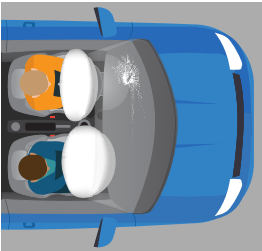# THE "BLACK BOX"
## QUICK INFO SHEET

➤ What we call the "black box" is actually the vehicle's Airbag Control Module (most commonly).

➤ Its primary function is to sense if a collision is happening, and then to decide whether or not to deploy the airbags.

➤ Crash data recording is a secondary function, supported in most newer vehicles. Black boxes do *not* constantly record information and store it in memory. They will only store information when an "event" occurs, in which case they save a snapshot of some data from a few seconds immediately before that event (such as speed, brake and throttle use, and seatbelt status).

➤ Black boxes record two types of events: Deployment and non-deployment events. This stored data can be imaged.

➤ When an airbag is replaced, the black box is also typically replaced.
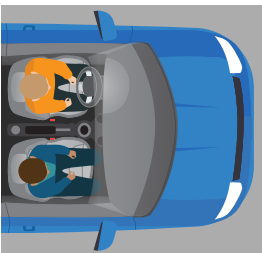
### DEPLOYMENT EVENT



A "deployment event" is recorded onto the black box when it detected higher than normal accelerations and sent a signal for the airbags to deploy during a collision.

Data recorded during a deployment event is "locked in" and cannot be overwritten.

### NON-DEPLOYMENT EVENT



A "non-deployment event" is recorded when the vehicle experiences higher than normal accelerations sufficient enough to "wake up" the system, but *not* high enough to warrant an air bag deployment. For example, a minor parking lot collision or driving over a pothole could result in a non-deployment event being recorded to a black box.

Generally, data recorded in a non-deployment event *can* be overwritten by:

1. **Another event** (e.g. another collision subsequent to the one in question). There are however some exceptions. There are black boxes that have multiple slots to record several events (e.g. newer Toyota models can store up to 3 events).

2. **Ignition key cycles**. For example, older GM vehicles will erase non-deployment event data after 250 key cycles. Research suggests that people go through 6-8 key cycles a day, which means that in about 31-42 days, non-deployment event data would likely be erased. (It should be noted that non-deployment events on Toyota black boxes are not erased no matter how many key cycles - but could still be overwritten by another event as noted above).

ⓘ *Note: Black box evidence should always be forensically examined and interpreted with all other physical evidence.*