

The Black Box: Hidden Data Reveals the Truth About MVA's

— by Brian S. Ruff

The claimant swears that she came to a slow stop in congested traffic. She's positive that she was sitting there for at least ten seconds before your insured smashed into the rear of her car. Your insured admits that he tapped her bumper, but only after she cut him off and slammed on her breaks. The claimant's plastic bumper is cracked. There are no witnesses.

Sound familiar? Wouldn't it be nice to have an objective source of data showing the relative speeds, courses, and force of impact? Since the 1950s, the airline industry has relied on flight data recorders (better known as "black boxes," though most are colored bright orange) to collect just that sort of accident information. So why hasn't the automotive industry adopted the same technology?

You may be surprised to learn that several major automobile manufacturers have already begun using them. A large number of GM automobiles, and to a lesser extent Ford, Chrysler, Toyota, and Isuzu, have their own black boxes (usually silver-colored) called event data recorders (EDRs). The National Highway Traffic Safety Administration (NHTSA) has estimated that 15% of all vehicles on the road, and 65% of 2004 model vehicles, are equipped with some sort of EDR.

An EDR is an integrated component of the supplemental restraint system (the airbag). It constantly cycles through 5- to 8-second data streams, receiving sensory input from

various locations in the car and deleting data at the end of the cycle. When a collision of sufficient force occurs, the EDR locks in the last cycle of data, providing a window into the last few seconds before the crash. The triggering event may occur whether or not the airbag was deployed. In most devices, data following a deployment event is permanently retained, while non-deployment events are only temporarily retained for varying lengths of time.

In June of this year, the NHTSA recommended rules that would require automakers who already voluntarily provide EDRs to use an industry-standardized data recording format and to record 18 proscribed pieces of information. The data set would include such factors as acceleration, velocity, safety belt status, and airbag deployment. Other factors such as steering input and vehicle roll would be required if a vehicle was adequately equipped with the necessary sensors.

This month, the National Transportation Safety Board (NTSB), believing that the NHTSA proposal does not go far enough, recommended that federal law be passed requiring all automobile manufacturers to begin equipping all of their new vehicles with EDRs. So what does this mean to the insurance industry in Oregon?

While universal access to EDRs in every accident would be a tremendous tool for settlement and litigation, there are a number

(Continued on next page)

of issues that need to be addressed. The first of those issues seems to be: “Who owns the data?” While it may seem obvious that vehicle owners should be entitled to use any component of their vehicles, some automobile manufacturers have claimed that the algorithms used in the EDR modules are proprietary. However, Vetronix, an engineering firm in California, has cracked the code, so to speak. They now offer a device that plugs into any standard PC and can retrieve and translate almost any of the currently existing EDRs on the road.

From a practical standpoint, anyone who wishes to access EDR data should either obtain the vehicle owner’s permission or seek a court order. In Oregon, the appellate courts have not yet dealt with EDR retrieval issues. However, it would appear that EDR data would fall within the scope of discovery pursuant to ORCP 36 and 43. ORCP 43(A) specifically addresses requests for data compilations and their translation into usable forms. This does raise a concern about preservation though: parties that have EDRs in their cars may become obligated to protect the data from spoliation.

Another problem is that even if the EDR is available for examination, you cannot just flip a switch and read the data. The process requires the special hardware and software described above to retrieve and interpret the record. Therefore, a qualified and properly equipped engineer is necessary for the procedure, but may not be readily available or accessible.

Apart from the technical requirements, it is also a good idea to have the data retrieved, interpreted, and preserved by a qualified professional out of evidentiary necessity. Your engineer should first be able to qualify under ORE 702 as an expert by his or her knowledge, skill, experience, training, or education. Then, for the purposes of authentication, the expert should be able to verify the method of retrieval and the chain

of custody of the EDR or the data. Because ORE 1001(2) permits the use of computer printouts or other readable output, your expert should be able to interpret the data and present an opinion about what it means.

Another issue is that EDR evidence is a matter of first impression for Oregon courts. Until the Oregon Supreme Court recognizes their scientific validity, evidence will have to be offered at trial or arbitration to establish that they are scientifically reliable. The issue of the admissibility of scientific evidence is controlled in Oregon by the evidence rules governing relevance and expert witnesses, and by certain considerations established by the Oregon Supreme Court. In *State v. O’Key*, the Court combined considerations established in *State v. Brown* with similar considerations established by the US Supreme Court in *Daubert*. The Court described what we have now as a *flexible multi-factor test*. The test includes the following considerations, although none are determinative alone:

- (1) The technique's general acceptance in the field;
- (2) The expert's qualifications and stature;
- (3) The use which has been made of the technique;
- (4) The potential rate of error;
- (5) The existence of specialized literature;
- (6) The novelty of the invention;
- (7) The extent to which the technique relies on the subjective interpretation of the expert;
- (8) Whether the technique can be tested; and
- (9) Whether the technique has been subject to peer review.

Currently the leading case on the issue of EDR admissibility comes to us from Illinois.

In *Bachman v. General Motors*, a seriously-injured plaintiff claimed that her airbag improperly deployed and caused her to lose control of her car. At trial the defendants offered the EDR from her car along with two engineers who had been involved in its original design and development. The Illinois court applied the more-stringent *Frye* test, and found that the process of recording and downloading the data had gained general acceptance within the scientific community. It is therefore likely that the Oregon courts, with their flexible hybrid test, will follow suit.

With some of the concerns about EDR technology being addressed by the NHTSA, and with additional pressure coming from the NTSB, it looks like the future of the black box is bright. As with any new technology, there will be glitches in its development and application. However, there may be a time in the near future when the standard post-accident investigation will include sending a field technician out to take a routine black box reading. ❖

— For a link to an online list of automobile makes and models that are already equipped with EDRs, please visit our website at www.lerlaw.com.