CL-10188988-7122

April 29, 2007

Adminisrator
The National Highway Traffic Safety Administration
400 Seventh Street SW
Washington, D.C. 25090

Enclosed are copies of correspondence regarding an accident with a Buell motorcycle and recall of a faulty bank angle sensor.

Sincerely,

[redacted]

[redacted]

[redacted]

Glenwood, MN[redacted]

add to NAR 5/17/07 CC

Harley-Davidson Motor Company, 11800 W. Capitol Drive, Wauwatosa, WI 53222 414/465-6000

April 13, 2007

[redacted]
[redacted]
Glenwood, MN [redacted]

Re: September 21, 2006 accident

Dear [redacted]

I am the Deputy Chief Products Counsel for Harley-Davidson and, as such, I manage product liability lawsuits and claims for the Motor Company. Your letter of March 25, 2007 was forwarded to me for handling. First of all, I am sorry to hear about your accident and relieved to learn that you sustained only minor injuries. While it doesn't appear to me that you were writing to ask for anything, I wanted to write to you to explain the fallacy of a common misconception, i.e. that the engine cutting out would cause a bike to "stand up."

Critical velocity is defined as a velocity above which a motor vehicle cannot travel around a curve without yaw, a side slipping of the vehicle in a direction other than that in which it is headed. In general, the critical velocity of a vehicle traveling in a curved path is $v = \sqrt{(gr\mu)}$, where g is the acceleration due to gravity, r is the radius of curve of the motorcycle's path, and μ is coefficient of friction. Based on this relationship, one can see that if a motorcycle would unexpectedly shutdown, velocity would decrease, and in turn, the radius traveled by the vehicle would actually decrease, not increase. Therefore, it would actually make it easier to make the curve.

Moreover, the equation for the lean angle of a motorcycle traveling in a curve is $\tan \theta = v^2 / rg$, where θ is the lean angle of the motorcycle, v is the motorcycle's velocity, r is the radius of curve of the motorcycle's path, and g is the acceleration due to gravity. Therefore, based on this relationship between lean angle, radius and velocity, one can see that if a motorcycle would unexpectedly shutdown, velocity would decrease, and in turn, if the rider maintains the same lean angle, the radius traveled by the vehicle would again decrease, not increase.

I hope that helps you understand that even if the engine cut out, it would not have caused your bike to "stand up." I wish you many miles of enjoyable riding on your replacement Ulysses XB12X. Thanks for being a loyal customer.

Sincerely,

Karen M. Kircher
Manager, Product Liability Litigation
Phone: 414-465-6790
Fax: 414-465-6713

April 29, 2007

Karen M. Kircher
Manager Product Liability Litigation
Harley Davidson Motor Company
11800 Capitol Drive
Wauwatosa, WI 53222

Re: September 21, 2006 accident

Dear Ms. Kircher,

Thank you for your letter dated April 13, 2007. I appreciated your explanation of the physics involved and associated calculations regarding the lean angle of a motorcycle in a curve. While I don't dispute your calculus I must point out the fatal (fortunately not for me) flaw in your conclusion based on your formula. You fail to take into account the riders response to such an event. If the motorcycle was without a rider, or simply a mechanical device your equation would hold true. Sadly this is not the case. I readily admit that I am not an expert in physics or calculus by any means. I am however a physician with thirty years of clinical experience so my area of expertise lies in the area of human response or in this scenario, a rider's response. As you so eloquently explained that the engine cutting out in a curve would cause the motorcycle to increase its turn radius and thereby increase the lean angle, the human response, i.e. reflexive response to this unexpected change, is to compensate and shift one's weight and steering which in turn (no pun intended) would indeed "stand the bike up" as was the case in my situation. This abrupt adjustment to the unexpected engine failure resulted in the motorcycle fading to the left onto the sandy shoulder and ultimately off the road with resultant accident.

In the future when you use mathematical equations to explain events such as this please don't forget to consider the human response as the unknown variable in your calculation as this will determine the actual outcome. Furthermore it is the human in this equation that is your customer, and should be your company's most important consideration.

Sincerely,

[redacted]

Glenwood, MN[redacted]

Cc: Administrator
The National Highway Traffic Safety Administration
400 Seventh Street SW
Washington, D.C. 25090