DID YOU KNOW???

AUTONOMOUS VEHICLES ARE COMING, SLOWLY BUT SURELY

We've heard a lot about autonomous vehicles, I've written several articles on this subject, and we already have features on our cars that automate some part of our driving, but we are still a long way from fully self-driving vehicles as the norm on our highways. But, we are progressing, and hopefully it will be sooner rather than later.

Why sooner than later, you ask? Because 94 percent of all vehicle crashes are caused by driver error, and we need to do something to significantly reduce this highway carnage. In 2016, there were 37,133 deaths just in the US, and world-wide, 1.3 million people lost their lives to vehicle crashes. If autonomous vehicles can be operated significantly safer than we can drive, then think of the lives that could be saved.

While it's true that many new vehicles can assist drivers in performing certain tasks, such as maintaining following distance and lane centering, no car can handle every driving task on a full range of roads and conditions. New Insurance Institute for Highway Safety (IIHS) research based on track tests and on-road experiences with Level 2 driver assistance uncovers some of the inherent challenges with partial automation.

Autonomous vehicles are rated from zero to five, with zero being no automated features to level five being fully autonomous (driverless). Cars today with many of the newer features such as active lane keeping and adaptive cruise control are at level two.

IIHS reports in the August 7 edition of "Status Report" that on-road and track tests are helping IIHS craft a consumer ratings program for advanced driver assistance systems. Their evaluations of adaptive cruise control and active lane-keeping show variable performance in typical driving situations, such as approaching stopped vehicles and negotiating hills and curves. Track tests are good for evaluating capability and performance in a controlled environment but not for assessing performance in traffic. Under ideal conditions, advanced driver assistance systems may function better than they do in more complex driving situations. The early results underscore the fact that today's systems are not robust substitutes for human drivers.

One of the questions researchers looked to answer is do the systems handle driving tasks as humans would? Not always, tests showed. When they didn't perform as expected, the outcomes ranged from the irksome, such as too-cautious braking, to the dangerous, for example, veering toward the shoulder if sensors couldn't detect lane lines. Curves and hills can challenge active lane-keeping systems.

Adaptive cruise control (ACC) maintains a set speed and following distance from the vehicle in front. It is designed to slow for cars ahead and can come to a full stop but may not react to already-stopped vehicles. ACC doesn't react to traffic signals or other traffic controls. Active lane-keeping provides sustained steering input to keep the vehicle within its lane, but drivers must continue to hold the wheel.

It's obvious that we are making rapid progress in advanced safety systems, ultimately leading to fully autonomous vehicles. We already are evaluating fully automated trucks and buses in addition to cars, and achieving success holds great promise for reducing crashes, injuries and fatalities. It also holds promise for many areas of cost reduction. But, we won't be driving (or riding in) autonomous cars in the near future.