

Toyota's nightmare

The role of electronic throttle controls in the Toyota litigation

Lawrence R. Booth

This is the second in a series of articles on the product liability litigation against Toyota. In May, the Honorable James Selna in the Central District Federal Court, Santa Ana, announced the plaintiff's steering committee. The committee includes many prominent California attorneys: Co-chair Elizabeth J. Cabraser of San Francisco, Mark P. Robinson, Jr. of Newport Beach, Wylie Aitken of Santa Ana (liaison committee); Marc M. Seltzer, Los Angeles; Brian M. Panish, Los Angeles; Michael Louis Kelly, El Segundo; Frank M. Pitre, Burlingame; and Jerome L. Ringler, Los Angeles.

Electronic Throttle Controls

Electronic Throttle Controls (ETC) have been the standard in the automotive industry for over 20 years, since BMW introduced them in 1988. Formerly, cars used cables and rods to link the accelerator pedal to the throttle butterfly. When the driver stepped on or let up on the gas, there was a mechanical movement which in turn opened or closed the throttle, releasing a certain volume of fuel. ETC systems use sensors to relay the driver's intentions to the Electronic Control Module (ECM), a computer that controls, among other things, the opening or closing of the throttle. Like all computers, the reliability of these systems depends on the design of the hardware and software.

Safety Research & Strategies Inc. is a think tank based in Massachusetts (www.safetyresearch.net). Safety Research has only been around since 2004, but its founder, Sean Kane, worked with Ralph Nader's Center for Auto Safety beginning in 1991. The Safety Research Web site is a goldmine of information for navigating the intricacies of issues relating to the Toyota litigation. Kane appeared before Congress at the same time as the CEO of Toyota, along with Dr. David Gilbert of Southern Illinois University Carbondale. Dr. Gilbert has been teaching automotive electronics for 30 years. In January 2010, he ran some diagnostic tests on a Toyota truck at the school's automobile technology lab. He found that you could introduce an electrical fault into the system that was not detectable. His focus was on the Accelerator Pedal Position Sensor (APPS), since it is the major input for the ETC system.

Toyota has consistently argued to the National Highway Traffic Safety Administration (NHTSA) that the ETC could not be blamed for Sudden Unintended Acceleration (SUA) incidents and accidents because multiple redundancies ensured that any uncommanded acceleration would be detected by its fail-safe system. They claimed that a fault code or "Diagnostic Trouble Code" (DTC) would be recorded and the vehicle would be sent into limp-home mode. However, what was more likely happening in the real world was that Toyota vehicles were not limping home but instead running away and could not be stopped despite attempts at severe braking.

The question became why, when the system was getting contradictory commands and exhibiting a wide open throttle and heavy braking, was no fault code sent. Dr. Gilbert found that by simply increasing the voltage of the APPS he could induce an uncommanded wide-open throttle resulting in no detectable codes. To put it simply, Gilbert believed he had proven that the Toyota system could fail and leave no evidence that it had failed.

Proving ETC caused the accident

Since ETC failures by their very nature may leave no fingerprints, proving that this is the cause of SUA must be done through a combination of expert testimony, presentation of evidence of multiple similar failures, and even testimony of other victims.

Dr. Gilbert's 15-page report dated February 21, 2010, is posted on the Safety Research and Strategies Web site. He points out the advantages of ECMs to control fuel delivery, ignition and the throttle valve. They improve vehicle stability, fuel economy, reduce emissions and eliminate certain components. Nonetheless, a failure of the electrical circuits, sensors, wiring or actuators could potentially result in a runaway engine. Along with ECMs, vehicles have Malfunction Indicator Lamps (MIL) which are illuminated to inform the vehicle operator of a problem. At the same time, a Diagnostic Trouble Code (DTC) is supposed to be recorded in the ECM memory with special identifying alpha-numeric codes which can be retrieved later. If there is a serious ETC malfunction, the ECM is supposed to be programmed to operate the engine with limited RPM. If mechanical components in the throttle body fail, the ECM should have the added fail-safe ability to cut off fuel delivery to limit engine speed. All this sounds great, if the ECM has the ability to detect all malfunctions.

What Dr. Gilbert set out to do was determine if this whole system works to prevent runaway cars. He found that it did not, at least some of the time.

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He tested four ETC-equipped Toyota vehicles and found them all to be operationally unstable with the potential to reach Wide Open Throttle (WOT) anytime after the engine was started. Some type of ETC circuit malfunctions were detected in the testing by the ECM and, critically, some were not. The ones that were not would leave no recorded DTC code and no MIL light would illuminate in the driver's compartment. In other words, no evidence of an event which, depending on a variety of electrical circumstances, may or may not repeat again in a particular car. Furthermore, Dr. Gilbert found that whenever a fault occurred, the electronic throttle valve moved instantaneously to wide-open throttle.

A battle of experts

Toyota has never officially acknowledged that there are potential malfunctions in their ETC system. They have said that they are willing to investigate the issue. Trials will boil down to juries evaluating the credibility of competing experts. The plaintiffs' experts will have the rather daunting ammunition that there have been a large number of incidents and accidents in which no explanation other than ETC system failure is likely. For strategic purposes, it might even be useful to bring in other victims who suffered nearly identical accidents or at least incidents (although trial judges are generally reluctant to allow such demonstrations, concerned that there may be a long series of time-consuming mini trials).

All of this is against the backdrop that the majority of cases nationwide will be tried in Orange County because it has been designated as the location for the Multi-District Litigation (MDL). Even though the famous $128 million Pinto verdict was secured in Orange County, it is nevertheless one of the most conservative places in the nation. Strategies to prevent state-filed actions from being removed to the federal court will be discussed in a forthcoming column dealing with who to sue, where to file and how to avoid the federal court.

Toyota's initial recall was limited to models which had certain style floor mats. It was later expanded to include models which had CTS accelerator pedals. If the vehicle in which a particular plaintiff was riding is in neither category, it is important to know in advance if the car is equipped with ETC. So far, the recalled vehicles are:

2005-2010 Avalon
2007-2010 Camry
2009-2010 Corolla
2008-2010 Highlander
2009-2010 Matrix
2004-2010 Prius
2009-2010 RAV4
2008-2010 Sequoia
2005-2010 Tacoma
2007-2010 Tundra
2009-2010 VENZA

Brake override system – why did they wait?

There is a time-proven products-liability argument which may play a significant role in this litigation. Toyota has installed in the latest models a brake override system which overrides the throttle controls when the driver hits the brakes. Interestingly, Toyota has also reprogrammed the ECM in some recalled vehicles when they come in for other recalled fixes, such as gas pedal modifications. This is called reflashing the computer. Hence, the argument is why didn't Toyota install such a system years ago, along with ETC controls, given the sensitivity of such controls?

And now the defense, "pedal error"

As I said before, proving ETC malfunction may come down to experts. But Toyota would rather not go there, so it needs another defense – and it has one: In the typical scenario, a driver experiences a wide-open throttle and can't quickly stop the car in a normal fashion. Fortunately, the driver regains control and gets to the Toyota dealer. They read the fault codes and find nothing wrong. So, of course, they blame the wide-open throttle on the driver. Toyota claims the driver made a "pedal error," stepping on the accelerator instead of the brake. Make no mistake, pedal error will be the major defense in these cases. In the next column we will delve deeply into pedal error because it is key to the plaintiff attorney's decision to take on an SUA case and to the likelihood of success in trial or settlement.


Booth

Larry Booth is a past president of the Consumer Attorneys of Los Angeles and a past editor-in-chief of their magazine, Advocate. *He graduated first in his class from USC Law School and was editor-in-chief of the* Law Review. *In 1973, he was selected to the Inner Circle of Advocates, a nationwide group of the 100 top trial lawyers in the U.S. His firm,* Booth & Koskoff *in Torrance (www.boothkoskoff.com), has achieved over 75 million-dollar-plus verdicts and settlements, primarily in the fields of products liability and construction accidents, and is currently representing plaintiffs in 10 separate accidents involving Toyotas, claiming design defects caused SUA.*

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