

NHTSA press release: new DOT rule requires automakers to tell consumers if new vehicles are equipped with event data recorders

Automakers will be required, for the first time ever, to tell new car buyers if an Event Data Recorder (EDR) has been installed under a new rule issued today by the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

Event Data Recorders are electronic devices that capture crash data in the few seconds before, during and after a crash. EDRs do not capture any data unless there is a collision that is severe enough to cause the airbag to deploy. While automakers are not required to install EDRs, approximately 64 percent of the model year 2005 passenger vehicles came equipped with the device. This new rule will not require automakers to install EDRs if they are not already doing so.

The new federal rule, which takes effect starting with model year 2011 cars, will require automakers who have chosen to install EDRs to note in the owner's manual that the safety monitoring equipment has been installed.

The rule also includes new requirements designed to ensure that the data collected by EDRs can be used to improve highway safety. For example, the rule requires EDRs to be more durable to protect data during a crash. The rule also requires automakers to collect the same type of crash data if they chose to install an EDR (see attached list for all data elements).

The agency noted that having access to uniform crash information from EDRs, regardless of the vehicle's manufacturer, will help investigators recreate crash scenes to determine the causes. The rule will support the development of new safety regulations based on accurate crash information that NHTSA collects from vehicle owners who agree to share information from their EDRs with the agency.

The safety agency said it also expects the new rule will enhance the value of automatic crash notification systems, including the Enhanced 911 emergency response system currently under development by making it easier for vehicles equipped with automatic crash notification features to provide accurate and immediate information to emergency personnel.

The new federal regulation will apply to all passenger vehicles and light trucks with a gross vehicle weight of 8,500 pounds or less. NHTSA will separately evaluate EDR use in larger vehicles.

The notice can be seen at:
http://nhtsa.gov/staticfiles/DOT/NHTSA/Rulemaking/Rules/Associated%20Files/EDRFinalRule_Aug2006.pdf

TABLE I – DATA ELEMENTS REQUIRED FOR ALL VEHICLES EQUIPPED WITH AN EDR

Data Element	Layman's Description	Recording Interval / Time	Data Sample Rate (Per Second)
Delta-V, longitudinal	Change in forward crash speed	0 to 250 ms	100
Maximum delta-V, longitudinal	Maximum change in forward crash speed	0-300 ms	na.
Time, maximum delta-V	Time from beginning of crash at which the maximum change in forward crash speed occurs	0-300 ms	n.a.
Speed, vehicle indicated	Speed the vehicle was traveling	-5.0 to 0 sec	2

Engine throttle, % full (or accelerator pedal, % full)	Was the accelerator pedal pressed?	-5.0 to 0 sec	2
Service brake, on/off	Was the brake applied?	-5.0 to 0 sec	2
Ignition cycle, crash	Number of times the engine had been started since being manufactured prior to the crash.	-1.0 sec	n.a.
Ignition cycle, download	Number of times the engine had been started since being manufactured prior to downloading the EDR data.	At time of download	n.a.
Safety belt status, driver	Was the driver safety belt buckled 1 second prior to the crash?	-1.0 sec	n.a.
Frontal air bag warning lamp, on/off	Was the air bag system properly working 1 second prior to the crash?	-1.0 sec	n.a.
Frontal air bag deployment, time to deploy, in the case of a single stage air bag, or time to first stage deployment, in the case of a multi-stage air bag, driver	Time from the beginning of the crash at which the driver air bag begins to deploy.	Event	n.a.
Frontal air bag deployment, time to deploy, in the case of a single stage air bag, or time to first stage deployment, in the case of a multi-stage air bag, right front passenger	Time from the beginning of the crash at which the right front passenger air bag begins to deploy.	Event	n.a.
Multi-event, number of events (1,2)	How many crash events? 1 or 2? E.g., sideswipe followed by a head-on crash	Event	n.a.
Time from event 1 to 2	Time between two crash events (if applicable)	As needed	n.a.
Complete file recorded (yes, no)	Did the EDR complete the recording?	Following other data	n.a.

Data elements required for vehicles under specified conditions. Each vehicle equipped with an EDR must record each of the data elements listed in column 1 of Table II for which the vehicle meets the condition specified in column 2 of that table, during the interval/time and at the sample rate specified in that table.

TABLE II-DATA ELEMENTS REQUIRED FOR VEHICLES UNDER SPECIFIED CONDITIONS

Data Element Name	Layman's Description	Condition for Requirement	Recording Interval / Time	Data Sample Rate (Per Second)
Lateral acceleration	Sideways acceleration or force	If recorded	0-250 ms	500
Longitudinal acceleration	Forward/rearward acceleration or force	If recorded	0-250 ms	500
Normal acceleration	Vertical acceleration or force	If recorded	0-250 ms	500
Delta-V, lateral	Change in sideways crash speed	If recorded	0-250 ms	100
Maximum delta-V, lateral	Maximum change in sideways crash speed	If recorded	0-300 ms	n.a.
Time maximum delta-V, lateral	Time from beginning of crash at which the maximum change in sideways crash speed occurs	If recorded	0-300 ms	n.a.
Time for maximum delta-V, resultant	Time from beginning of crash at which the maximum change in combined front/side/vertical crash speed occurs	If recorded	0-300 ms	n.a.
Engine rpm	How fast the engine was running.	If recorded	-5.0 to 0 sec	2
Vehicle roll angle	How quickly did the vehicle rollover?	If recorded	-1.0 up to 5.0 sec	10
ABS activity (engaged, non-engaged)	Did the ABS work?	If recorded	-5.0 to 0 sec	2
Stability control (on, off, engaged)	Was the electronic stability control on or off, and if on, did it operate?	If recorded	-5.0 to 0 sec	2
Steering input	What steering operations occurred in the 5 seconds preceding the crash?	If recorded	-5.0 to 0 sec	2
Safety belt status, right front passenger (buckled, not buckled)	Was the right front passenger safety belt buckled 1 second prior to the crash?	If recorded	-1.0 sec	n.a.
Frontal air bag suppression switch status, right front passenger (on, off, or auto)	If there was an on/off switch for the right front passenger air bag, how was it set? On/off/automatic?	If recorded	-1.0 sec	n.a.
Frontal air bag deployment, time to n th stage, driver	If a driver air bag deploys in more than one stage, how long did it take to deploy in each of those stages?	If equipped with a driver's frontal air bag with a multi-stage inflator.	Event	n.a.

Frontal air bag deployment, time to n th stage, right front passenger ⁴	If a right front passenger air bag deploys in more than one stage, how long did it take to deploy in each of those stages?	If equipped with a right front passenger's frontal air bag with a multi-stage inflator.	Event	n.a.
Frontal air bag deployment, n th stage disposal, driver, Y/N (whether the nth stage deployment was for occupant restraint or propellant disposal purposes)	If the driver air bag has multiple stages and not all stages were needed to protect the driver in the crash, did the unused charge get automatically disposed following the crash?	If recorded	Event	n.a.
Frontal air bag deployment, n th stage disposal, right front passenger, Y/N (whether the nth stage deployment was for occupant restraint or propellant disposal purposes)	If the right front air bag has multiple stages and not all stages were needed to protect the passenger in the crash, did the unused charge get automatically disposed following the crash?	If recorded	Event	n.a.
Side air bag deployment, time to deploy, driver	Time from the beginning of the side impact crash at which the driver side impact air bag begins to deploy.	If recorded	Event	n.a.
Side air bag deployment, time to deploy, right front passenger	Time from the beginning of the side impact crash at which the right front passenger side impact air bag begins to deploy.	If recorded	Event	n.a.
Side curtain/tube air bag deployment, time to deploy, driver side	Time from the beginning of the side impact crash at which the driver side impact head protection air bag begins to deploy.	If recorded	Event	n.a.
Side curtain/tube air bag deployment, time to deploy, right side	Time from the beginning of the side impact crash at which the right front passenger side impact head protection air bag begins to deploy.	If recorded	Event	n.a.
Pretensioner deployment, time to fire, driver	If so equipped, when in the crash event was the slack removed from the driver seat belt assembly?	If recorded	Event	n.a.
Pretensioner deployment, time to fire, right front passenger	If so equipped, when in the crash event was the slack removed from the right front passenger seat belt assembly?	If recorded	Event	n.a.
Seat track position switch, foremost, status, driver	How far forward was the driver seat positioned?	If recorded	-1.0 sec	n.a.

Seat track position switch, foremost, status, right front passenger	How far forward was the right front passenger seat positioned?	If recorded	-1.0 sec	n.a.
Occupant size classification, driver	What size occupant was the driver air bag system trying to protect? E.g., adult male vs. small female driver?	If recorded	-1.0 sec	n.a.
Occupant size classification, right front passenger	What size occupant was the right front passenger air bag system trying to protect? E.g., adult vs. child occupant?	If recorded	-1.0 sec	n.a.
Occupant position classification, driver	Did the air bag system sense that the driver was seated too close to the air bag?	If recorded	-1.0 sec	n.a.
Occupant position classification, right front passenger	Did the air bag system sense that the right front passenger was seated too close to the air bag?	If recorded	-1.0 sec	n.a.

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