

Petitions for Reconsideration: Any petition for reconsideration of this rule must be received by NHTSA no later than March 6, 1995.

ADDRESSES: Petitions for reconsideration should be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Ms. Terri Droneburg, Office of Vehicle Safety Standards, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590 (202) 366-6617.

SUPPLEMENTARY INFORMATION:

TABLE OF CONTENTS

- I. Background
 - A. Federal Motor Vehicle Safety Standards
 - B. European Braking Requirements
 - C. Harmonizing US and European Braking Requirements
 - D. Antilock Brake Systems
- II. Summary of comments on the 1991 SNPRM (Notice 5)
- III. NHTSA Decision
 - A. Overview
 - B. Application
 - C. Definitions
 - D. Equipment Requirements
 - 1. Lining Wear Indicator
 - 2. ABS Disabling Control Switch
 - 3. Vehicle and Reservoir Labeling
 - 4. Brake System Warning Indicator
 - E. General Test Conditions
 - 1. Ambient Temperature
 - 2. Road Test Surface
 - 3. Instrumentation
 - F. Road Test Procedures and Performance Requirements
 - 1. Permissible Wheel Lockup
 - 2. Road Test Sequence
 - 3. Pre-Burnish
 - 4. Burnish
 - 5. Adhesion Utilization
 - a. General
 - b. Wheel Lock Sequence Test
 - c. Torque Wheel Test
 - 6. Cold effectiveness
 - 7. High speed effectiveness
 - 8. System failure
 - a. Stops with Engine Off
 - b. Antilock Functional Failure
 - c. Variable Proportioning Functional Failure
 - d. Hydraulic Circuit Failure
 - e. Power Assist Unit Inoperative
 - 9. Parking brake requirements
 - a. Dynamic
 - b. Static
 - 10. Fade and Recovery
 - a. Heating Snubs
 - b. Hot Performance
 - c. Recovery Performance
 - G. Miscellaneous Issues
- IV. Regulatory analysis
 - A. Executive Order 12866 and DOT Regulatory Policies and Procedures
 - B. Regulatory Flexibility Act
 - C. Executive Order 12612 (Federalism)
 - D. Executive Order 12778 (Civil Justice Reform)
 - E. National Environmental Policy Act

I. Background

A. Federal Motor Vehicle Safety Standards

The National Traffic and Motor Vehicle Safety Act ("the Safety Act"), recently revised and codified "without substantive change" at 49 U.S.C. Chapter 301, authorizes the National Highway Traffic Safety Administration (NHTSA) to issue Federal motor vehicle safety standards (FMVSS) to ensure motor vehicle safety. The Safety Act requires that each FMVSS be objective and practicable so that a manufacturer can certify that each of its vehicles meets all applicable standards. Each FMVSS specifies the performance requirements and any necessary test conditions and procedures that NHTSA uses in its periodic tests of motor vehicles and motor vehicle equipment. Each tested vehicle must meet the objective requirements contained within the applicable FMVSS. Under this self-certification system, the government does not subjectively approve or disapprove a type of vehicle or a type of braking system.

B. European Braking Requirements

Unlike the self-certification system used in the United States, the European community has established a "type approval" system in which the government approves each type of motor vehicle or item of motor vehicle equipment, based on whether it can meet the safety requirements. For example, the current United Nations Economic Commission for Europe (ECE) braking regulation, Regulation 13 (R13) and its proposed harmonized regulation, R13H, use a calculation method to determine the adhesion utilization of a vehicle as designed. Manufacturers submit their calculations (or the input parameters necessary to make the calculations) to governmental authorities along with a prototype vehicle, and the governments then approve or disapprove the vehicle type based on a review of those calculations and testing of actual vehicles.

C. Harmonizing US and European Braking Regulations

In order to eliminate any unnecessary non-tariff barriers to trade in accordance with the General Agreement on Tariffs and Trade (GATT), the United States has participated in discussions held within the Meeting of Experts on Brakes and Running Gear (GRRF) of the ECE. As a result of these discussions, NHTSA has issued a series of rulemaking notices proposing to establish a new FMVSS, FMVSS No. 135, Passenger Car Brake Systems. Likewise, the GRRF has also

developed a proposed new Regulation 13-H, which would be compatible with FMVSS No. 135. Throughout the rulemaking, NHTSA has emphasized that any requirements it adopts must be consistent with the need for safety and the Safety Act. The agency emphasizes that safety cannot be sacrificed in its efforts to harmonize the FMVSS with the ECE regulations.

On May 10, 1985, NHTSA published in the **Federal Register** (50 FR 19744) a notice of proposed rulemaking (NPRM; Docket 85-06, Notice 1) to establish FMVSS No. 135, which would replace FMVSS No. 105 as it applies to passenger cars. On January 14, 1987, NHTSA published in the **Federal Register** (52 FR 1474) a supplemental notice of proposed rulemaking (SNPRM; Docket 85-06, Notice 4), to improve and refine the proposed Standard. On July 3, 1991, NHTSA published in the **Federal Register** (56 FR 30528) a second SNPRM (Docket 85-06, Notice 5) as a result of comments on the SNPRM and vehicle testing by NHTSA.

In these previous notices, NHTSA set out its overall approach to developing the proposed harmonized standard. The agency stated that the new standard would differ from the existing one primarily in containing a revised test procedure based on harmonized international procedures developed during discussions held between NHTSA and GRRF. NHTSA stated its belief that the new FMVSS would ensure the same level of safety for the aspects of performance covered by FMVSS No. 105, while improving safety by addressing some additional safety issues. The agency proposed establishing new adhesion utilization requirements that it believes would ensure stability during braking under all friction conditions.

In this final rule, after considering the public comments on all of the notices, NHTSA has made several minor revisions to the requirements proposed in the July 1991 SNPRM. This document explains the changes incorporated in the final rule and the reasons for the agency's decision.

D. Antilock Brake Systems

One issue that NHTSA considered during the process of developing a harmonized standard was what requirements are appropriate for vehicles equipped with antilock brake systems. While NHTSA was evaluating comments to the July 1991 SNPRM, Congress enacted the Highway Safety Act of 1991, which directs NHTSA to publish an advance notice of proposed rulemaking (ANPRM) to consider the need for additional brake performance