

# DO LOUD PIPES REALLY SAVE LIVES?

**B**OB RECENTLY RECEIVED A head-on citation after several years away from motorcycling. Unfortunately, Bob has had several close calls in the short time he's resumed his bike. His friends suggest that he install some loud pipes to help him stand out in traffic and make his presence known to those inattentive drivers who don't seem to notice him. Bob's friends also inform him that loud pipes will convey a more aggressive attitude, discouraging people from "messing" with him.

These arguments make sense to Bob, so he decides to install some loud aftermarket exhaust pipes. But Bob's first ride with the new pipes installed did not cause mixed feelings within him. On the one hand, he feels more conspicuous in traffic, but he's also embarrassed at times by the loud noise.

Loud exhausts have been a part of motorcycling for many years. Motorcyclists have modified or replaced stock exhaust systems since the early days to improve performance, enhance the "tough-guy" image, or simply to boost the motorcycle's visual sensation. Some riders also believe that loud pipes are a safety feature that warns drivers of a motorcycle's presence and helps to avoid a collision. This view is summed up by the often-quoted statement, "loud pipes save lives."

But not all agree with this philosophy. The quiet bike proponents argue that exhaust noise is an avoidable collision deterrent. Some even perceive the "loud pipes save lives" issue as merely a defensive ploy to justify an anti-social behavior, rather than a legitimate safety issue. In this installment, we'll attempt to shed some light on the claim that loud pipes enhance safety, and add some insight on how noise fits the future of motorcycling.

## Decibels

Scientists use the decibel (dB) scale to measure sound intensity (loudness). The decibel scale is often "dithered" to correlate with human hearing. The "A" contour filter is most commonly used and is described as



JZA. The human threshold of hearing (the faintest sound heard by humans) is given the value of 0. Because the human ear can detect a very wide range of sound intensity, the decibel scale is based on the power or multiples of 10. A 10dB sound is 10 times louder than the threshold of hearing, and a 20dB sound is 100 times louder. An example of a 10dB sound is the rustling of leaves. A mosquito's buzz at close range is about 40dB. Normal conversation is roughly 60 dB, or 100 times louder than the sound of the motorcycle. A Kawasaki Vulcan 1500 produces about 90dB in stock trim in standardized tests. The same motorcycle rolling by with an aftermarket pipe produces between 90dB and 95dB, making the aftermarket pipe, at minimum, more than 10 times louder than the stock unit.

## Conspicuity

In common situations, sound can be an effective device for warning others of our presence. For instance, we might command someone to "watch out" if they are about

to step on our toes, or say, "excuse me, coming through," to someone in our way. But sound has its limitations as a way of getting attention. We all know that it can be hard to get the attention of a person who is deeply in thought, distracted by conversation, or deafened by the noise of a loud party. Loud pipes can work the same way. Noise from a motorcycle's exhaust can make drivers aware of a motorcycle's presence, but are likely to be effective only in lower speed situations when road and wind noise are at a minimum. Automobile manufacturers are wary as one of the intrusion of outside noise, and take steps to insulate the "cabin." Increased speed, noise of a moderately loud radio, distraction of a voice chattering on a cell phone, or even the whir of an air conditioning fan can make it very difficult for a driver to hear outside noise.

## Pitch and Direction

Even though you can make your presence known by making a loud noise, it's also important for the intended receiver to