

FEDERAL REGISTER Document Number: 2019-25217

Summary: Request for Comments on NHTSA Procedures to Adequately and Objectively Assess Performance of Crash Protection and Collision Avoidance Systems

Agency: National Highway Traffic Safety Administration

Parent Agency: Department Of Transportation

Date Published: November 21, 2019

Docket Number: NHTSA-2019-0102

Action:

Request for Comments

Action Reply: Comments

Date Submitted: January 14, 2020

Comments Submitted By:

David DeVeau

DEVCO Design & Development

Westfield, MA 01085

Attachments: (File Name)

DOT-NHTSA-Testing-Rating-System-Sticker_David-DeVeau.pdf

INDEX

Page) Title

- 1) FEDERAL REGISTER Information Cover Sheet
- 2) INDEX
- 3) INTRODUCTORY
- 4) TITLE 49 United States Code
- 5) DOT / NHTSA Crash & Collision Testing Levels
- 6) CONSUMER Road Vehicle Safety Rating Sticker
- 7) PROTOTYPE Road Vehicle Safety Rating Sticker
- 8) SUMMARY *Clear Public Notice Of More Stars For Safer Cars*

INTRODUCTORY

The following comments are intended to address the NHTSA efforts to gather input from stakeholders and the public regarding testing procedures to adequately and objectively assess performance of collision avoidance and crash protection technology.

It is very clear that these drafts by the NHTSA Research and Test Center are exceptionally well thought out definitions of tests and procedures that include test submittal and test result forms.

Recommendations for the NHTSA:

- Remove “Research” after “Draft” becomes “Testing Procedure”
 - Advance “Drafts” into ‘Minimum Test Requirements At Minimum Speed’
 - Inspire Manufacturers To Advance Technology With Incremental Speeds
- Add Federally Defined Crash / Collision Testing Levels
 - Include DOT / NHTSA Simplified Clarification of All Testing Levels
 - Allow SAE Design Levels for Testing References Only
- Add Federally Regulated Price Scale for Crash and Collision Tests
 - Include Testing Facility Qualification Submittal and Approval Forms
 - Allow Testing Facilities To Provide A Range Of Testing and Speeds
- Replace Acronyms with Limited Character Generic Names
 - Include Single Technology and Multiple Technology Combined Systems
 - Allow Manufacturers To Add Functions To Advance Technology
- Add ‘Rating Sticker’ “Test Result Form” for Manufacturer Consistency
 - Require Consumer Public Notice of Approved Production Technology Ratings
 - Require Public Notice of All Additional Prototype Technology Testing Conditions

Within the capacity of an independent safety advocate and electromechanical engineering scientist with now 45 years of experience to include research and development of commercial and industrial products and DOD and DOE projects that were inclusive of writing testing procedures and proposed amendments to rules of law.

The following proposal expands on this request for comments and exemplifies how to take full advantage of the most obvious means of measurement to establish the simple grounds for all types of collision avoidance and crash protection systems to be tested on to clearly establish minimum safety requirements and to define any limited conditions of use.

TITLE 49 United States Code

49 USC §32302: Passenger Motor Vehicle Information (Proposed Amendments)

(a) Information Program - The Secretary of Transportation shall maintain a program for developing the following information on passenger motor vehicles:

- (1) damage susceptibility.
- (2) crashworthiness, crash avoidance, and any other areas the Secretary determines will improve the safety of passenger motor vehicles.
- (3) the degree of difficulty of diagnosis and repair of damage to, or failure of, mechanical and electrical systems.

(b) Motor Vehicle Information - To assist a consumer in buying a passenger motor vehicle and to protect the public, the Secretary shall provide to the public information developed under subsection (a) of this section. The information shall be in a simple and understandable form that allows comparison of the characteristics referred to in subsection (a)(1)–(3) of this section among the makes and models of passenger motor vehicles. The Secretary may shall require passenger motor vehicles dealers to distribute have the this information to for prospective buyers and other public interests of road use. The Secretary, after providing an opportunity for public comment, shall study and report to Congress the most useful data, format, and method for providing simple and understandable damage susceptibility information to consumers. shall establish a common measurement system that will enable testing procedures to adequately and objectively assess performance for public road safety of prototype and production of crashworthiness and crash avoidance systems.

(1) Ratings System Required - Characteristics of (a)(a1–a3) and (b) are based on performance at speeds tested and shall clearly be rated at speeds passed.

(c) Crash Avoidance - ~~Not later than 1 year after the date of enactment of~~ In accordance with the Safety Through Informed Consumers Act of 2015, the Secretary shall promulgate a rule to ensure that crash avoidance information is indicated next to crashworthiness information on stickers placed on motor vehicles by their manufacturers.

(1) Ratings Sticker Required - In compliance with (a)(a1-a3), (b)(b1) and (c) crash avoidance shall be categorized separately from crashworthiness and equally compared in a speed based ratings system.

(d) Motor Vehicle Defect Reporting Information.-
(Information Not Relevant To Proposed Amendments)

DOT / NHTSA Crash & Collision Testing Levels

Crash Protection Levels:

L0: Occupant Safety Systems

Structural Absorption and or Diversion for Compartment Integrity
Personal Restraints and or Movement Absorption for All Seat Locations

L0-P: Pedestrian Safety Systems

Structural Absorption and or Diversion

Collision Avoidance Levels:

L1: Warning Systems

Audio and or Visual and or Tactile Vibration Alerts

L1-P: Pedestrian Warning Systems

External Audio and or Visual Alerts

L2: Assist Systems

Tactile Resistance and or Initial Intervention
Directional and or Speed Counter Measures

L3: Automatic Systems

Complete Intervention and or Activation
Directional and or Speed Control

L4: Autonomous Systems

Directional and or Speed Control
No Human Driver Interface and or Intervention

REFERENCE: SAE Design Levels *Summary*

L0: No Automation

Zero autonomy; the driver performs all driving tasks

L1: Driver Assistance

Vehicle is controlled by the driver but intervention is available

L2: Partial Automation

Vehicle has some automation but the driver must be engaged at all times

L3: Conditional Automation

Vehicle conditional task is automated but the driver must be ready to take control

L4: High Automation

Vehicle conditional task is automated but the driver may have the option of control

L5: Full Automation

Vehicle is capable of performing all tasks and the driver may not have option for control

CONSUMER Road Vehicle Safety Rating Sticker

Year - Make - Model

| 2020 | | DEVCO Commuter Coupe | | 2 Seat Luxury | |
|---|---------------------|------------------------------------|--------------------------------|-------------------------------|------------------------|
| Crash / Collision Safety Ratings- (Standard or Regulated / Optional / Other Colors) | | | | | |
| Protection | | Avoidance | | Safety Features | |
| 105mph ★ | | | | | Drive Paddle Shift |
| 95mph ★ | Front Center-3/4 | | | | Separable Safety Cage |
| 85mph ★ | | Front Collision Warning | Side Lane Departure Warning | | Hi-Speed Warnings |
| 75mph ★ | Front 1/2-1/4 | Rear Center-3/4 | Front Brake Stop Assist | | |
| 65mph ★ | Side Center-3/4 | Rear 1/2-1/4 | Front Driver Speed Assist | Side Lane Departure Assist | Hi-Speed Driver Assist |
| 55mph ★ | | | | | Automatic Hi/Low Beam |
| 45mph ★ | | Front / Side Traction Automatic | | | |
| 35mph ★ | | Front Brake Stop Automatic | Front Traffic Automatic | | Low-Speed Highway |
| 25mph ★ | | | Front Pedestrian Warning | | Front Seatbelt Airbag |
| 15mph ★ | Rear Pedestrian | Front Pedestrian | Rear Brake Stop Automatic | Rear Pedestrian Warning | Automatic Parking |

National Highway Traffic Safety Administration (NHTSA)
 Crash / Collision Tests Are Under Laboratory Conditions At Speed Indicated +/- 4mph
 Crash Protection For Passengers In All Seat Locations At 100% Survival
 Collision Avoidance Technology Has 100% Proof Of Function
 Actual Crash / Collision Conditions Are Simulated Within 80%
 For Additional Information Go To www.SaferCar.gov

SILVER 55+ Years
BLUE Family Needs
GOLD Performance

New Road Vehicle Safety Sticker

National Highway Traffic Safety Administration (NHTSA)
 Crash / Collision Tests Are Under Laboratory Conditions At Speed Indicated +/- 4mph
 Crash Protection For Passengers In All Seat Locations At 100% Survival
 Collision Avoidance Technology Has 100% Proof Of Function
 Actual Crash / Collision Conditions Are Simulated Within 80%
 For Additional Information Go To www.SaferCar.gov

NHTSA Safety Approved Transportation Technology

Sticker Provided By Manufacturer On Vehicle
 Removable By Consumer Only

PROTOTYPE Road Vehicle Safety Rating Sticker

Year - Make - Model

Production Approved Vehicle

| | | | | |
|--|---------------------|------------------------------------|--------------------------------|-------------------------------|
| 2020 | | DEVCO Commuter Coupe | | 2 Seat Luxury |
| Crash / Collision Safety Ratings- (Standard or Regulated / Optional / Other Colors) | | | | |
| Protection | | Avoidance | | Safety Features |
| 105mph ★ | | | | Drive Paddle Shift |
| 95mph ★ | Front Center-3/4 | | | Separable Safety Cage |
| 85mph ★ | | Front Collision Warning | Side Lane Departure Warning | Hi-Speed Warnings |
| 75mph ★ | Front 1/2-1/4 | Rear Center-3/4 | Front Brake Stop Assist | Automatic Highway |
| 65mph ★ | Side Center-3/4 | Rear 1/2-1/4 | Front Driver Speed Assist | Hi-Speed Driver Assist |
| 55mph ★ | | | | Automatic Hi/Low Beam |
| 45mph ★ | | Front / Side Traction Automatic | | Automatic City |
| 35mph ★ | | Front Brake Stop Automatic | Front Traffic Automatic | Low-Speed Highway |
| 25mph ★ | | | Front Pedestrian Warning | Front Seatbelt Airbag |
| 15mph ★ | Rear Pedestrian | Front Pedestrian | Rear Brake Stop Automatic | Automatic Parking |

National Highway Traffic Safety Administration (NHTSA)
 Crash / Collision Tests Are Under Laboratory Conditions At Speed Indicated +/- 4mph
 Crash Protection For Passengers In All Seat Locations At 100% Survival
 Collision Avoidance Technology Has 100% Proof Of Function
 Actual Crash / Collision Conditions Are Simulated Within 80%
 For Additional Information Go To www.SaferCar.gov

SILVER 55+ Years
BLUE Family Needs
GOLD Performance

Prototype Technology

Prototype Road Safety Sticker

NHTSA Safety Approved Transportation Technology

Sticker Provided By Manufacturer On Vehicle
Non Removable Public Display

SUMMARY

The growing need of official safety assurance is a major concern that must be overcome to continue advancement. Drafts and guidelines must become regulated standards.

Prototype design testing must use the same measurement as production designs in order to clearly advance from one level to the next. Technology must simply be rated at incremental speeds to drive increased transportation safety.

It is known that all types of safety compliance for any type of product can not be voluntary or confirmed by the manufacturer and must be by independent testing facilities under clear regulations to ensure fair competition and to assure safety.

There must be a strong common voice from stakeholders and the public for increasing 5 Stars for Services to 10 Stars for Safety.

