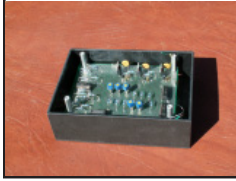


Student designs and builds a brake lighting system to save lives!



Brake Lighting System Demo
at
Merit Academy
Sunday, October 19, 2008
11:00 AM

Where: Merit Academy
2392 North Rodeo Gulch Road, Soquel, CA
Call: (831) 462-5655 or cell (831) 588-2134
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History of the Progressive Brake Light System:

Did you know that there are over 2.5 million rear-end collisions every year? More people die in these types of car accidents than in shooting accidents. What is appalling to me is that the government has not pressured the car manufacturers to improve the safety of their vehicles. While the car manufacturers are making vehicles bigger and more powerful, they are failing to make them safer. I realized that if the manufacturers are not going to build safer cars, I would have to create something myself. I have always loved building and designing, so I created a safety device called the Progressive Brake Light System (PBLs).

I started this project when I was crawling through stop-and-go traffic and the car in front of me stopped suddenly. I responded swiftly, but the driver behind me was not paying attention and skidded to a halt behind me. That was when it occurred to me that my brake light did not indicate whether I was riding my brakes or slamming on them. If he had known how much pressure I had applied to the brake pedal, he would have been able to safely come to a stop. When I got home that afternoon, I did some research on various brake light systems and studied statistics on rear-end collisions. With my adrenaline pumping from almost getting into an accident and my blood pressure escalating because of my frustration with the car manufacturers, I was determined to design a system that would inform the driver in the car behind how much pressure is being applied to the brake, and therefore, drastically decrease the number of rear-end collisions that occur each year. I found no products similar to mine, so I began designing my own system.

For the past year, I have been designing and engineering this brake light system. The display contains seventy-two light-emitting diodes (LEDs) and is approximately eleven inches by one inch. The system is comprised of the display, several small circuit boards that run the system, and a magnetic sensor behind the brake pedal. As the brake pedal moves closer to the sensor, more sections of the brake light illuminate. If someone taps the brakes, the six center lights turn on, but when a driver slams on the brakes, the LEDs illuminate outwards and all seventy-two lights flood the rear window.

I am proud of my Progressive Brake Light System because it will reduce the number of people who are killed in rear-end collisions. Until then, I had only built models. This was the first time I created something that had a specific and meaningful purpose. Designing a device, and then bringing it to life is what I live for. I recently applied for a patent for my idea and built a website to educate everyone about it. I hope that one day the PBLs will be a standard on every car, and I am looking forward to the day when I actually see it in use. Building this brake light system has shown me that even the simplest of ideas can be turned into a tangible product, and it is this aspect of engineering that I find so appealing.