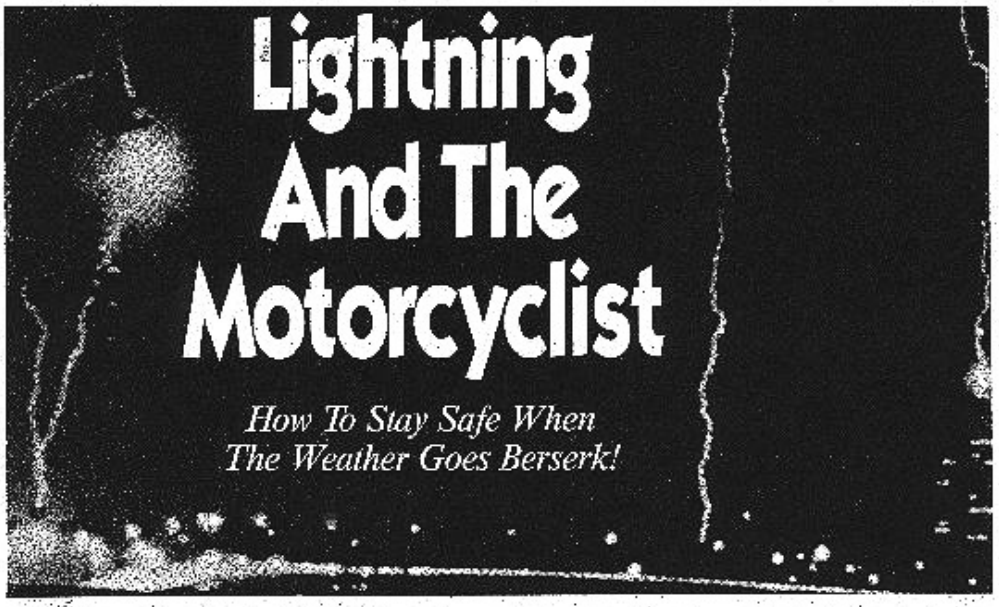
SAFETY FEATURES



Lightning And The Motorcyclist

How To Stay Safe When The Weather Goes Berserk!

by DANA SHIFFLETT

Several years ago, on a ride up into West Virginia, I crossed an open area of the Appalachian plateau just east of Thomas during an evening thunderstorm. It was a spectacular show, with lightning blasting away at the ground all around me.

I knew that people have been killed by lightning, and I'd seen what lightning could do to trees, barns, livestock and so forth. But even in the center of that storm, the possibility of being struck seemed so remote.

Besides, my tires insulated me from the ground, right?

I don't think that way anymore. My training as an Air Force meteorologist, coupled with a rather harrowing personal experience with lightning, have taught me to know better. I can laugh at my own past foolishness, but I'm amazed at the number of folks I've met who feel, as I once did, that there's little danger in mixing motorcycles and thunderstorms.

Lightning is just the final product of a complex chain of events. To put it simply, a thunderstorm can generate several electrically charged regions — positive or negative — within itself. Remember your high school physics? "Likes" repel, and "opposites" attract, right? When a charged region within a storm becomes strong enough, lightning will arc to a field of opposite charge. This could take place in the storm itself, the air around it, or on the ground.

For lightning to strike the ground, or anything on it, the storm overhead must first induce a charge in the ground. The strongest charged field (usually negative) in the portion of the storm closest to the ground will "chase" the like charge from the ground below, and attract an opposite (usually positive) charge to that ground. This charge is shared with objects on the ground itself, and concentrated in pointed (elevated) objects: hills, buildings, trees, water towers, lightning rods...and you on your Gold Wing.

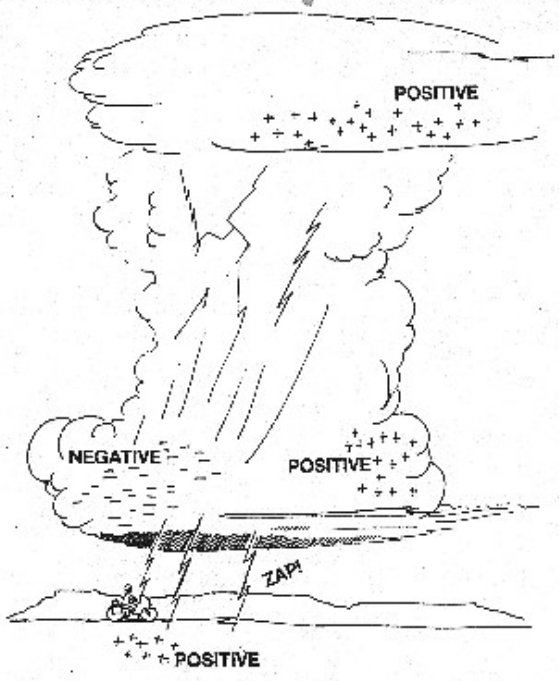
But that's not all. Where there's an electrical charge, there's an electrical field. The stronger the charge, the stronger — and larger — the field. This applies to you and your cycle, too. Your cycle, being constructed of metal, will have a particularly powerful field around it. Since opposites attract, your field will be strongest and most extensive in the direction of the strongest

opposite charge: the storm, which also has its own electrical field reaching out for an opposite. When these two opposite fields break down the resistance of the insulating air between them, you end up with a lightning bolt following the path of least resistance from the strongest concentration of one charge to the strongest concentration of the other. If you and your cycle are in the path of least resistance, or if you happen to have the strongest concentration of charge immediately available to the lightning bolt, well — as they used to say in turn-of-the-century dime novels — let us draw a curtain over this tragic scene.

Fried BMW diode boards are expensive. So are funerals. Don't underestimate the power of a thunderstorm.

Notice that I've said nothing about the so-called insulating abilities of your tires. That's because they can do nothing against a charge as strong as a lightning bolt. Air is an excellent insulator, and lightning routinely jumps across several miles of sky; a little bit of rubber would, at best, be just a surface for the current to arc across.

So why are you safe in a car? Again, the tires are no help. In this case you are relatively (not totally) safe because the metal of the car structure conducts the current around you to the ground. A metal building would do the same thing for you; I think an overpass would, too. But just getting under that overpass is not enough; you should find dry ground to stand on, maintain as little body contact with the ground as possible (i.e., don't lie down). Why? The overpass, having metal in its structure, will be attractive to lightning. If it is hit, a lot of current will be passed through the ground under you. If you or that ground are wet, you'll feel it, and it can hurt you. You may feel it even if you and the ground are dry. Furthermore, stay clear of any metal in the overpass structure, and try to stay away from your cycle, too.



In general, any shelter is better than nothing, with radio antennas, water towers, lone trees and the like being exceptions to the rule.

If you are caught in the open with your bike, you've two choices: ride like the dickens and get out of there; or get yourself away from the cycle and crouch in the lowest, dryest place you can find. The idea here is not to be a high point, yet still maintain as little body contact with the ground as possible. Which choice of action is best? I can't say. Riding will get you out from under the storm sooner, but then you run the risk of taking a direct hit at 60 mph.

A far better alternative is to avoid riding into a thunderstorm to begin with. As I've said, I know better, now. I prefer to watch the show from someplace dry, where the only electricity in the area is busy warming my next cup of coffee.

Lightning and the Motorcyclist

Florida is known as the lightning capital of the United States and, as such we are frequently treated to many displays of one of natures most powerful forces. To watch a thunderstorm is exciting, to be in it, on a motorcycle, can be terrifying. Lightning is just the final product in a complex chain of events.

A thunderstorm can generate several electrically charged regions (positive or negative) within itself.Remember your high school science? "Opposites" attract and "likes" repel. When a region within a storm becomes strong enough, lightning will arc to a field of opposite charge. This can be air to air, air to ground or on rare occasions, ground to air.

For lightning to strike the ground the storm must first induce a charge into the ground. The strongest field in the storm (usually negative) will "chase" the like charge from the ground below and attract an opposite charge (usually positive) to the ground beneath it. This positive charge is shared with objects on the ground itself and concentrated in elevated objects, such as buildings, trees, water towers and you on your Gold Wing.

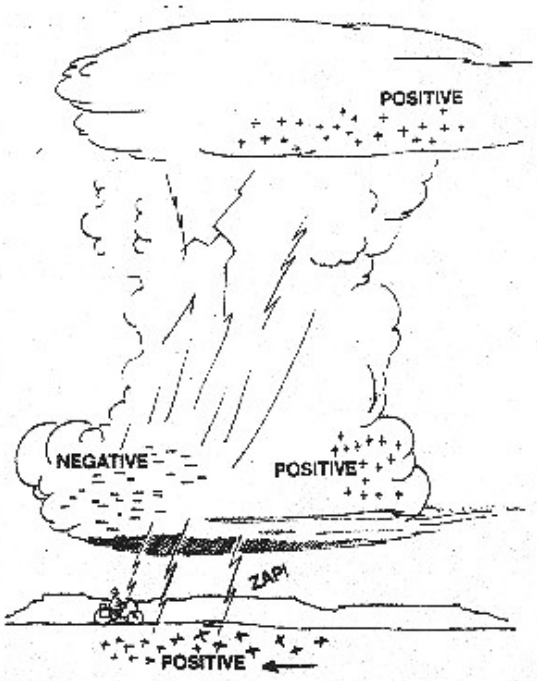
Where there is an electrical charge there is an electrical field. Your Gold Wing, being constructed of metal, will have a particularly powerful field around it thus attracting a lightning bolt from the opposite charge in the storm. What about my rubber tires, you ask?

The insulating abilities of your tires are non-existent when facing a force as powerful as a lightning bolt.(If lightning can cross miles of sky do you really think 3 inches of rubber will keep it at bay?) The tires will act, at best, as a surface for the lightning to arc across. Why then are we safer in a car or van?

The metal of the car structure conducts the current around you (like a metal cage)to the ground beneath you. The same holds true for metal buildings and overpasses. Just getting under that overpass is not enough; find dry ground to stand on and maintain as little body contact with the ground as possible. Why? Because the overpass will be attractive to lightning and if hit, a lot of energy will be passed to the ground under you. Needless to say, stay away from any metal in the overpass and keep away from your motorcycle too. In general, any shelter is better than nothing, with water towers, lone trees, tall objects and the like being the exceptions to the rule.

If you are caught in the open you have two choices, ride like the wind or get yourself away from the motorcycle and crouch in the lowest, driest place you can find. Don't be a high point and maintain as little body contact with the ground as possible.

A better alternative is to avoid the storm altogether. Watch the show from someplace dry, where the only electricity in the area is busy warming your cup of coffee. Thanks to Dana Shifflett for the basis of this article. Ride Safe,



LIGHTNING