The Importance of Black Box Data in Texas Truck Accidents

Houston truck accident lawyers explain how an event data recorder (EDR) works

Most tractor-trailers, semi-trucks and other large commercial vehicles are equipped with a device sometimes referred to as a "black box." These electronic devices (there are several different types of truck black boxes) contain a wealth of information about the truck and the driver operating it.

After a serious truck accident, black box data can serve as important evidence in a truck accident claim or lawsuit. That's why it's critical that such data is collected, preserved and analyzed as soon as possible. And often, the best way to do that is by hiring a truck accident attorney. Our experienced Houston truck accident lawyers at Smith & Hassler explain what to know.

What is a truck black box?

A truck black box is an electronic device installed in a commercial truck that records critical information about the truck. In particular, this data often provides valuable insights into the truck's operations before, during and after a truck accident.

- The black box is similar to devices used in airplanes and can serve as an important tool for investigating crashes and safety incidents.
- Depending on the device, many black boxes collect data about the truck, including its speed, brake usage, engine performance, and driver actions to reconstruct the moments leading up to an accident.
- Black boxes are instrumental in understanding the causes of truck accidents and determining fault in crashes involving commercial vehicles.

What are different types of truck black boxes?

There are several different types of truck black boxes, each designed to capture and store specific types of information. Their features and capabilities can vary depending on the truck model and other factors. Common types of truck black boxes include:

- **Event data recorder (EDR):** These are the most common black boxes, focusing on recording crash-related data, such as speed, braking and the force of impact during a collision.
- **Electronic logging device (ELD):** An ELD often monitors how long a truck driver has driven to make sure the driver is in compliance with hours of service (HOS) regulations. Federal law limits how many hours a commercial truck driver can operate a truck before taking a break.
- **Engine control modules (ECM):** These devices store information about the truck's engine performance, including RPMs, fuel usage and maintenance records.

- **Telematics systems:** Advanced black boxes that use GPS and wireless communication to transmit real-time data about the truck's location, speed, and driving patterns to fleet management systems.
- **Integrated safety systems:** Some trucks have systems that combine EDR, ELD and telematics capabilities, providing a comprehensive view of the truck's operations and driver behavior.

Each type of black box device offers unique insights into a truck's operation, making them valuable tools for understanding the cause of truck accidents and determining liability, the term for who's legally responsible for causing the accident and paying accident expenses.

What information does a truck's event data recorder collect?

As briefly explained above, depending on what type of black box the truck is equipped with, the device will collect a wide range of data, which can be critical in an accident investigation. Some of the most common types of information collected by truck black box data recorders include:

- **Speed:** The black box records the truck's speed leading up to and at the time of the accident.
- **Braking data:** It captures whether and when the driver applied the brakes and the intensity of braking before an accident.
- **Hours of service compliance:** Some black boxes track driving hours to make sure that truck drivers comply with federal regulations that limit how many hours a driver can operate a truck before taking a mandatory rest break.
- **Engine and throttle activity:** Many truck black boxes collect data on engine RPMs, throttle position and gear shifts, which can indicate driver actions or equipment failures.
- **Impact data:** It measures the force of the collision and other crash dynamics, such as sudden deceleration or impact angles.
- **Seatbelt usage:** Many black boxes record whether the truck driver was wearing a seatbelt at the time of the crash.

How big is a truck black box?

Many truck black boxes are relatively small and compact. For example, an event data recorder (EDR) is often designed to integrate seamlessly into the truck's engine control module (ECM) or dashboard.

- Most black boxes are roughly the size of a hardcover book, measuring around 6 to 8 inches long and a few inches thick.
- Their compact size allows them to be mounted securely within the truck's internal systems, where they are protected from external damage.
- Despite their small size, these devices store a significant amount of data, capturing vital operational and crash-related information.

The durability of the black box ensures that its contents remain intact and recoverable even after the most severe collisions.

Where is a truck's black box located?

Most black box electronic data recorders are installed in the truck's engine control module (ECM) or beneath the dashboard. Its placement makes sure the device can constantly monitor and record critical engine and vehicle data.

- Many EDRs are connected to the truck's onboard computer system, which captures operational data in real-time.
- Some trucks have EDRs integrated into electronic logging devices (ELDs), especially in newer models equipped to meet federal regulations.
- Most truck black boxes are designed to be durable and resistant to damage, ensuring data remains intact even in severe accidents.

Where is the data stored collected by a truck's EDR?

Data collected by a truck's black box is normally stored on the device itself or, in some cases, transmitted to external servers, especially on newer tractor-trailers and other recently manufactured commercial trucks.

This dual data storage approach allows trucking companies and investigators to access the information when necessary. That's why it's important to find out as soon as possible after a truck accident if the truck was equipped with a black box and where the data is being stored.

Are black boxes mandatory for commercial trucks?

No. Even though most commercial trucks are equipped with an EDR or another type of electronic black box, most of these devices are not mandated for all trucks under federal law. However, the rules and regulations vary based on the type of truck and device.

The Federal Motor Carrier Safety Administration (FMCSA), which governs commercial trucks, requires drivers with a commercial driver's license (CDL) to use an electronic logging device (ELD) to keep track of how many hours they drive and when they take mandatory rest breaks.

This requirement makes sure CDL drivers comply with FMCSA hours of service (HOS) and records of duty status (RODS) regulations, which can be found in Title 49, Part 395 of the Code of Federal Regulations. But beyond HOS and RODS regulations, the FMCSA does not require trucks to contain electronic black box devices that record other truck data.

How can data from a truck's black box help truck accident victims?

Black box data can play a pivotal role in proving liability (who's responsible for causing the accident) and securing financial compensation for truck accident victims. This information helps

reconstruct the crash and identifies negligence or wrongdoing by the truck driver or company. Examples include:

- If the truck driver was speeding or failed to apply the brakes before the collision.
- Evidence of mechanical failures or maintenance issues, such as faulty brakes or defective tires, that could have contributed to the crash.
- Black box information that demonstrates violations of federal trucking regulations occurred, such as excessive driving hours without a mandatory rest break.

How long is black box data saved on a truck's EDR?

The length of time black box data is stored depends on the truck's system and whether the data is retrieved promptly. Many systems overwrite data if it is not downloaded soon after the accident.

- Some black boxes only store black box data for a short time, such as 30 days, before it is automatically overwritten with new recordings.
- Trucking companies may delete or overwrite black box data unless a legal request, such as a subpoena, requires its preservation.

Acting quickly after a truck accident can help secure this data so it can be used as evidence in a truck accident claim or lawsuit. That's why it's critical that truck accident injury victims talk to a lawyer right away who can demand access to this important information.

Are truck black boxes ever destroyed in a truck accident?

Sometimes in certain extreme cases, a truck's black box is destroyed in an accident. However, such accidents are rare since most black box data recorders are designed to withstand a severe, high-impact truck collision.

Even in cases when a truck fire or another catastrophic event occurs as a result of a truck accident, specialized recovery tools can often retrieve the data from the black box. This is because most black boxes are encased in a protective shell that resists heat, impact, and other harsh conditions common in truck accidents.

Do truck accident injury victims have access to black box data?

Yes, truck accident injury victims should be able to access black box data. However, actually getting access to this information can be very difficult. That's because the truck driver or trucking company that controls access to the data will often refuse to provide such information. This is especially true if the truck driver violated state or federal trucking laws in the course of causing the truck accident.

What can truck accident injury victims do if a trucking company refuses to share the truck's black box data?

If a trucking company or truck driver refuses to share black box data after an accident, victims have legal options to obtain this critical evidence:

- Send a legal demand or spoliation letter, a formal request requiring the trucking company to preserve all relevant evidence, including EDR data.
- If the company ignores the request, a lawyer can file a motion in court to compel the release of the black box data.
- Delays or refusals by the trucking company can be seen as an attempt to hide evidence, which courts may take into consideration when deciding a truck accident lawsuit or other legal action.

Working with a skilled truck accident lawyer can allow injury victims to gain access to black box data promptly and make sure it's not destroyed. This is why it's important to hire an attorney as soon as possible after a truck crash.

How can a truck accident lawyer help in such cases?

A truck accident lawyer can help truck accident injury victims in many different ways, especially when it comes to truck black box accident data. Most importantly, an attorney can take steps to make sure this sensitive information is preserved, obtained and not destroyed. Other ways a lawyer can help:

- Deal directly with trucking companies, insurance providers and their attorneys throughout the legal process.
- File a subpoena or court order forcing the trucking company to release black box data if they refuse to cooperate.
- Work with accident reconstruction experts who can extract and analyze black box information to reconstruct the accident and determine who is at fault.
- Negotiate a fair truck accident settlement offer the trucking company or the insurance company representing the at-fault party.

The experienced Houston truck accident lawyers at Smith & Hassler know how to handle such complex legal cases. Our case results prove this, including $2.3 million obtained for truck accident injury victims represented by our law firm.

Learn more about how our Houston law firm can help you. Contact us and schedule a free case evaluation with a Houston truck accident attorney you can trust. We can answer your questions, explain your options and demand the compensation you rightfully deserve.

Click here for a printable PDF of this article, "The Importance of Black Box Data in Texas Truck Accidents."