throttle to drive the front tire up and over the edge.

## Running Out of Pavement

It had been a long day in the saddle. I was homeward bound from Denver to Seattle, trying to make time on the superslab. The afternoon had been baking hot and windy across eastern Utah, so when night fell, I kept riding to take advantage of the cool of the evening. The pavement was smooth and so new it was still black. All I could see of the dark pavement was the next 100 feet or so that would momentarily be illuminated by the headlight beam and then quickly pass under my tires. I began to notice road signs lying face down on the shoulder, apparently leftovers from the repaving work. But then something odd attracted my attention: the lights of cars ahead seemed to be wiggling sideways. I blinked my eyes. Maybe I had been too many hours in the saddle.

And then my headlight beam flickered off the end of the pavement into deeply rutted dirt. The paving just ended. With my brain struggling to comprehend



what was happening, the loaded bike dropped off the edge of the road at 60 mph and plowed into the soft earth, the front tire dodging one way and then the other. Fighting for control, I rolled on the throttle to roost the bike forward. Several hundred feet of black terror later, the front tire again bounced up onto smooth pavement, and I was again cruising through the black night, as if nothing had happened.

Apparently, all four lanes of the freeway had been torn up for repaving, and the construction signs had blown down in the afternoon wind. The wiggling taillights were from drivers ahead plowing through the ruts. As the nightmare played itself again in my memory, anger swelled up at the stupidity of a highway department that would allow repaving all lanes of the same section simultaneously and not ensuring that the work zone was adequately signed. But, calming down, I was thankful I had some off-pavement experience in my bag of travel tricks.



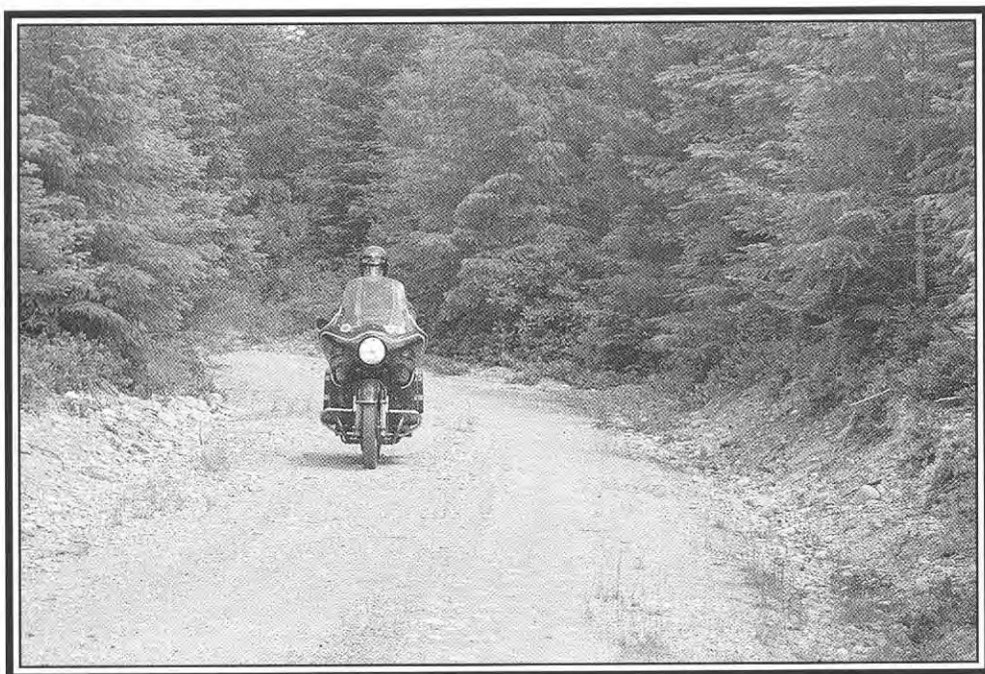
It's easy to think of ourselves as either street or dirt riders, as if our machines rather than our skills defined us. But I've seen some heavy machines sporting proof they have experienced off-pavement missions to Alaska. I've also seen more than a few dual sportbikes dressed with big plastic tanks and shiny adventure-touring cases, but nary a dent, scratch, or speck of dust in the crevices. Obviously, some riders are more concerned about the adventure touring image than getting off the pavement. Back in the good old days, before manufacturers and magazines started labeling bikes by type, we rode whatever we owned, wherever we felt like going.

Now, obviously, street motorcycles are designed with a bias toward hard surfaces. But the pavement doesn't go on forever. There are times when we must ride off pavement, if only through a short detour or across grass into the rally campground. And if you're a serious motorcycling traveler, you should possess sufficient off-pavement skills to handle a few miles of dirt without freaking out.

## Dirt

For talking purposes, let's refer to all unpaved surfaces (sand, gravel, clay, grass, dirt, etc.) as dirt. Dirt does provide traction, although in ways different from

what we expect of clean, dry pavement. Pavement is static. Dirt moves around dynamically. On pavement, the predictable traction gives us confidence to make precise steering corrections to control balance and direction. On dirt, traction is predictable, but not that firm connection we're used to on clean pavement. When we feel the tires dance around, that's a street feedback that we're about to get down and personal with the ground. The one big difference between street and dirt machines is the tires. It's a lot easier to maintain control on dirt with big fat knobbies that will poke down into the rocks and paddle through the loose stuff. Typical street tires have tread blocks closer together with narrow, shallow grooves. What that means is that riding off-pavement on street tires requires more skill than riding off-pavement on dirt tires. It's harder to balance on little rocky ball bearings or soft sand that doesn't provide that predictable grip street riders are used to. Not only do we need to avoid panic when the tires don't go exactly where we're expecting, we need to master some different control skills.



On dirt we need to master some different control skills.

## Traction

If you do suddenly find yourself dropping off the pavement into the dirt on your touring machine with street tires, you can increase traction by lowering tire pressures. Lower pressure means a larger footprint and better conformity to the surface. Dirt bikers sometimes run pressures as low as 8 or 10 psi. But remember that lower tire pressure also increases tire flex, which dramatically increases temperature. So if you do drop the pressure to get through an unexpected sand dune on an Arizona highway, be sure to pump the tires up again before you roll back up to highway speed.

## Balancing and Steering

Even though there are tremendous differences in traction between different unpaved surfaces, the same basic techniques apply. On pavement, we balance mostly by steering the front wheel to adjust the position of the contact patch in



relation to gravity and mass of motorcycle and rider. If the machine starts to fall over toward the left, we can countersteer the contact patch more toward the left to get the bike balanced again. On dirt, countersteering still works, but not as predictably or as quickly as on good pavement. In loose or soft stuff, the front tire tends to plow sideways for a while instead of causing an immediate adjustment of balance. Two tactics that are essential to riding off-pavement are shifting body weight on the machine and steering more with the throttle than the handlebars.

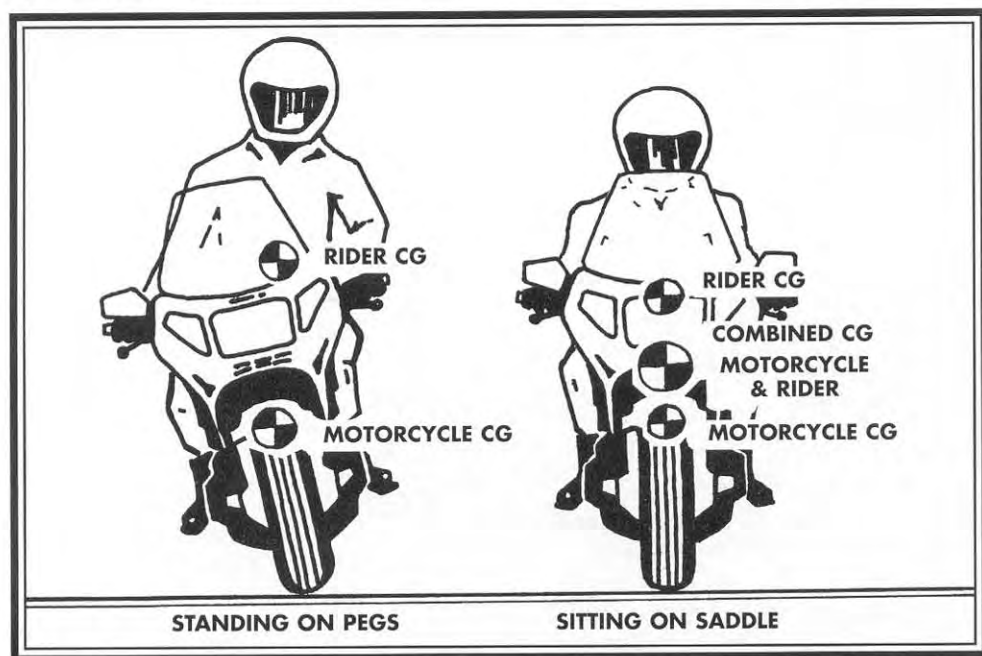
## Load the Footpegs

You'll see novice riders trying to negotiate loose gravel or wet grass by sitting bolt upright in the saddle and skidding their boots across the ground. Dragging your boot skids is a "survival reaction" to the panicky feel of the tires losing traction, but it doesn't do what you might expect. Next time you're in a position to observe riders negotiating a bit of dirt, you'll notice that the experts stand on the pegs and let the bike work around under them. The novices drag their feet, and the bike gets wobblier. Notice that with feet off the pegs, the rider braces against the handlebars and saddle, rather than against the tank or footpegs. When the novice pushes on the grips without having feet braced against the footpegs, it upsets balance.

The rider of a lightweight dirt bike may use a planted boot to help control the machine in a slide, but on a heavyweight touring machine with street tires, it's smarter to stand on the pegs. If your rubber tires don't have enough traction to keep a loaded Gold Wing upright, why should you think that your leather boots will be able to do any better? What's more, dragging your feet on the ground is an invitation to broken ankles and barbecued shins. If your toe happens to catch on something solid, your foot will be bent back under the footpeg before you can say *Uh-oh*.

## High or Low CG?

When a rider is planted firmly in the saddle with feet on the pegs and knees against the tank, the rider and bike move more as a combined mass with a combined



It may seem that standing on the pegs raises the combined CG of bike and rider, but actually it doesn't effect the motorcycle's CG.

center of gravity at about the rider's knees. Now, if the rider stands up on the pegs, doesn't that raise the combined CG? Yes, standing on the pegs, the rider's CG will be higher. But be aware that a low CG on a two-wheeler doesn't necessarily contribute to easier balance. Those skyscraper dual sport machines with big fuel tanks up high can be as controllable in loose gravel as low-slung cruisers, and even more controllable with the rider's weight loaded down at the footpeg level.

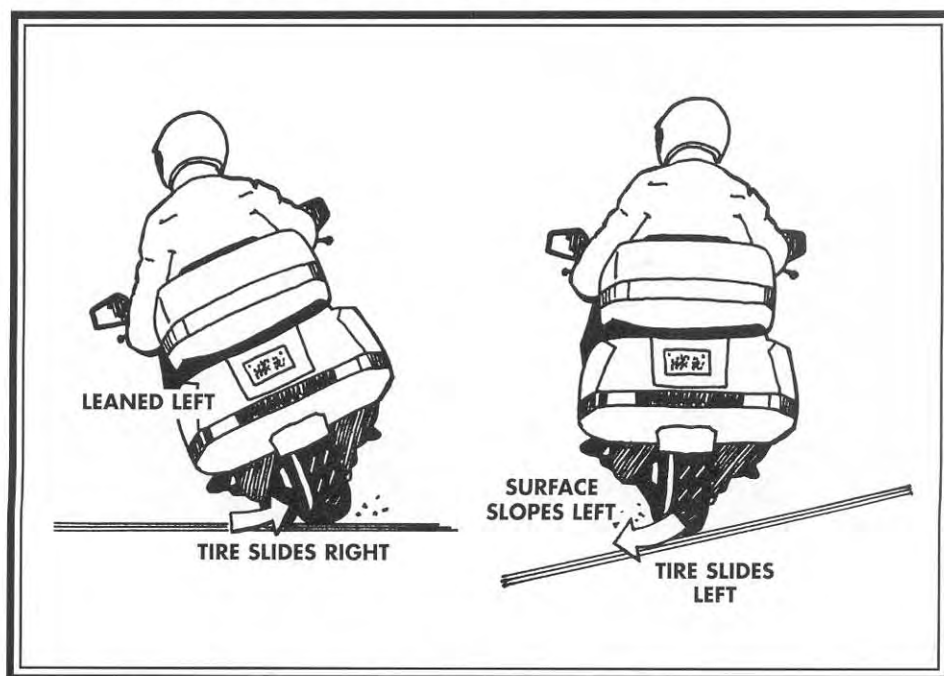
On some machines, style gets in the way of ergonomics. For example, the stylish forward-mounted footboards typical of cruisers make it difficult and cumbersome to stand up and unload the saddle. Likewise, the forward-mounted handlebars of some sportbikes make it awkward to stand on the pegs.

The importance of standing on the pegs is that we can more easily lean the motorcycle or shift bodyweight from one side to the other. The motorcycle is carrying the same weight, but separating the motorcycle's mass from the rider's provides more flexibility in controlling balance and lean angles. It is also a lot easier on our spines and kidneys to cushion bumps and dips with bent legs. It isn't necessary to stand on the pegs for miles and miles of hard-packed dirt or firm gravel, but when you are picking your way through a rutted detour or across a bumpy field, standing on the pegs will give you both better control and fewer spine-jolting body slams.

## Steering

With reduced traction, countersteering doesn't produce the quick changes of direction the street rider expects. Besides, the front tire is giving a lot of nervous feedback that it's on the verge of washing out, and it probably is. The street response is to strangle the handlebars with a death grip, look down at the gravel just ahead of the front tire, keep the bike absolutely vertical, and let it go wherever it seems to want to go, even if that's off the edge of the road.

The reason for the feeling of falling down while trying to countersteer in soft sand or loose gravel is that the contact patch of the tire expands forward and back-



The rear tire tends to slide away from the direction of lean, and that helps steer the bike.

ward, dramatically increasing steering effort. But the quick street-style countersteering input doesn't seem to result in the bike rebalancing or changing direction. Since countersteering is a lot more sluggish in the dirt, the trick is to use more body English, keep the machine vertical, and steer more with the rear wheel. After all, sliding the rear end sideways is another way of pointing the front end in a different direction.

We can make the rear tire slide by rolling on the throttle, snapping it closed, or by dabbing the rear brake. Consider that when a tire starts to slide, the end of the bike heads off on a tangent or downhill if on a sloping surface. For example, if the bike is in a left turn, sliding the rear wheel will point the bike more to the left.

## Cruising Speed

If you've narrowly escaped a crash while slip-sliding through loose gravel spilled on the pavement, you can be excused for thinking that gravel or sand have no traction at all. But the truth is that gravel, sand, and other loose surfaces provide varying traction depending on your speed because even small stones have a resistance to being pushed aside, and the resistance increases with velocity. A gravel road can provide more predictable traction at 40 mph than at 4 mph.

Experienced riders may cruise unpaved roads at considerably higher speeds than novices, not because they are fearless big dogs, but because the correct speed results in better control. Riding too slowly through deep sand or gravel will allow the front tire to sink and plow so badly that you lose balance. At a faster speed, the tire "floats" on top. And don't forget that faster spinning wheels provide increased gyroscopic stability. But, as Chris Scott points out in his book *Desert Biking*, you don't want to get carried away. At speeds in excess of 50 mph it's difficult to react quickly enough to the ever-changing terrain.



Experienced riders cruise unpaved roads at higher speeds because the correct speed results in better control.

On slick surfaces (oily pavement, snow, ice, mud, clay, wet grass, etc.) increasing speed won't help and may just increase the damage should you lose balance. What's important is to keep the wheels perpendicular to the surface of the ground so the tires can sideslip without instantly sliding out from under you. Even if the



bike seems to have a mind of its own in dirt or sand, keep it moving. Let the bike shift around under you.

## Inertia

On slick or loose surfaces, it is important to be more aware of inertial energy and use it to advantage. Increasing speed increases forward energy and that can work either for or against you. Let's say you are on a wet clay detour that descends into a deep gully with a steep uphill climb on the other side. Slowing at the top allows you to let the bike increase speed as you descend without wasting traction on braking. The faster speed at the bottom means increased forward energy to help carry the bike up the hill without the need for more engine power, which would result in wheel spin. If you need to control downhill speed, select a lower gear and use engine compression on the descent, but stay away from that front brake.

Approaching a short section of loose sand or deep gravel, a short burst on the throttle in third gear may be much better than slowing down and attempting it in first gear. When traction is limited, shifting up a gear helps prevent sudden wheel spins.

## Braking

On tractable pavement, it's a good habit to use a lot of front brake and very little rear brake. But as traction goes away, we need to favor the rear brake more and use the front brake less. The trick is to apply just enough braking to slow the bike, but not so much that you skid the tires. With today's powerful front disc brakes, even a little may be too much. If you aren't familiar enough with braking to be able to feel when your front wheel is beginning to slide, you're probably better off avoiding the front brake entirely until you get back on pavement.

ABS brakes are great for avoiding fall downs during maximum-effort stops on loose surfaces, providing that you're stopping in a straight line. But the ABS computer may not respond to a sideways slideout, so long as the wheel is still turning. If you attempt to brake while in a gravelly turn, your tires may drift wide without activating the ABS. And of course ABS won't save you from a slideout caused by overenthusiastic countersteering or snapping off the throttle too suddenly.

## Riding Practice

Skills improve only through practice. The bottom line is that whatever skills we find difficult are the ones we need to practice. If the thought of riding on loose gravel makes you break out in a cold sweat, the message should be obvious: You need some dirt time. The only way to improve off-pavement skills is to spend some time riding off the pavement. It's not a bad idea for every rider to spend a day at least once each year riding some unpaved back road such as an all-weather forest service road or a country farm road. Remember, when you encounter one of those end of pavement signs, you'll be plowing off into the soft stuff on whatever bike you normally ride. Sooner or later, you should do some dirt time on your favorite traveling motorcycle. But if your only machine is a heavyweight, you probably don't want to attempt any serious off-road excursions, even with knobbies. A big bike can be impossible to extract from a bottomless sandpit without some heavy-duty assistance. If you are concerned about dropping your expensive road burner on some lonesome back road, one acceptable option is to borrow a dirt bike or dual sport machine for the learning phase. Then you can take the heavyweight out later after riding the dirt has become more familiar.

One reason for the increased sales of machines in the 350-650cc range is that plonking around back roads is easier and more fun on a smaller, lighter bike. Riders are learning the advantage of owning both a big-bore road bike, and a mid-size dual sport or off-road machine. You don't really need a 1000cc dual sport to explore a forest service road. A 650 dual sport or even a street bike with dirt knobbies has adequate traction and ground clearance for some real adventure touring.

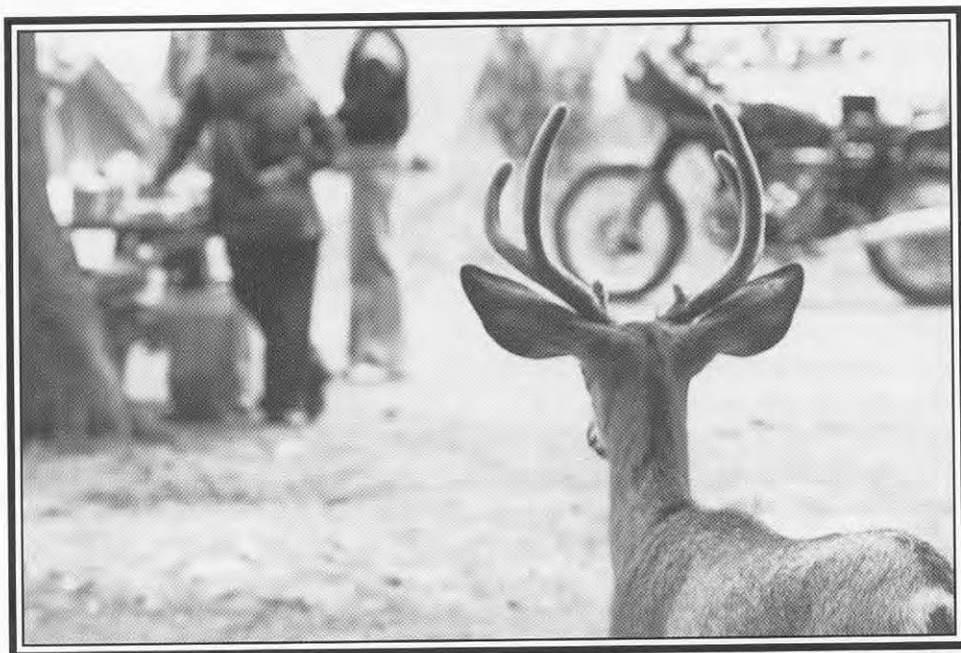
Here are some techniques to remember while practicing off-pavement skills, especially on a motorcycle with street tires:

- ★ **Plan a path of travel that puts your tires over the best surface.**
- ★ **Shift your body weight and lean the motorcycle to keep the wheels perpendicular to the road surface.**
- ★ **Stand on the pegs in difficult situations.**
- ★ **Steer more with the throttle. Use controlled bursts of power to slide the rear end toward the outside in gravelly corners.**
- ★ **Use momentum rather than engine power to carry the machine uphill or through tough sections.**
- ★ **Start a downhill section very slowly. Use engine braking to keep speed in check.**
- ★ **Stay off the front brake.**

Improving off-pavement skills will do more than help avoid embarrassment when there is a muddy detour or a little wet grass at the campground. Some of us will actually admit that we enjoy exploring roads that are less traveled—even if not hard surfaced. After all, there are more unpaved roads out there than paved ones. A skilled motorcyclist should be able to choose a road without being hampered by a self-imposed limitation of riding on pavement only.

## Deer, Oh Dear!

There are a lot of booby traps that the unwary motorcyclist can ride into, including innocuous-looking alleyways, raised pavement edges, railroad tracks, loose



sand, sunken manhole covers, and white plastic arrows glued to the pavement. Most of those hazards occur in the city. Out in the country on those twisty back roads we love to ride, we can expect some different types of booby traps.

One major trap that can spring on us is a wild animal, especially a wild deer. Deer are so delicate and demure that it's hard to think of them as a hazard. But when we come upon the sickening sight of a dead deer along the highway, we are again reminded of the danger, both to the animal and to ourselves. It's a double tragedy when we hear of a motorcyclist involved in an animal strike.



Yes, it's gruesome, but deer strikes are a real threat on country roads.

Animal strikes are a significant hazard for those of us who enjoy long-distance travel. Statistically speaking, vehicle collisions are the major motorcycling hazard, but as motorcycling experience builds and we get a little smarter, our risks of colliding with a car should decrease. But the risk of animal strikes remains high because animals are so difficult to predict. Wild deer are found all over North America in large numbers, their population is increasing, and they have habits and instincts that put them on a collision course with motor vehicles.

The typical deer strike occurs when the animal suddenly leaps in front of the vehicle, often at night. The vehicle slams into the deer, with deadly consequences. What's startling is the amount of damage even a small deer can do to a speeding vehicle. If the motorist happens to be a motorcyclist, the odds are high that both deer and biker will be seriously injured.

What's so insidious about a motorcycle colliding with a deer is the unpredictability. You may have ridden for hundreds of thousands of miles, proficiently avoiding thousands of left-turners, alley jumpers, edge traps, graveled corners, and decreasing-radius turns. Then, on some easy country ride, a deer suddenly leaps out of the woods into your path, and *Thud!* We don't have reliable statistics on the occurrence and injury rate of motorcycle/animal collisions, because many accidents don't get reported. But animal strikes are a frequent enough problem that we should practice appropriate countermeasures on those rides that take us into deer country.



## Deer Instincts

To understand what to look for and what to do about deer, let's consider their instincts and habits. Deer are cautious and prefer to hide among trees. They like munching on tender foliage. So in the summer, expect wild deer in forested areas or riverbeds where the trees and underbrush provide a lot of cover and fresh greens. That lush roadside grass the highway department keeps mowed is a dinnertime favorite. That means you should expect deer feeding along the road's shoulder in shady areas. In the daytime, a deer feeding on the road's shoulder will have its head down, so it may look like a log in the ditch or a mossy boulder or a crumpled cardboard box. When the head comes up, you'll immediately see those large ears, and perhaps a rack of antlers.



It's smart to brake and let deer do whatever they are going to do.

## Danger at Night

While antelope, elk, and moose munch away in plain view in the broad daylight, deer are more cautious. Deer seem to prefer hiding in the shadows in the daytime, and feeding at night. That means the risk of deer strikes increases as the sun goes down. It's definitely something to think about when you are considering a nighttime transit on a highway, passing through one of those scenic national forests.

At night, brown deer hide doesn't reflect much light, but deer eyes will reflect a brilliant white from your headlight, similar to a glass reflector. How do you tell if the reflector you see is on a post or on a deer? Easy: the deer eye blinks. If you see a reflector winking back at you, odds are it is a deer, and it's facing in your direction.

## Deer Crossing

Why do you think those yellow Deer Crossing signs get put up along certain sections of farmland or scenic forest roads? Would you think the highway department or the Forest Service hires game wardens to count deer migrations across the road? *Wrongo, Big Dog.* What really happens is that the road crew counts dead deer,

and when too many carcasses and shattered grills have been found on one particular section of road morning after morning, they put up a sign. The same holds true for antelope crossings in the grasslands of Wyoming and Colorado, and for moose crossings in northern Idaho and Montana.



Deer migration signs should set off warning bells in spring and fall.

Wild grazers such as deer tend to migrate in herds, moving toward higher elevations in the spring, and returning to lower elevations in the fall. They follow age-old migration routes that predate the highway by thousands of years. It's important for touring riders to know that the risks are greatest where the highway crosses the migration areas. Deer migration signs should set off alarm bells in your head in the spring and again in the fall.

Those deer signs are a big advantage to motorcyclists, if the situation registers between our ears. One good step is simply to slow down. Decreasing speed gives you more time to spot an animal, more time to react, and a greater ability to maneuver. Okay, you may think, *but how about that pickup truck on my tail?* Well, if you're riding into a deer zone, why not be polite and let the pickup driver go first? By now, you should be able to figure out how to shake a tailgater using some clever tactic other than just screwing on more throttle.

All right, you've spotted the deer sign, momentarily pulled onto the shoulder to let the tailgater on by, and reduced your speed 10 mph to give yourself more time to react. Can we really spot a deer ahead in time to react? And what should we do if a deer does leap out in front of us? Should we just keep riding along at the same speed, or should we attempt some avoidance maneuver?

## Evasive Tactics

Okay, let's assume you know you're in deer country, you realize it's the right time of year and hour of the night for a close encounter, and suddenly you spot a pair of ears rising up from the roadside ditch. Should you slow down and then accelerate by as you would for an aggressive dog? Should you prepare to swerve, as you would for a car emerging from an alley? Or should you prepare for a quick stop, as you would for a left-turner?

Unlike an aggressive dog, deer seem to react more to proximity than to sight or sound. A deer may not show much interest in you until you get close, whether your café racer has loud pipes or your tourer is just burbling along quietly. The deer may glance up at you, then nonchalantly go back to munching again. But when you get within 60 feet or so, the deer may suddenly spring into action, jumping first straight ahead, then in a random zigzag wolf-evasion pattern. If it isn't obvious, the deer's first leap is in whatever direction it is facing. That's why hard braking is a smart evasive tactic.

Once the deer leaps into action, there isn't much time left for braking, so smart riders are already prepared to brake when riding into a suspicious area. Some of us brake hard when approaching any wild animal on the shoulder as an automatic precaution. That's a primary reason for shaking tailgaters and keeping some right hand fingers curled over the brake lever in a deer zone or anywhere there are wild animals.

When you suddenly realize that "log" in the left ditch has grown ears and antlers, or one of those white reflectors along the edge of the road starts winking at you at night, or a fawn tiptoes out of the roadside underbrush, my advice is to practice a quick stop. If the deer doesn't leap out in front of you at the last second, great. But when a deer does jump up out of the ditch and clatter around on the tarmac in your path, you'll be glad you got on the brakes early. If you're in the habit of making quick stops, you'll make a power stop automatically, and think about it afterward.

What about swerving? Its tempting to think that you might be able to maintain speed and slip on by or swerve around the deer if it should leap out in front of you. But swerving assumes you can predict which way the deer will leap. The deer's typical zigzag wolf-avoidance running pattern is random.

What about speeding up? After all, the greater your forward energy, the greater your impact force. You may have heard the folk tale of a motorcyclist riding at warp speed through the forest at night, and slamming right through a deer without drop-



You don't want to hit an elk.

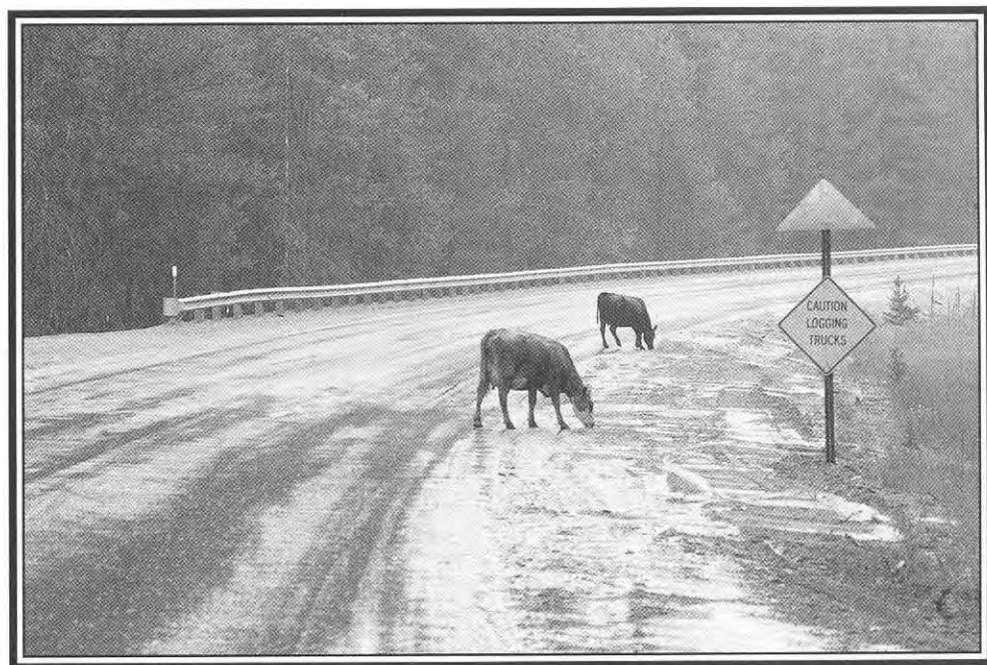


ping the bike. Even if that folk tale were true, the rider would have been extremely lucky, not clever or skillful. For every folk tale of slamming into a wild animal without getting hurt, there are several other reports of riders being seriously injured and motorcycles destroyed. And if the winking reflectors you expected to punch through happen to be the eyes of an elk, moose, or bear, the odds lean strongly in favor of the animal.

On the Olympic Peninsula of Washington State in 1997, a rider managed to center punch a wandering brown bear. The bruised bear muttered something about stupid bikers, and meandered back into the woods. The motorcyclist was eventually hauled off in the ambulance and spent the rest of his vacation time in Olympic Memorial Hospital, getting sewn and screwed back together.

## Other Wild Ones

Of course wild animals aren't the only four-legged road hazards you'll encounter. Farm animals loose on the road can present a mighty big target. Cows seem to be too dense to be concerned about vehicles, so they generally just keep doing whatever they were doing. Horses are a lot more skittish and excitable and are more likely to bolt in front of a vehicle or kick out at anyone who gets too close. If you come upon a herd of cattle or a flock of sheep being driven across the highway (or even down the highway), don't be too eager to elbow your way through the herd. It's one thing to have a longhorn steer rub up against a fence post—it's a little more thrilling to have a steer scrape his horn down the side of your bike. The drovers will get them off the road as soon as they can.



Livestock on the loose. It's neighborly to notify the owners.

In the West, it's considered neighborly to report escaped beasts. If you see a herd of cattle making a quick getaway over a trampled fence, it's appropriate to find the nearest farm house and report what you've seen. Don't expect the farm hands to get excited. Loose animals are on a par with the tractor getting another flat tire. You may get a chat about the weather (or even a discussion of the relative merits of cruisers and sport tourers) and a cup of coffee before they head out to round 'em up.

## Open Range

An Open Range sign is more than a warning that there aren't any fences to keep cattle off the road. Open Range means the animals have the right-of-way. Think of it this way: The highway happens to run through the rancher's farm. The cattle belong there. You're a guest. It's up to you to get through the farm without injuring any of the rancher's livestock. Hit a steer, and you may get to purchase a locker full of beef in addition to some new bodywork for your bike.

In the Rockies, you will see bear, elk, raccoon, porcupine, skunk, and various other critters you might enjoy watching, from a distance. In Texas, it's armadillo. In Louisiana and Florida you may encounter an alligator meandering across the road. Even a raccoon or porcupine is large enough to upset a bike if you hit it with the front wheel, so you probably don't want to try bouncing over any animal if you can avoid it.

Elk and moose are common in Northern Idaho, Montana, and British Columbia. Elk and moose may look stately and reserved, but they are big enough and feisty enough to attack people and motor vehicles, if challenged. In Alaska, British Columbia, and northern states, residents know better than to zoom up behind a moose on the road, blast the horn, and expect it to move over. If you observe a moose trotting down or even alongside the road, remember this: An adult moose is tall enough that the windshield on your sportbike probably wouldn't even tickle his stomach. And a moose is strong enough to flick a fully loaded 1500cc touring bike into the swamp with an easy toss of his rack. The moral is, give large animals a lot of space and a lot of respect.



Moose are feisty enough to challenge you for road space, and big enough to win.

## What About Whistles?

There are many different versions of ultrasonic animal alert whistles available. The theory is that the whistle moving through the air makes a high-pitched ultrasonic noise that alerts animals to your approach, warning them to get out of your way. Given the potential for animal strikes, a passive animal warning device sounds like a great idea, eh? But there are a couple of nagging questions. First, the whistle makes noise in frequencies above human hearing so how do you know if your deer whistle is actually working? If a big South Dakota juicy bug lodges in the orifice silencing the whistle, how would you know? And if your whistle is whistling, is the volume really loud enough to reach an animal several hundred feet away? More to the point, let's assume the whistle works and that a deer ahead hears the media. What's the message? Is the noise a collision warning, a mating call, a challenge to

fight, or simply an annoyance? Let's assume the deer receives the message as a collision warning. Does that stimulate the animal to run away? And if the deer does decide to run away, is it supposed to make a 180 and run back into the woods, or is it supposed to run straight across the road?

You can find glowing testimonials about reductions in deer strikes after whistles were installed. Just read the deer whistle sales brochures. You'll have to make up your own mind about whether sales brochures are hype or fact. In my opinion, any device that depends on making the other guy get out of your way is probably not the smart approach. My survival theory about motorcycle hazards is that it is you who should always be prepared to get out of the way of the other guy, whether the other guy is a left-turning Accord, or a left-turning alligator. Feel free to bolt on whatever magic talismans you want, including a Back Off mud flap, a pulsating headlight, a string of garlic, a rabbit's foot, or a pair of deer whistles, but the only reliable way to avoid a collision is to get out of the way.

If you want to avoid getting snared by wild animal traps, the keys are the same as for any other traffic hazards: learn to read the situation ahead, adjust your speed and riding style to local conditions, and be skillful at controlling the bike.

## Ferocious Fidos



Dogs are allowed to run loose in some parts of the country.

I stopped to talk with the owner of a large dog the other day. I'd been riding along a quiet wooded back road on the way home, when I observed a big yellow Labrador sprinting through the trees on an intercept course with my motorcycle. He'd done this before, jumping off the bank next to the road and trying to make a carrier landing on the deck of the bike. So far he hadn't managed to hit the bike, but it was always a shock to see a big dog flying through the air toward me. I didn't want to play the game anymore. This time I squeezed on a little front brake to heat up the disk, and then did a quick stop just short of where I figured Fido



would make his landing. Sure enough, Fido vaulted off a roadside stump, flew through the air at about handlebar height looking for the bike, and made a four-paw touchdown on the pavement in front of me, right where he had calculated I should have been. This particular Fido wasn't really aggressive, just looking for some fun. I figured I could make it up to the owner's door without losing any flesh. Knock Knock.

*Hello, is that big yellow Lab your dog? Well, he just about knocked me off my motorcycle, and this has happened before. I'd like to encourage you either to train him not to chase people or tie him up before he causes an accident that results in me being injured.*

*Well, he's a pretty good dog. He doesn't chase cars. He only chases UPS trucks and motorcycles. We just don't have the heart to tie him up.*

*Would you mind giving me the name of your insurance agent? I want to make sure you've got enough coverage to pay for hospitalization and motorcycle repairs and lost time from my job if your dog manages to knock me down next time.*

That particular community was rural, and letting dogs roam free was part of the lifestyle. There were even reports of dogs forming packs and attacking sheep herds. The pet owners didn't seem to realize that Fido and his pals were playing wolf during the day and returning to their porches at dinnertime to greet the bosses. If you don't ever encounter loose dogs in your neighborhood, you can count yourself lucky. But if you happen to stumble onto a loose-dog community in your travels, you should be prepared to avoid injury to either yourself or the animal.

Over the years I've had a considerable number of encounters with canines and their masters. I've noticed that dogs tend to take on the personalities of their owners. A well-behaved dog usually means a responsible owner. An untrained dog is usually smarter than the owner. An aggressive dog is usually the result of a mean owner. Some dogs chase motorcycles, some prefer fire trucks. Others get a kick out of chasing joggers or snarling at the postman. Whatever the target, most dogs seem to enjoy chasing something. It works, too. If the dog chases a motorcycle, it soon goes away.

If you happen to have a snarling dog closing fast on your shin, it may seem that your biggest problem is becoming lunch. But the actual problem is the probability of dropping the bike. Even a small dog can upset a motorcycle. If you've had any dog encounters, you may have noticed that dogs seem to head for the front wheel. This may be just a misguided attempt at "rounding up" the motorcycle for the kill. Fido may not understand the future consequences of diving under a half-ton bike, but his instincts say it will work. The fact is, he can bring a bike crashing to earth.

Veteran motorcyclists understand the importance of never allowing a dog to get close to the front wheel. Most of the time that simply means being a little smarter than Fido. We don't really know how dogs think, but we can observe their behavior and take advantage of it.

## Confrontations

Just like motorcyclists, there are vast differences between dogs. Some dogs are merely playful, others are defending a territory that happens to include the street, and some mistreated or untrained dogs are aggressive enough to be a serious threat to anyone passing by. A vicious dog can be a serious adversary if you

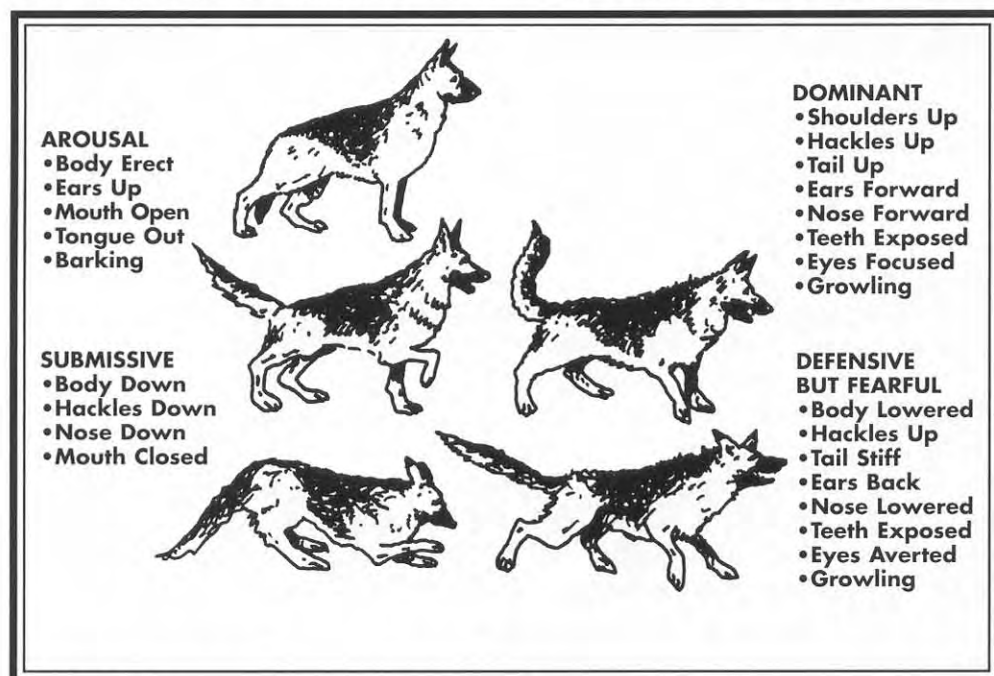


Some dogs are merely playful, others are defending a territory that happens to include the street.

happen to find yourself face-to-face with one. Those snarling teeth and belly growls are the real thing, and a vicious canine can inflict serious wounds. Let's ramble through some ideas about dog behavior and then consider some tactics for not getting bitten or knocked off the bike.

First of all, dogs are sensitive to their territorial boundaries, but they have little ability to reason. They often act out of instinct. An unrestrained dog can have a general turf as large as it wants to defend.

Second, dogs have behaviors that communicate dominance, aggression, fear, and submission. Fortunately, we can read some of this body language to help pre-



A dog's body language can help you understand what mood he's in.

dict what a dog might do next. If a dog barks a lot with his ears pricked up and his tail wagging, he probably just wants to play. And, if he drops his head low to the ground, with his tail wagging low, he is being submissive. But if he pulls his ears back and tucks his tail in, he is getting apprehensive and could snap at you out of fear.

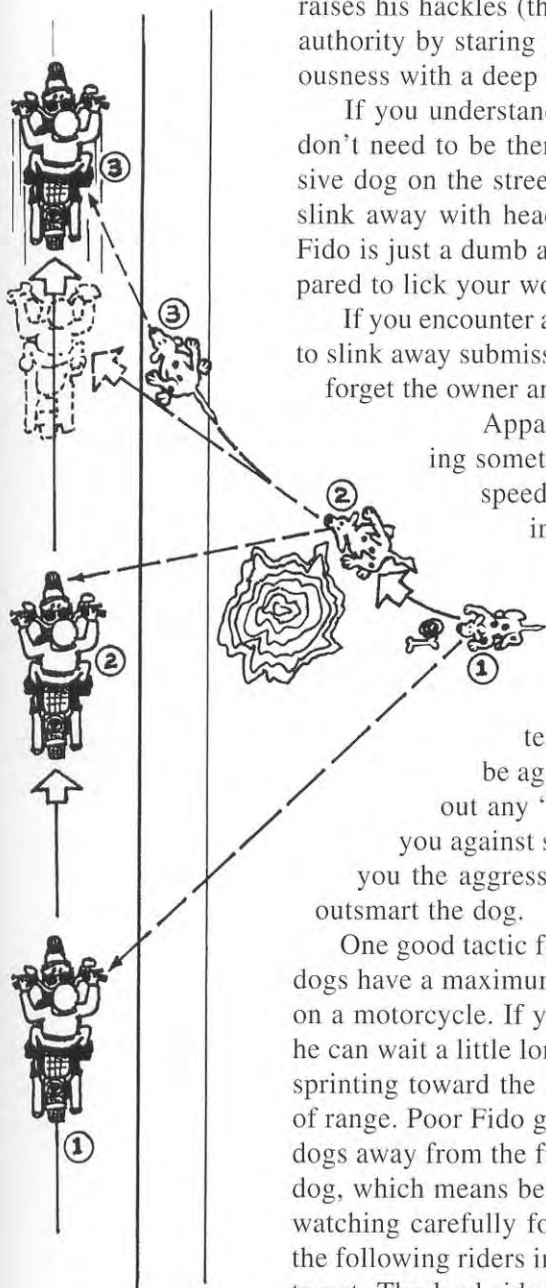
A dominant dog intent on defending turf will raise his upper body with ears erect, nose high, making himself appear as big and fearsome as possible. If there is a challenge, an aggressive dog plants his feet on the ground, pulls back his upper lip to reveal teeth, points his ears and nose farther forward, stiffens, and raises his hackles (the hair on the back of his neck). He will caution you of his authority by staring you down with unblinking eyes, and warn you of his seriousness with a deep chest growl.

If you understand that an aggressive dog is just defending turf, and if you don't need to be there, consider backing off. If you encounter a large, aggressive dog on the street, you are advised to avoid eye contact, remain quiet, and slink away with head lowered, if possible. Sure, you're a Big Dog rider, and Fido is just a dumb animal, but don't escalate a confrontation if you aren't prepared to lick your wounds.

If you encounter a problem dog more than once, you'll have to decide whether to slink away submissively and never come back, try to reason with the owner, or forget the owner and talk animal control into getting the dog locked up.

Apparently, for fun-seeking dogs there isn't much sport in chasing something that is too easy to catch. The game is to calculate the speed of the approaching vehicle and dash out just in time to intercept it. Dogs typically have very good eyesight and hearing, so Fido often waits in the yard behind a bush or parked car, calculating a perfect intercept that he can reach if he sprints at top speed. When Fido catches you at the intercept point, you might be able to get in a lucky kick with your boot, but the odds are that the dog has better reflexes than the motorcyclist. And if this dog happens to be aggressively defending his territory, it's best to avoid holding out any "fresh meat," even if you think your leathers could protect you against snarling fangs. Besides, attempting to injure the dog makes you the aggressor in the eyes of most owners. The clever approach is to outsmart the dog.

One good tactic for outsmarting Fido is to change speed unexpectedly. Most dogs have a maximum speed of only about 30 mph, so it is easy to outrun them on a motorcycle. If you slow down before entering Fido's turf, he predicts that he can wait a little longer before the attack. Then, just as Fido gets up and starts sprinting toward the intercept point, screw on some throttle and accelerate out of range. Poor Fido gets left in the dust. This is an acceptable tactic for keeping dogs away from the front wheel, given a few caveats. First, you have to spot the dog, which means being aware that there are loose dogs in that community and watching carefully for dogs lurking in the shadows. Second, if you are one of the following riders in a group, this slow/fast technique will make you the prime target. The lead rider will outdistance Fido, but the dog will catch the second rider. Third, if you pull this same trick day after day to outrun a dog in your neighborhood, it won't be long before Fido cracks the code and learns to start the intercept sooner.



1. Bob spots Fido, slows down, Fido waits;
2. Fido takes chase, Bob accelerates;
3. Fido can't get to the intercept fast enough.



## Repellents

If you continue to have too many dog confrontations in your community or on your travels, take a tip from your postal worker. Carry some dog repellent with you. Dog repellents are available in small pressurized spray canisters as well as electronic repellents that emit a high-pitched scream that dogs prefer to avoid. To find a source, check with your postal worker, your local utility company, or a kennel equipment supplier.

Some motorcyclists report success in keeping aggressive dogs at bay using ordinary household ammonia. They carry a plastic squeeze bottle of a water-ammonia solution and squirt a trail of the smelly stuff on the pavement as they pass by. Dogs mark their territory by urinating, and urine contains ammonia, so to the dog the motorcyclist is marking the street as his turf. A submissive dog may agree to comply with your demand. But a really tough dog will just urinate over the top of your ammonia as a threat for you to back off, and you'll have to decide how far you're willing to retreat.

Dogs are not a universal problem for motorcyclists. Communities vary in their tolerance for pets running loose, and their laws reflect this. In those areas where pets are allowed to roam, it is assumed the pet is harmless, at least until after the first bite. This means that animal control is probably not going to pick up a dog just because it snarled at you or ran into the street. But we can do each other a favor by working to get problem dogs under control in our own neighborhoods.

It's worth a try to confront a problem dog's owner, but remember that by approaching the owner's house you are invading the dog's territory, which he is defending. If you do feel you can get up to the door without being devoured, consider discussing the problem with the pet owner. It helps if you have done a little research into local animal control laws so that you know what the rules are. And it is also helpful to keep your temper in control. You might try something like this:

*Hello, I'm Biker Bob. I live just down the street a few blocks, so I ride my motorcycle past your house every day. Is that big Labrador your dog? What's his name? The reason I stopped is because I thought you would want to know that your dog chases vehicles. He's a nice looking dog, and I'd certainly hate to injure him if he runs out to chase me. I'd really appreciate it if you could do something to restrain him on your own property, so that we don't have to get Animal Control involved. Thanks for your time.*

Keep in mind that the owner of a problem dog might be even meaner than the dog. If the owner is a reasonable person who just doesn't realize his dog is a problem, your suggestion may trigger some action. But if the owner responds as aggressively as his snarling dog, or if you don't think you can even get to the door without risking life and limb, the other option is to register a complaint with animal control or the local police department or sheriff's office. Be aware that the legal eagles will want your name and address and will provide that to the dog owner if requested.

Aggressive dogs are sometimes rabid, and a bite can infect you with rabies. Trust me here, you want to avoid getting bit by any dog. The treatment for rabies is no joke. If you should happen to get bit by an animal, don't waste any time. Immediately get medical attention and report the incident to the authorities, who may quarantine the dog until rabies tests are completed. Remember, that first bite also proves to authorities that the dog is aggressive, and animal control can then take steps to either have the dog restrained or put down.

The vast majority of pet owners care for their animals responsibly and keep them out of the street. But during your travels, be prepared for the occasional dog who is undisciplined, or areas of the country where dogs are allowed to roam free. If you can be just a little smarter than the average Fido, you should be able to handle any dangerous confrontations without any pain or expense.