

## Some Of The Most Important Steps To Be Taken In Heavy Vehicle Highway Safety Are Yet To Be Duly Recognized

It is an established fact that driving fatigue is responsible for many catastrophic heavy vehicle highway accidents. Because of the critical heavy vehicle driver fatigue problem, the hours of service rules are likely to be challenged from time to time in hopes of making a significant difference when, in fact, the desired reduction in driving fatigue can only be achieved by improving the directional stability of all heavy over-the-road vehicles with Precision Steer Wheel Control Technology, so they will be far less fatiguing to drive. A few hours more rest and a few hours less driving will not solve the critical driving fatigue problem.

The technology for making the required improvement in heavy vehicle directional stability that will solve the excessive driving fatigue

problem, is here for the asking. Once the required improvement in the state of the art of heavy vehicle directional stability becomes mandatory, the very creative heavy vehicle design community will likely come up with their own version of the Precision Steer Wheel Control Technology required to improve directional stability. The cost of the new technology will be more than paid for by a major savings in steer wheel tire mileage. Heavy vehicle operators that are using the new Precision Steer Wheel Control System are reporting a 75,000 mile increase in steer wheel tire mileage, that was caused by the long-standing unstable behavior of steer wheels before the Precision Steer Wheel Control System was installed.

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## A BREAKTHROUGH IN TECHNOLOGY ESTABLISHES THE MOST IMPORTANT NEXT STEP FOR GREATLY IMPROVING HEAVY VEHICLE HIGHWAY SAFETY

This paper describes the highway safety benefits of the Precision Steer Wheel Control Technology (HPCS System) that was **used in the Pilot Test Of Fatigue Management Technologies conducted by the Federal Motor Carrier Safety Administration.**

**The following excerpts were taken from The Tech Brief prepared by the Federal Motor Carrier Safety Administration and Transportation Research Board (TRB) Paper #05-1234.**

***“Among all FMT technologies deployed however, drivers were significantly more enthusiastic about the benefits of the Howard Power Center Steering® and Safetrack®....” (FMCSA Tech Brief)***

*Heavy Vehicle stability and control problems contribute to the “work” of driving a truck, inducing fatigue due to the often continuous amount of driver steering corrections needed to counteract the unstable behavior of the castered truck wheels. The physical workload associated with “fighting” the steering wheel to maintain directional control is particularly fatiguing to neck and shoulder muscles. There was a need to determine whether a technology that lessened this physical workload on drivers would result in less fatigue. **The technology that best fulfilled this requirement and was tested in the pilot study was the Howard Power Center Steering system.** (Precision Steer Wheel Control System). (TRB Paper #05-1234)*



## Understanding The Critical Need For Improving Heavy Vehicle Directional Stability

Because of the varying dynamic forces of heavy over-the-road vehicles pulling trailers, they are inherently lacking in directional stability and require an excessive amount of corrective steering from the vehicle driver to keep them directionally under control, thereby greatly adding to the heavy vehicle driving fatigue and related highway safety issues. It is a recognized fact that heavy vehicle driving fatigue has been responsible for numerous catastrophic heavy vehicle highway accidents.

A major improvement in heavy vehicle highway safety can be achieved by reducing driving fatigue that can only be accomplished by one of two methods, either by finding a way to improve human tolerance for heavy vehicle driving fatigue, *or to substantially reduce the heavy vehicle driving fatigue itself.*

Since drivers with adequate heavy vehicle driving fatigue tolerance are nonexistent, *the only practical option is to make the heavy vehicles less fatiguing to drive, so they can be driven safely by drivers that are available.*

One of the reasons that it is over twenty times safer flying in a commercial jet

than traveling by car on the highway, is primarily due to the federal regulations that require a high level of aircraft stability and control, in addition to the mechanical function and reliability of the aircraft.

*The next major step to be taken to improve heavy highway safety will be achieved by improving the state of the art in heavy vehicle directional stability.*

The proven technology for achieving a dramatic reduction in heavy vehicle driving fatigue is here for the asking, and is paid for by savings in operating expense.

The Howard Directional Stability Technology has been tested and verified by millions of in-service miles by heavy buses, trucks and large recreational vehicles, as well as the verification test conducted by the Federal Motor Carrier Safety Administration. Once it becomes required for heavy vehicles to be directionally stable, it will require a few years for the existing heavy trucks that are lacking in directional stability to be replaced by the new low fatigue directionally stable safer heavy vehicles. Time is of the essence.

## The Amazing Heavy Vehicle Operational Problems That Are Solved By The Howard Precision Steer Wheel Control System

**There are two outstanding new systems that are designed to make the highways a safer place to be. They are the electronic stability control system that reduces fatal roll-over accidents, and the second system, The Howard Precision Steer Wheel Control System, that is designed to greatly reduce driving fatigue, thereby reducing driving fatigue related catastrophic heavy vehicle highway accidents.**

**The Howard Precision Steer Wheel Control System greatly improves heavy vehicles directional stability that assists the driver when going straight, by doing away with tedious driver steering corrections required to keep a heavy vehicle tracking straight and under control, thereby doing away with the major source of heavy vehicle driving fatigue, and related highway accidents.**

- The Howard Precision Steer Wheel Control System achieves an amazing level of steer wheel tire blowout controllability, verified by numerous documented steer wheel blowouts where drivers report easy vehicle controllability, without the steering wheel fight.
- The Howard Precision Steer Wheel Control System makes a major improvement in crosswind drivability, by preventing the steer wheels from caster steering downwind, in response to wind gusts.
- The Howard Precision Steer Wheel Control System completely eliminates the typical heavy vehicle road wander problem that is responsible for a major amount of driving fatigue.
- The Howard Precision Steer Wheel Control System does away with steering wheel pull on crowned or slanted roads, that is caused by steer wheels caster steering to the low side of the road.
- **The Howard Precision Steer Wheel Control System solves the long standing, puzzling steer wheel premature tire wear problem, saving heavy truck and bus operators a significant amount of operating expense that will pay for the new technology many times over.**

**River City Products of San Antonio Texas is the dominant patent holder of Heavy Vehicle Precision Steer Wheel Control Technology**