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Autos' black-box data turning up in courtrooms Some decide major crash cases

By Deborah Sharp
USA TODAY

FORT LAUDERDALE -- So-called "black boxes," which have provided valuable information in determining what has caused airliners to crash, are now being used to help tell what happened in automobile accidents.

And information from the computerized devices is increasingly finding its way into civil and criminal courtrooms, where judges and juries are trying to determine who is at fault in car crashes.

Some prosecutors and defense lawyers say that the data from black boxes, which are on about 40 million cars in the USA, provide an unbiased account of accidents. But privacy advocates are raising warnings about how information from the boxes is being used.

In a trial that opened here this week, , prosecutors hope that measurements obtained from the black box on Edwin Matos' 2002 Pontiac Trans Am will tell what happened seconds before his car slammed into another one occupied by two teenage girls.

Matos, 46, is accused of driving drunk when the collision occurred on Aug. 17, 2002, in Pembroke Pines, Fla. The girls were killed. Prosecutors say that black-box evidence will show Matos was driving four times the posted speed limit of 30 mph at the time of the crash.

Matos has pleaded not guilty. His attorney, Roberto Stanziale, plans to call the black-box data into question.

Black-box recorders have been used on airplanes since the dawn of aviation. Wilbur and Orville Wright used crude machines to record basic information about flights. Starting in the jet era, flight data recorders became integral to investigating crashes.

Most drivers unaware of them

Initially, they tracked an airplane's movements so investigators could piece together an aircraft's final moments. Steady improvements have broadened the amount of information these recorders store. The latest models record thousands of measurements, from engine temperature readings to the positions of switches in the cockpit.

Surveys indicate most motorists don't know that cars have black boxes. But their use is on the rise.

Unlike the aviation models, which are required by federal law to be on aircraft, the black boxes in autos are used in safety investigations only as an afterthought. They were installed on newer-model cars to trigger air bags. Because they are not required, no exact figures exist on their use. But experts say that most U.S. automakers began installing some forms of the device in the 1990s. They have found information from the boxes valuable in product-liability lawsuits and in designing safer cars.

And, while a black box on a jet can store data on dozens of flights, the boxes on motor vehicles vary widely in how much information they record and in how accessible it is to anyone other than manufacturers. Only General Motors, and to a lesser extent, Ford, have made information from their boxes easily accessible to third parties.

The boxes are usually silver, not black, and about the size of a pack of cigarettes. Depending on their sophistication, they may constantly monitor speed, braking, seat-belt use and other factors. Recordings are made in five-second spans. What's captured is the final five seconds leading up to a crash, or to the instant the car's electronic brain determines an air bag should deploy.

Similar technology has been used to create other car data recorders, such as those that now monitor crash forces felt by NASCAR drivers. And several private firms have also begun marketing devices that can be added to vehicles to measure on-road performance of teens, taxi drivers and ambulance crews.

GM gave a California company permission in 2000 to sell a computer program to download data. Since then, information from black boxes has been showing up more frequently in accident investigations and in court:

***** In January in Fort Myers, Fla., a black box caused jurors to question the prosecution's argument that John Robert Walker was speeding recklessly before a head-on crash with another vehicle. Two people died. Walker was found not guilty after a defense expert testified his truck's black box showed he was driving about 60 mph at the time -- not above 90 mph, as a witness said.

***** In April, Charles Tiedje, a police officer in Arlington Heights, Ill., won a $10 million settlement for severe injuries he suffered when a hearse struck his squad car on Oct. 13, 2000. The hearse driver,

Aleksandr Babayev, claimed a medical condition caused him to black out before he hit Tiedje's car. But the hearse's black box showed he had been an active driver who accelerated to 63 mph -- about 20 miles over the posted limit -- seconds before he approached the intersection, then slammed his brakes one second before impact. Tiedje's attorney, Robert Clifford, says the black-box information "was an unbiased witness to the crash."

Data showed air bag not at fault

One of the earliest courtroom appearances of a car's black box came after the high-profile crash that killed pro football player Jerome Brown in 1992. Brown's survivors filed a$30 million civil suit that claimed that the air bag on Brown's high-performance Corvette went off after he hit a pothole and caused him to hit a tree. Data from the black box showed the air bag deployed on impact as designed, and the survivors lost the case.

The National Highway Traffic Safety Administration (NHTSA) has been studying black boxes and collecting public comment in a lengthy effort to determine whether to regulate their presence in Americans' vehicles. It could be months -- or years --before such a decision is made.

Meanwhile, experts say the courtroom profile of car black boxes will continue to rise. The devices are most useful in concert with more traditional investigative methods. And there are limits to their usefulness. When NHTSA studied nearly 700 crashes in which vehicles had data recorders, there were problems retrieving the data in almost 40% of the cases.

Among the glitches: Crash-related failures of car electrical systems, software problems, and investigators inadequately trained in retrieving the data.

"They're very promising," says Susan Ferguson, a research vice president with the Insurance Institute for Highway Safety. But, "they're not infallible."

And not everyone is happy to see their use, especially in courtrooms.

"It's only partly about privacy. It's mostly about fairness," says Marc Rotenberg, executive director of the Electronic Privacy Information Center in Washington, D.C. "Invariably, the information is used against the driver."