

## Introduction of Chinese Mandatory National Standard GB "Automobile Event Data Recorder"



## **IMPACT EVENT REQUIREMENTS**

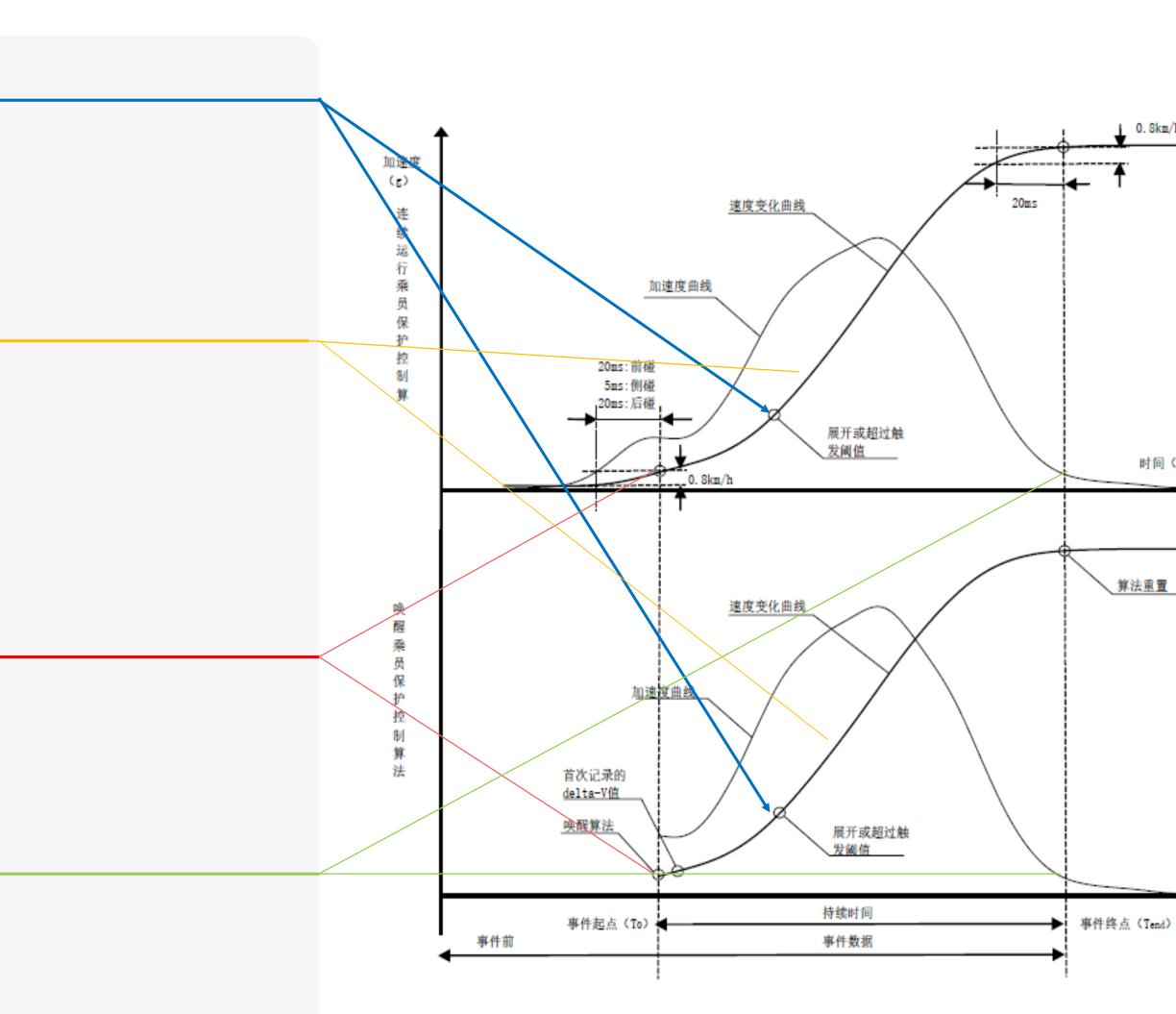
**Trigger Threshold** 

#### **Locking Condition**

**Beginning of Event** 

End of Impact Event





0.8km/h

时间(ms)



## DATA RECORD REQUIREMENTS

#### **Level A (17)**

A

B

Data that shall be recorded when vehicles are **equipped with EDR system.** 

#### Level B (43)

Relevant data that should be recorded when vehicles with EDR system are equipped with relevant devices or have relevant functions.

	Lateral delta-V	Maximum Recorded Lateral delta-V	Time to Maxim Recorded delta		
A	Clipping Flag	Vehicle Velocity	Service bra , on or c		
	Acceleration pedal position%	Revolution per minute	Driver seatb status		
Level A Data Elem	Power-on cycle	Power-on cycle at retrieving	Complete state event data rec		
ent	Time interval from this event to the last event	VIN			
	ECU hardware number that records EDR data	ECU software number that records EDR data	ECU serial nun that records E data		

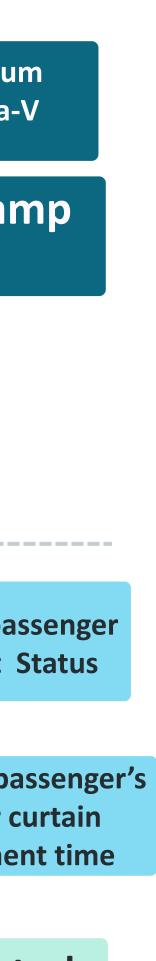






## DATA RECORD REQUIREMENTS

		LongitudinalLateralaccelerationacceleration		Lateral delta-V	Maximum Recorded Lateral delta-V		are of Maximum orded Resultant delta-V	Time to Maximum Recorded delta-V lateral	
B	Working status and event status	Time to Maximum Recorded delta-V,	Tend	Pre-event synchronization timing time	Yaw Angle Velocity		Steering Angle	Steering Lam Status	
		Resultant	Gear Position	Engine Throttle Position	Brake Pedal Position	Parking System Status			
		Occupant Prote System Warning		Pressure Monitoring Syste Warning Status	m Braking Syster Statu	ning			
Level B Data		Driver's seat belt	Driver's front airbag	Driver's front airbag					
Eleme nt	Restraint system	pretensioner Deployment time	Deployment time (phase I)	Deployment time (phase II)	Driver's side airbag Deployment time		Driver's side air cur Deployment time	i i oni i oni pas	
		Front-row passenger seat	Front-row passenger 's	Front-row passenger 's front	Front-row passenger 's from		Front-row passeng		
		belt pretensioner Deployment time	front airbag suppression status	airbag Deployment time(phase I)	airbag Deployment time (pha	ise II)	side airbag Deployment tim	side air cu ne Deploymen	
								<b>—</b> .• .	
	Active system	Cruise Control system status	Adaptive Cruise Control system status	Anti-brake system status	<b>AEB</b> status		ectronic stability trol system status	Traction conti system statu	
	Time	Year	Month	Day	Hour		Minute	Second	
								4	







## **DATA RECORD FUNCTION REQUIREMENTS**

Storage media and storage frequency requirements

■Non-volatile storage medium

■At least 3 times of impact event data.

■ Unlocked event data should be overwritten by subsequent un-locked event data, in chronological order.

Locked event data should not be overwritten by data from subsequent events.

**For unlocked events**, the manufacturer is allowed to set other storage coverage mechanisms.

#### Storage coverage mechanism requirements

#### Power-off storage requirements

data **before** T<sub>0</sub> and after  $T_0$  to (150±10) ms should be recorded.



## **DATA RETRIEVAL REQUIREMENTS**

#### **Unified data retrieval connector**

GB/T 34589-2017 "Road Vehicles diagnostic connector"

#### **Unified data retrieval ID**

#### 0xFA13, 0xFA14 and 0xFA15 Where,

**0xFA13** for the most recent event,

**0xFA14** for the second event from the bottom,

**0xFA15** for the third event from the bottom.

### **Unified data retrieval protocol**



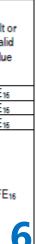
- Use diagnostic service 0x22 "ReadDatabyIdentifier " in  $\sqrt{}$ ISO 14229 "Road Vehicles unified diagnostic service " to retrieve EDR data.
- $\checkmark$  compatible with CAN bus and k-line.
- ✓ Compatible with functional addressing and physical addressing
- √ Compatible with 11-bit and 29-bit CANID

#### **Unified data arrangement**

Unified data range, accuracy, resolution and data arrangement order

ID (1)(2)(3)			Signal Name	Unit	Record Level	Length of Single Signal (bit)	Length of Single Signal (byte)	Number of Single Event Signals (#)	Length of Single Event Signal (Byte)	Serial Number of Byte	Conversion Formula	Unobtainable Value	Fault or Invalid Value
			Longitudinal delta-V	km/h	A	8	1	26	26	0-25	E=N-150	FF <sub>16</sub>	FE <sub>16</sub>
			Maximum recorded longitudinal delta-V	km/h	Α	8	1	1	1	26	E=N-150	FF <sub>16</sub>	FE <sub>16</sub>
			Time to maximum recorded delta-V, longitudinal	ms	Α	7	1	1	1	27	E=N*2.5	FF <sub>16</sub>	FE <sub>16</sub>
N-E¥13	N-EA14	0EA15	Clipping flag	ms	A	16	2	1	2	28-29	E=N 1≭ byte: longitidinal acceleration clipping flag; 2 <sup>nd</sup> byte: lateral acceleration	FFFF <sub>16</sub>	FFFE <sub>16</sub>









# THANK YOU!