## Rider Education Report

Welcome to August and the arrival (finally) of the heat and humidity of summer. But the heat of the daytime is nothing like the heat in your exhaust system. Combine that with the humidity in the air, the byproducts of combustion which are basically anhydrous acids, and the fact that a motorcycle exhaust system is unprotected metal on the inside, and you have a recipe for rust and corrosion. Our exhaust systems are very well made, but after many years even the best exhaust systems will start to show the effects of aging.

The first place to check is any clamp or fastener. These places tend to catch and keep the road grime which also holds the acid rain that can eat pits into the pipes, even into the chrome plating. Next, check around the welds. By their very nature, the welds are subject to early failure due to the energy put into them during the welding process. This makes the metal in the welded area more prone to the effects of oxidation. And the third place to check is any sharp angle in the formed metal fittings and tubing of the exhaust system. Sharp angles tend to act as stress risers, where any force on the metal, be it expansion and contraction from thermal changes, or flexing from vibration from the engine or roadway, tend to be focused and lead to cracking. These cracks again tend to attract dirt and moisture.

If your bike is new or in really fine condition without much rust on the exhaust system, then prevention is easy, mainly consisting of washing and periodic scrubbing followed by some aluminized paint around the welds. If you or the previous owner have been less than diligent in the care of the exhaust system, and you find some cracks, there is still hope. Several products on the market can extend the service life of your pipes. Some are high temperature epoxies. Others are mixes of high temperature polymers and metal dust, like Blue Magic® Quik Steel<sup>TM</sup>. This product is applied on warm days above 80 degrees Fahrenheit and is applied directly to the damaged area. Liberal applications spread widely over the surrounding surface help to hold the area together. After four hours of initial curing, it is time to go for a ride to finish-cure the repair. The heat in the exhaust makes this product stronger.

Richard Artmayer KY State Educator