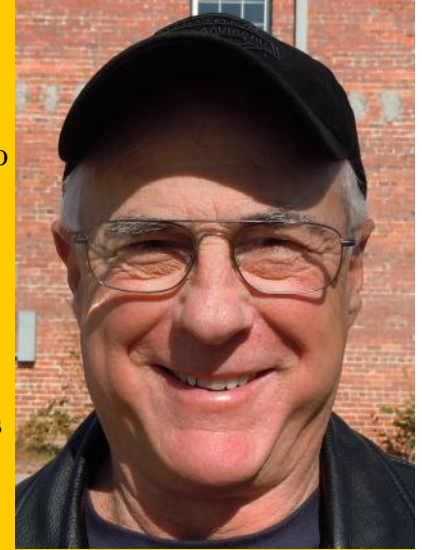


Safety Corner

By Jerry Coney



Are Antilock brakes otherwise known as ABS brakes worth the investment as an option on your motorcycle and do they measure up to the hype? This month's safety article will look at a relatively new entrant to this technology, the motorcycle. I say relatively new as Harley Davidson has only had ABS since 2007 on police bikes, and then in 2008 ABS was offered as an option to the general public on their touring line of motorcycles. BMW has had ABS options on their motorcycles since 1985, and Honda introduced ABS in 2002. Unfortunately as of this article, ABS are not yet offered as an across the board option by most bikes manufactures, including HD. The purpose of the article is to hopefully provide you with enough information to assist you in making that decision, when you decide to take the plunge and purchase a new bike. The specific reason for the reference of purchasing a new bike is because, you cannot have your current bike retrofitted with an ABS braking system, at least not at the present.



Brembo equips these models with front discs, calipers and front and rear master cylinders. The brake calipers are attached to four black anodised pistons whereas the front discs are made of steel with a 300 millimetre diameter and feature the exclusive "One-Pin" solution. Through an innovative solution developed by Brembo especially for Harley-Davidson, the One-Pin disc improves braking comfort. All in all, the braking system has a unique, carefully designed look developed in collaboration with the Harley-Davidson styling centre.

ABS brakes had their genesis back in the late 1920s when they were first developed for airplanes which were nearly impossible to threshold brake. What is threshold braking you ask? Well, it is the art of applying braking pressure to maximize the braking ability of the tires without locking up the tires and going into a skid in a car, and worse on a motorcycle. As we have discussed in earlier articles on motorcycle braking, this is a critical skill for there is a very fine line between bringing the bike to a hard stop, or slowing considerably without loosing control and putting the bike down.

How do ABS brakes work you ask? In a nutshell, every ABS system is equipped with wheel sensors that monitor the rotational speeds of a wheel when braking force is applied. When one or more of the wheels approaches lockup, a computer controlled unit reduces brake pressure to that wheel or wheels just enough to allow it to rotate again. This will typically happen numerous times per second, resulting in improved control and, on many wet and slippery surfaces, shorter stopping distances.

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Now do ABS brakes enhance your safety by playing a critical role in bringing your bike to a stop in shorter distances? You bet they do! But there is more to this story. Motorcycle deaths have doubled in the years between 1997 and 2007, and while there is an increase in ridership, it comes with the undeniable additional factor, less experienced riders. The sharp increase in deaths has caused the National Highway Transportation Safety Administration (NHTSA) to consider making ABS brakes mandatory on new motorcycles.



In the meantime, let's look at the projected benefits from the use of ABS brakes on motorcycles. According to an insurance institute study, fatal motorcycle crashes are 28% less likely to occur on motorcycles equipped with ABS brakes. Studies of fatal crashes, insurance claim data and test performance all confirm the advantage of ABS brakes. In fact, the Insurance Safety Institute for Highway Safety in a 2011 study concluded that the rate of fatal crashes is 37% lower on bikes equipped with ABS brakes. This year the Highway Loss Institute announced that insurance claims for motorcycles equipped with ABS brakes are 23% lower than bikes that do not have the ABS system. In 2006, NHTSA confirmed that both new and experienced motorcycle riders alike experienced shorter stopping distances on both dry and wet pavement.

Are ABS Brakes an end all panacea for critical braking? Unfortunately the answer is no! Are they as effective as ABS brakes on a car, again the answer is no! ABS brakes on a motorcycle are much more effective when the motorcycle is completely vertical and moving in a straight line. Otherwise, panic stops that occur when the bike is in a turn or in a leaned over attitude are not likely to be a success story.



According to a review in motorcycles.com, there is yet to be a study that supports effective braking while the motorcycle is leaned over or in a turn, however; keep in mind that ABS do not even kick in until a wheel sensor perceives the wheel is about to lockup. So during less than a full panic stop, ABS brakes are not even a factor in stopping the bike. In this situation good braking, swerving and control techniques will trump ABS braking. However; given the fact that there is a significant percentage of accidents that occur by overdriving the bike in a curve, *control* is of critical importance. You and you alone are the determining factor of how fast the bike is traveling when it enters a curve. Know what your ABS system can do is just as important as knowing what it cannot do.

Would I trade my bike in just to get ABS brakes, probably not, but that is a personal call. If I were to buy a new bike, would I want ABS as an option, you bet I would. The benefits far out way the drawbacks, and your safety is dependent upon every advantage you can exercise control over.

As always, practice safe riding, and enjoy the fantastic weather.