

Nat'l Highway Traffic Safety Admin., DOT**§ 563.2****§ 562.5 Applicability.**

This standard applies to new agricultural equipment that may be operated on a public road.

§ 562.7 Lighting and marking requirements for new agricultural equipment.

New agricultural equipment that may be operated on a public road must meet the lighting and marking standards set forth in ANSI/ASAE 279.14 JUL2008, ‘‘Lighting and Marking of Agricultural Equipment on Highways,’’ (incorporated by reference, see § 562.11).

§ 562.9 Compliance not affected by addition of certain materials and equipment.

(a) *Successor standards.* Equipping new agricultural equipment that may be operated on a public road with lighting and marking materials and equipment that comply with a revision of ANSI/ASAE Standard 279 adopted after the version cited in § 562.7 does not affect compliance with the requirements of this part.

(b) *Additional materials and equipment.* Equipping new agricultural equipment that may be operated on a public road with lighting and marking materials and equipment that are in addition to the minimum requirements specified in § 562.7 does not affect compliance with the requirements of this part.

§ 562.11 Incorporation by reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. You may inspect approved material at the National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC 20590 or at the National Archives and Records Administration. For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(a) American Society of Agricultural and Biological Engineers (ASABE) 2950 Niles Road, St. Joseph, Michigan 49085-9659, (269) 429-0300. <http://www.asabe.org/publications/publications/standards.aspx>.

(1) ANSI/ASABE 279.14 JUL2008, ‘‘Lighting and Marking of Agricultural Equipment on Highways,’’ approved August 2008, into § 562.7.

(2) ANSI/ASAE 390.4 JAN2005, ‘‘Definitions and Classifications of Agricultural Field Equipment,’’ approved February 2005, into § 562.3.

(b) [Reserved]

PART 563—EVENT DATA RECORDERS

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AUTHORITY: 49 U.S.C. 322, 30101, 30111, 30115, 30117, 30166, 30168; delegation of authority at 49 CFR 1.50.

SOURCE: 71 FR 51043, Aug. 28, 2006, unless otherwise noted.

§ 563.1 Scope.

This part specifies uniform, national requirements for vehicles equipped with event data recorders (EDRs) concerning the collection, storage, and retrievability of onboard motor vehicle crash event data. It also specifies requirements for vehicle manufacturers to make tools and/or methods commercially available so that crash investigators and researchers are able to retrieve data from EDRs.

§ 563.2 Purpose.

The purpose of this part is to help ensure that EDRs record, in a readily usable manner, data valuable for effective crash investigations and for analysis of safety equipment performance (e.g., advanced restraint systems). These data will help provide a better understanding of the circumstances in which crashes and injuries occur and will lead to safer vehicle designs.

§ 563.3

§ 563.3 Application.

This part applies to the following vehicles manufactured on or after September 1, 2012, if they are equipped with an event data recorder: passenger cars, multipurpose passenger vehicles, trucks, and buses with a GVWR of 3,855 kg (8,500 pounds) or less and an unloaded vehicle weight of 2,495 kg (5,500 pounds) or less, except for walk-in van-type trucks or vehicles designed to be sold exclusively to the U.S. Postal Service. This part also applies to manufacturers of those vehicles. However, vehicles manufactured before September 1, 2013 that are manufactured in two or more stages or that are altered (within the meaning of 49 CFR 567.7) after having been previously certified to the Federal motor vehicle safety standards in accordance with part 567 of this chapter need not meet the requirements of this part.

[73 FR 2179, Jan. 14, 2008]

§ 563.4 [Reserved]

§ 563.5 Definitions.

(a) *Motor vehicle safety standard definitions.* Unless otherwise indicated, all terms that are used in this part and are defined in the Motor Vehicle Safety Standards, part 571 of this subchapter, are used as defined therein.

(b) *Other definitions.*

ABS activity means the anti-lock brake system (ABS) is actively controlling the vehicle's brakes.

Air bag warning lamp status means whether the warning lamp required by FMVSS No. 208 is on or off.

Capture means the process of buffering EDR data in a temporary, volatile storage medium where it is continuously updated at regular time intervals.

Delta-V, lateral means the cumulative change in velocity, as recorded by the EDR of the vehicle, along the lateral axis, starting from crash time zero and ending at 0.25 seconds, recorded every 0.01 seconds.

Delta-V, longitudinal means the cumulative change in velocity, as recorded by the EDR of the vehicle, along the longitudinal axis, starting from crash time zero and ending at 0.25 seconds, recorded every 0.01 seconds.

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Deployment time, frontal air bag means (for both driver and right front passenger) the elapsed time from crash time zero to the deployment command, or for multi-staged air bag systems, the deployment command for the first stage.

Disposal means the deployment command of the second (or higher, if present) stage of a frontal air bag for the purpose of disposing the propellant from the air bag device.

End of event time means the moment at which the resultant cumulative delta-V within a 20 ms time period becomes 0.8 km/h (0.5 mph) or less, or the moment at which the crash detection algorithm of the air bag control unit resets.

Engine RPM means

(1) For vehicles powered by internal combustion engines, the number of revolutions per minute of the main crankshaft of the vehicle's engine; and

(2) For vehicles not entirely powered by internal combustion engines, the number of revolutions per minute of the motor shaft at the point at which it enters the vehicle transmission gearbox.

Engine throttle, percent full means the driver-requested acceleration as measured by the throttle position sensor on the accelerator pedal compared to the fully-depressed position.

Event means a crash or other physical occurrence that causes the trigger threshold to be met or exceeded, or any non-reversible deployable restraint to be deployed, whichever occurs first.

Event data recorder (EDR) means a device or function in a vehicle that records the vehicle's dynamic time-series data during the time period just prior to a crash event (e.g., vehicle speed vs. time) or during a crash event (e.g., delta-V vs. time), intended for retrieval after the crash event. For the purposes of this definition, the event data do not include audio and video data.

Frontal air bag means an inflatable restraint system that requires no action by vehicle occupants and is used to meet the applicable frontal crash protection requirements of FMVSS No. 208.

Ignition cycle, crash means the number (count) of power cycles applied to

the recording device at the time when the crash event occurred since the first use of the EDR.

Ignition cycle download means the number (count) of power cycles applied to the recording device at the time when the data was downloaded since the first use of the EDR.

Lateral acceleration means the component of the vector acceleration of a point in the vehicle in the y-direction. The lateral acceleration is positive from left to right, from the perspective of the driver when seated in the vehicle facing the direction of forward vehicle travel.

Longitudinal acceleration means the component of the vector acceleration of a point in the vehicle in the x-direction. The longitudinal acceleration is positive in the direction of forward vehicle travel.

Maximum delta-V, lateral means the maximum value of the cumulative change in velocity, as recorded by the EDR, of the vehicle along the lateral axis, starting from crash time zero and ending at 0.3 seconds.

Maximum delta-V, longitudinal means the maximum value of the cumulative change in velocity, as recorded by the EDR, of the vehicle along the longitudinal axis, starting from crash time zero and ending at 0.3 seconds.

Maximum delta-V, resultant means the time-correlated maximum value of the cumulative change in velocity, as recorded by the EDR or processed during data download, along the vector-added longitudinal and lateral axes.

Multi-event crash means the occurrence of 2 events, the first and last of which begin not more than 5 seconds apart.

Non-volatile memory means the memory reserved for maintaining recorded EDR data in a semi-permanent fashion. Data recorded in non-volatile memory is retained after loss of power and can be retrieved with EDR data extraction tools and methods.

Normal acceleration means the component of the vector acceleration of a point in the vehicle in the z-direction. The normal acceleration is positive in a downward direction and is zero when the accelerometer is at rest.

Occupant position classification means the classification indicating that the

seating posture of a front outboard occupant (both driver and right front passenger) is determined as being out-of-position.

Occupant size classification means, for the right front passenger, the classification of the occupant as a child (as defined in 49 CFR part 572, subpart N or smaller) or not as an adult (as defined in 49 CFR part 572, subpart O), and for the driver, the classification of the driver as being a 5th percentile female (as defined in 49 CFR Part 572, subpart O) or larger.

Pretensioner means a device that is activated by a vehicle's crash sensing system and removes slack from a vehicle safety belt system.

Record means the process of saving captured EDR data into a non-volatile device for subsequent retrieval.

Safety belt status means the feedback from the safety system that is used to determine that an occupant's safety belt (for both driver and right front passenger) is fastened or unfastened.

Seat track position switch, foremost, status means the status of the switch that is installed to detect whether the seat is moved to a forward position.

Service brake, on or off means the status of the device that is installed in or connected to the brake pedal system to detect whether the pedal was pressed. The device can include the brake pedal switch or other driver-operated service brake control.

Side air bag means any inflatable occupant restraint device that is mounted to the seat or side structure of the vehicle interior, and that is designed to deploy in a side impact crash to help mitigate occupant injury and/or ejection.

Side curtain/tube air bag means any inflatable occupant restraint device that is mounted to the side structure of the vehicle interior, and that is designed to deploy in a side impact crash or roll-over and to help mitigate occupant injury and/or ejection.

Speed, vehicle indicated means the vehicle speed indicated by a manufacturer-designated subsystem designed to indicate the vehicle's ground travel speed during vehicle operation.

Stability control means any device that complies with FMVSS No. 126, "Electronic stability control systems."

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Steering input means the angular displacement of the steering wheel measured from the straight-ahead position (position corresponding to zero average steer angle of a pair of steered wheels).

Suppression switch status means the status of the switch indicating whether an air bag suppression system is on or off.

Time from event 1 to 2 means the elapsed time from time zero of the first event to time zero of the second event.

Time, maximum delta-V, lateral means the time from crash time zero to the point where the maximum value of the cumulative change in velocity is found, as recorded by the EDR, along the lateral axis.

Time, maximum delta-V, longitudinal means the time from crash time zero to the point where the maximum value of the cumulative change in velocity is found, as recorded by the EDR, along the longitudinal axis.

Time, maximum delta-V, resultant means the time from crash time zero to the point where the maximum delta-V resultant occurs, as recorded by the EDR or processed during data download.

Time to deploy, pretensioner means the elapsed time from crash time zero to the deployment command for the safety belt pretensioner (for both driver and right front passenger).

Time to deploy, side air bag/curtain means the elapsed time from crash time zero to the deployment command for a side air bag or a side curtain/tube air bag (for both driver and right front passenger).

Time to first stage means the elapsed time between time zero and the time when the first stage of a frontal air bag is commanded to fire.

Time to n^{th} stage means the elapsed time from crash time zero to the deployment command for the n^{th} stage of a frontal air bag (for both driver and right front passenger).

Time zero means whichever of the following occurs first:

(1) For systems with “wake-up” air bag control systems, the time at which the occupant restraint control algorithm is activated; or

(2) For continuously running algorithms,

(i) The first point in the interval where a longitudinal cumulative delta-V of over 0.8 km/h (0.5 mph) is reached within a 20 ms time period; or

(ii) For vehicles that record “delta-V, lateral,” the first point in the interval where a lateral cumulative delta-V of over 0.8 km/h (0.5 mph) is reached within a 5 ms time period; or

(3) Deployment of a non-reversible deployable restraint.

Trigger threshold means a change in vehicle velocity, in the longitudinal direction, that equals or exceeds 8 km/h within a 150 ms interval. For vehicles that record “delta-V, lateral,” trigger threshold means a change in vehicle velocity in either the longitudinal or lateral direction that equals or exceeds 8 km/h within a 150 ms interval.

Vehicle roll angle means the angle between the vehicle’s y-axis and the ground plane.

Volatile memory means the memory reserved for buffering of captured EDR data. The memory is not capable of retaining data in a semi-permanent fashion. Data captured in volatile memory is continuously overwritten and is not retained in the event of a power loss or retrievable with EDR data extraction tools.

X-direction means in the direction of the vehicle’s X-axis, which is parallel to the vehicle’s longitudinal centerline. The X-direction is positive in the direction of forward vehicle travel.

Y-direction means in the direction of the vehicle’s Y-axis, which is perpendicular to its X-axis and in the same horizontal plane as that axis. The Y-direction is positive from left to right, from the perspective of the driver when seated in the vehicle facing the direction of forward vehicle travel.

Z-direction means in the direction of the vehicle’s Z-axis, which is perpendicular to the X- and Y-axes. The Z-direction is positive in a downward direction.

[73 FR 2180, Jan. 14, 2008, as amended at 76 FR 47486, Aug. 5, 2011]

§ 563.6 Requirements for vehicles.

Each vehicle equipped with an EDR must meet the requirements specified in § 563.7 for data elements, § 563.8 for data format, § 563.9 for data capture, § 563.10 for crash test performance and

survivability, and § 563.11 for information in owner's manual.

§ 563.7 Data elements.

(a) *Data elements required for all vehicles.* Each vehicle equipped with an

EDR must record all of the data elements listed in Table I, during the interval/time and at the sample rate specified in that table.

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

Data element	Recording interval/time ¹ (relative to time zero)	Data sample rate (samples per second)
Delta-V, longitudinal	0 to 250 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	100
Maximum delta-V, longitudinal	0-300 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	N/A
Time, maximum delta-V	0-300 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	N/A
Speed, vehicle indicated	-5.0 to 0 sec	2
Engine throttle, % full (or accelerator pedal, % full)	-5.0 to 0 sec	2
Service brake, on/off	-5.0 to 0 sec	2
Ignition cycle, crash	-1.0 sec	N/A
Ignition cycle, download	At time of download ³	N/A
Safety belt status, driver	-1.0 sec	N/A
Frontal air bag warning lamp, on/off ²	-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.	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.	Event	N/A
Multi-event, number of event	Event	N/A
Time from event 1 to 2	As needed	N/A
Complete file recorded (yes, no)	Following other data	N/A

¹ Pre-crash data and crash data are asynchronous. The sample time accuracy requirement for pre-crash time is -0.1 to 1.0 sec (e.g., T = -1 would need to occur between -1.1 and 0 seconds.)

² The frontal air bag warning lamp is the readiness indicator specified in S4.5.2 of FMVSS No. 208, and may also illuminate to indicate a malfunction in another part of the deployable restraint system.

³ The ignition cycle at the time of download is not required to be recorded at the time of the crash, but shall be reported during the download process.

(b) *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 MINIMUM CONDITIONS

Data element name	Condition for requirement	Recording interval/time ¹ (relative to time zero)	Data sample rate (per sec- ond)
Lateral acceleration	If recorded ²	N/A	N/A
Longitudinal acceleration	If recorded	N/A	N/A
Normal acceleration	If recorded	N/A	N/A
Delta-V, lateral	If recorded	0-250 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	100
Maximum delta-V, lateral	If recorded	0-300 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	N/A
Time maximum delta-V, lateral	If recorded	0-300 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	N/A
Time for maximum delta-V, result- ant.	If recorded	0-300 ms or 0 to End of Event Time plus 30 ms, whichever is shorter.	N/A
Engine rpm	If recorded	-5.0 to 0 sec	2

§ 563.8**49 CFR Ch. V (10-1-23 Edition)****TABLE II—DATA ELEMENTS REQUIRED FOR VEHICLES UNDER SPECIFIED MINIMUM CONDITIONS—Continued**

Data element name	Condition for requirement	Recording interval/time ¹ (relative to time zero)	Data sample rate (per second)
Vehicle roll angle	If recorded	–1.0 up to 5.0 sec ³	10
ABS activity (engaged, non-engaged).	If recorded	–5.0 to 0 sec	2
Stability control (on, off, or engaged).	If recorded	–5.0 to 0 sec	2
Steering input	If recorded	–5.0 to 0 sec	2
Safety belt status, right front passenger (buckled, not buckled).	If recorded	–1.0 sec	N/A
Frontal air bag suppression switch status, right front passenger (on, off, or auto).	If recorded	–1.0 sec	N/A
Frontal air bag deployment, time to nth stage, driver ⁴ .	If equipped with a driver's frontal air bag with a multi-stage inflator.	Event	N/A
Frontal air bag deployment, time to nth stage, right front passenger ⁴ .	If equipped with a right front passenger's frontal air bag with a multi-stage inflator.	Event	N/A
Frontal air bag deployment, nth stage disposal, driver, Y/N (whether the nth stage deployment was for occupant restraint or propellant disposal purposes).	If recorded	Event	N/A
Frontal air bag deployment, nth stage disposal, right front passenger, Y/N (whether the nth stage deployment was for occupant restraint or propellant disposal purposes).	If recorded	Event	N/A
Side air bag deployment, time to deploy, driver.	If recorded	Event	N/A
Side air bag deployment, time to deploy, right front passenger.	If recorded	Event	N/A
Side curtain/tube air bag deployment, time to deploy, driver side.	If recorded	Event	N/A
Side curtain/tube air bag deployment, time to deploy, right side.	If recorded	Event	N/A
Pretensioner deployment, time to fire, driver.	If recorded	Event	N/A
Pretensioner deployment, time to fire, right front passenger.	If recorded	Event	N/A
Seat track position switch, foremost, status, driver.	If recorded	–1.0 sec	N/A
Seat track position switch, foremost, status, right front passenger.	If recorded	–1.0 sec	N/A
Occupant size classification, driver	If recorded	–1.0 sec	N/A
Occupant size classification, right front passenger.	If recorded	–1.0 sec	N/A
Occupant position classification, driver.	If recorded	–1.0 sec	N/A
Occupant position classification, right front passenger.	If recorded	–1.0 sec	N/A

¹ Pre-crash data and crash data are asynchronous. The sample time accuracy requirement for pre-crash time is –0.1 to 1.0 sec (e.g. T = –1 would need to occur between –1.1 and 0 seconds.)

² "If recorded" means if the data is recorded in non-volatile memory for the purpose of subsequent downloading.

³ "Vehicle roll angle" may be recorded in any time duration; –1.0 sec to 5.0 sec is suggested.

⁴ List this element n – 1 times, once for each stage of a multi-stage air bag system.

[73 FR 2181, Jan. 14, 2008, 73 FR 8408, Feb. 13, 2008, as amended at 76 FR 47486, Aug. 5, 2011]

§ 563.8 Data format.

(a) The data elements listed in Tables I and II, as applicable, must be reported in accordance with the range, accuracy, and resolution specified in Table III

TABLE III—REPORTED DATA ELEMENT FORMAT

Data element	Minimum range	Accuracy ¹	Resolution
Lateral acceleration	At option of manufacturer.	At option of manufacturer.	At option of manufacturer.
Longitudinal acceleration	At option of manufacturer.	At option of manufacturer.	At option of manufacturer.
Normal Acceleration	At option of manufacturer.	At option of manufacturer.	At option of manufacturer.
Longitudinal delta-V	–100 km/h to + 100 km/h.	±10%	1 km/h.
Lateral delta-V	–100 km/h to + 100 km/h.	±10%	1 km/h.
Maximum delta-V, longitudinal.	–100 km/h to + 100 km/h.	±10%	1 km/h.
Maximum delta-V, lateral	–100 km/h to + 100 km/h.	±10%	1 km/h.
Time, maximum delta-V, longitudinal.	0–300 ms, or 0–End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Time, maximum delta-V, lateral.	0–300 ms, or 0–End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Time, maximum delta-V, resultant.	0–300 ms, or 0–End of Event Time plus 30 ms, whichever is shorter.	±3 ms	2.5 ms.
Vehicle Roll Angle	–1080 deg to + 1080 deg.	±10%	10 deg.
Speed, vehicle indicated	0 km/h to 200 km/h	±1 km/h	1 km/h.
Engine throttle, percent full (accelerator pedal percent full).	0 to 100%	±5%	1%.
Engine rpm	0 to 10,000 rpm	±100 rpm	100 rpm.
Service brake	On or Off	N/A	On or Off.
ABS activity	On or Off	N/A	On or Off.
Stability control	On, Off, or Engaged	N/A	On, Off, or Engaged.
Steering input	–250 deg CW to + 250 deg CCW.	±5%	±1%.
Ignition cycle, crash	0 to 60,000	±1 cycle	1 cycle.
Ignition cycle, download	0 to 60,000	±1 cycle	1 cycle.
Safety belt status, driver	On or Off	N/A	On or Off.
Safety belt status, right front passenger.	On or Off	N/A	On or Off.
Frontal air bag warning lamp.	On or Off	N/A	On or Off.
Frontal air bag suppression switch status, right front passenger.	On, Off, or Auto	N/A	On, Off, or Auto.
Frontal air bag deployment, time to deploy/first stage, driver.	0 to 250 ms	±2ms	1 ms.
Frontal air bag deployment, time to deploy/first stage, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, time to nth stage, driver.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, time to nth stage, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Frontal air bag deployment, nth stage disposal, driver.	Yes or No	N/A	Yes or No.

TABLE III—REPORTED DATA ELEMENT FORMAT—Continued

Data element	Minimum range	Accuracy ¹	Resolution
Frontal air bag deployment, nth stage disposal, right front passenger.	Yes or No	N/A	Yes or No.
Side air bag deployment, time to deploy, driver.	0 to 250 ms	±2 ms	1 ms.
Side air bag deployment, time to deploy, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, driver side.	0 to 250 ms	±2 ms	1 ms.
Side curtain/tube air bag deployment, time to deploy, right side.	0 to 250 ms	±2 ms	1 ms.
Pretensioner deployment, time to fire, driver.	0 to 250 ms	±2 ms	1 ms.
Pretensioner deployment, time to fire, right front passenger.	0 to 250 ms	±2 ms	1 ms.
Seat track position switch, foremost, status, driver.	Yes or No	N/A	Yes or No.
Seat track position switch, foremost, status, right front passenger.	Yes or No	N/A	Yes or No.
Occupant size classification, driver.	5th percentile female or larger.	N/A	Yes or No.
Occupant size classification, right front passenger.	Child	N/A	Yes or No.
Occupant position classification, driver.	Out of position	N/A	Yes or No.
Occupant position classification, right front passenger.	Out of position	N/A	Yes or No.
Multi-event, number of event.	1 or 2	N/A	1 or 2.
Time from event 1 to 2	0 to 5.0 sec	0.1 sec	0.1 sec.
Complete file recorded	Yes or No	N/A	Yes or No.

¹ Accuracy requirement only applies within the range of the physical sensor. For vehicles manufactured after September 1, 2014, if measurements captured by a sensor exceed the design range of the sensor, the reported element must indicate when the measurement first exceeded the design range of the sensor.

(b) Acceleration Time-History data and format: the longitudinal, lateral, and normal acceleration time-history data, as applicable, must be filtered either during the recording phase or during the data downloading phase to include:

(1) The Time Step (TS) that is the inverse of the sampling frequency of the acceleration data and which has units of seconds;

(2) The number of the first point (NFP), which is an integer that when multiplied by the TS equals the time relative to time zero of the first acceleration data point;

(3) The number of the last point (NLP), which is an integer that when multiplied by the TS equals the time relative to time zero of the last acceleration data point; and

(4) NLP—NFP + 1 acceleration values sequentially beginning with the acceleration at time NFP * TS and continue sampling the acceleration at TS increments in time until the time NLP * TS is reached.

[73 FR 2183, Jan. 14, 2008, as amended at 76 FR 47488, Aug. 5, 2011; 77 FR 47556, Aug. 9, 2012; 77 FR 59566, Sept. 28, 2012]

§ 563.9 Data capture.

The EDR must capture and record the data elements for events in accordance with the following conditions and circumstances:

(a) In a frontal air bag deployment crash, capture and record the current deployment data. In a side or side curtain/tube air bag deployment crash, where lateral delta-V is recorded by the EDR, capture and record the current deployment data. The memory for the air bag deployment event must be locked to prevent any future overwriting of the data.

(b) In an event that does not meet the criteria in § 563.9(a), capture and record the current event data, up to two events, subject to the following conditions:

(1) If an EDR non-volatile memory buffer void of previous-event data is available, the current event data is recorded in the buffer.

(2) If an EDR non-volatile memory buffer void of previous-event data is not available, the manufacturer may choose to either overwrite any previous event data that does not deploy an air bag with the current event data, or to not record the current event data.

(3) EDR buffers containing previous frontal, side, or side curtain/tube air bag deployment-event data must not be overwritten by the current event data.

[76 FR 47489, Aug. 5, 2011]

§ 563.10 Crash test performance and survivability.

(a) Each vehicle subject to the requirements of S5, S14.5, S15, or S17 of 49 CFR 571.208, *Occupant crash protection*, must comply with the requirements in subpart (c) of this section when tested according to S8, S16, and S18 of 49 CFR 571.208.

(b) Each vehicle subject to the requirements of 49 CFR 571.214, *Side impact protection*, that meets a trigger threshold or has a frontal air bag deployment, must comply with the requirements of subpart (c) of this section when tested according to the conditions specified in 49 CFR 571.214 for a moving deformable barrier test.

(c) The data elements required by § 563.7, except for the "Engine throttle, percent full," "engine RPM," and

"service brake, on/off," must be recorded in the format specified by § 563.8, exist at the completion of the crash test, and be retrievable by the methodology specified by the vehicle manufacturer under § 563.12 for not less than 10 days after the test, and the complete data recorded element must read "yes" after the test.

§ 563.11 Information in owner's manual.

(a) The owner's manual in each vehicle covered under this regulation must provide the following statement in English:

This vehicle is equipped with an event data recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur. NOTE: EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

(b) The owner's manual may include additional information about the form, function, and capabilities of the EDR, in supplement to the required statement in § 563.11(a).

§ 563.12 Data retrieval tools.

Each manufacturer of a motor vehicle equipped with an EDR shall ensure

by licensing agreement or other means that a tool(s) is commercially available that is capable of accessing and retrieving the data stored in the EDR that are required by this part. The tool(s) shall be commercially available not later than 90 days after the first sale of the motor vehicle for purposes other than resale.

PART 564—REPLACEABLE LIGHT SOURCE AND SEALED BEAM HEADLAMP INFORMATION

Sec.

564.1 Scope.

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APPENDIX A TO PART 564—INFORMATION TO BE SUBMITTED FOR REPLACEABLE LIGHT SOURCES

APPENDIX B TO PART 564—INFORMATION TO BE SUBMITTED FOR LONG LIFE REPLACEABLE LIGHT SOURCES OF LIMITED DEFINITION

APPENDIX C TO PART 564—INFORMATION APPLICABLE TO STANDARDIZED SEALED BEAM HEADLAMP UNITS

AUTHORITY: 49 U.S.C. 322, 30111, 30115, 30117, 30166; delegation of authority at 49 CFR 1.50.

SOURCE: 72 FR 68266, Dec. 4, 2007, unless otherwise noted.

§ 564.1 Scope.

This part requires the submission of dimensional, electrical specification, and marking/designation information as specified in Appendices A and B of this part, for original equipment replaceable light sources used in motor vehicle headlighting systems. This part also serves as a repository for design information as specified in appendix C of this part, for original equipment and replacement standardized sealed beam units used in motor vehicle headlighting systems.

§ 564.2 Purposes.

The purposes of this part are achieved through its Appendices:

(a) The purposes of appendix A of this part are to ensure:

(1) The availability to replacement light source manufacturers of the manufacturing specifications of original equipment light sources so that replacement light sources are inter-

changeable with original equipment light sources and provide equivalent performance, and

(2) That redesigned or newly developed light sources are designated as distinct, different, and noninterchangeable with previously existing light sources.

(b) The purposes of appendix B of this part are to ensure:

(1) That original equipment light sources are replaceable and that replacement light sources provide equivalent performance, and

(2) That redesigned or newly developed light sources are designated as distinct, different, and noninterchangeable with previously existing light sources.

(c) The purpose of appendix C of this part is to ensure the availability to original equipment and replacement sealed beam headlamp manufacturers of the manufacturing specifications of standardized sealed beam headlamp units used on motor vehicles so that all sealed beam headlamp units of a specific type are interchangeable with all other units of that same type and provide equivalent performance.

§ 564.3 Applicability.

This part applies to replaceable light sources used as original equipment, and standardized sealed beam headlamp units used as original equipment and replacement equipment in motor vehicle headlighting systems.

§ 564.4 Definitions.

All terms defined in the Act and the regulations and standards issued under its authority are used as defined therein.

§ 564.5 Information filing; agency processing of filings.

(a) Each manufacturer of a motor vehicle, original equipment headlamp, or original equipment headlamp replaceable light source, which intends to manufacture a replaceable light source as original equipment or to incorporate a replaceable light source in its headlamps or motor vehicles, shall furnish the information specified in appendix A. If the rated laboratory life of the light source is not less than 2,000 hours, the manufacturer shall furnish