

of the Telecommunications Act of 1996, Cross-Ownership of Broadcast Stations and Newspapers, Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets, Definition of Radio Markets, 67 FR 65751, October 28, 2002, 17 FCC Rcd 18503, Appendix A.)

4. Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov), and should include the following words in the body of the message, "get form." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location are 8 a.m. to 7 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW., Washington, DC 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

5. *Availability of Documents.* Comments, reply comments, and *ex parte* submissions will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street, SW., CY-A257, Washington, DC 20554. These documents also will be available electronically from the Commission's Electronic Comment Filing System. Documents are available electronically in ASCII text, Word 97, and Adobe Acrobat. Copies of filings in this

proceeding may be obtained from Qualex International, Portals II, 445 12th Street, SW., Room, CY-B402, Washington, DC 20554, telephone (202) 863-2893, facsimile (202) 863-2898, or via e-mail at [qualexint@aol.com](mailto:qualexint@aol.com). To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Governmental Affairs Bureau at 202-418-0531 (voice), 202-418-7365 (TTY).

#### List of Subjects in 47 CFR Part 73

Television.

Federal Communications Commission.

W. Kenneth Ferree,  
Chief, Media Bureau.

[FR Doc. 04-4391 Filed 2-26-04; 8:45 am]

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## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

#### 49 CFR Part 571

[Docket No. 00-7145; Notice 2]

RIN 2127-AH61

#### Federal Motor Vehicle Safety Standards; Head Impact Protection

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), DOT.  
**ACTION:** Final rule.

**SUMMARY:** This document amends the upper interior impact requirements of the Federal motor vehicle safety standard on occupant protection in interior impact to increase the minimum separation distance between tested areas on vertical surfaces of a motor vehicle. Compliance with the upper interior impact requirements is determined, in part, by measuring the forces experienced by a test device known as the Free Motion Headform (FMH) when it is propelled into certain target circles in the vehicle interior. To ensure that tests conducted within the same vehicle do not affect each other, the standard specifies that tested targets be at least a certain distance apart; currently 150 mm (6 inches). This final rule expands this minimum separation distance for certain target locations through the use of an FMH-shaped "exclusion zone" to alleviate concerns that the striking of one target would affect compliance at other nearby targets in the same vehicle. This final rule also adds targets for pillar-like structures that do not meet the definition of "pillar," *i.e.*, certain

door frames and freestanding vertical seat belt mounting structures.

**DATES:** *Effective Date:* August 25, 2004.

*Petition Date:* Any petitions for reconsideration must be received by NHTSA no later than April 12, 2004.

**ADDRESSES:** Any petitions for reconsideration should refer to the docket and notice number of this notice and be submitted to: Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** For non-legal issues, you may call Dr. William Fan, Office of Crashworthiness Standards, at (202) 366-4922.

For legal issues, you may call Otto Matheke, Office of the Chief Counsel, at (202) 366-5263.

#### SUPPLEMENTARY INFORMATION:

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#### I. Safety Problem

In an August 18, 1995 final rule (60 FR 43031) adding requirements for upper interior impact protection to Standard No. 201, "Occupant Protection in Interior Impact," NHTSA estimated that even with air bags installed in all passenger cars, trucks, buses, and multipurpose passenger vehicles (collectively, passenger cars and LTVs) with a gross vehicle weight rating (GVWR) of 4,536 kilograms (10,000 pounds) or less, head impacts with the pillars, roof side rails, windshield header, and rear header would result in 1,591 annual passenger car occupant fatalities and 575 annual LTV occupant fatalities. We also stated that such head impacts also result in nearly 13,600

moderate to critical (but non-fatal) passenger car occupant injuries (MAIS 2 or greater), and more than 5,200 LTV occupant injuries. (The AIS or Abbreviated Injury Scale is used to rank injuries by level of severity. An AIS 1 injury is a minor one, while an AIS 6 injury is one that is currently untreatable and fatal. The Maximum Abbreviated Injury Scale or MAIS is the maximum injury per occupant.) In the August 18, 1995 final rule, we estimated that the new requirements would prevent 675 to 975 AIS 2–5 head injuries and 873 to 1,192 fatalities per year.

## II. Background

### A. August 1995 Final Rule on Upper Interior Impact Protection

The August 1995 final rule amended Standard No. 201 to require passenger cars and LTVs with a gross vehicle weight rating (GVWR) of 4,536 kilograms (10,000 lbs.) or less to provide protection when an occupant's head strikes upper interior components, including pillars, side rails, headers, and the roof, during a crash. This final rule, which required compliance through a number of phase-in schedules beginning on September 1, 1998, significantly expanded the scope of Standard No. 201. Previously, the standard applied only to the portion of the vehicle interior in front of the front seat and to the backs of the front seats.

### B. April 1997 Final Rule

NHTSA received nine timely petitions for reconsideration of the August 1995 final rule. These petitions raised a number of issues, including: (1) Application of the new requirements to dynamic (*i.e.*, crash-deployed) head protection systems, (2) variability of test results attributed to width of the drop test calibration corridor for the FMH, (3) leadtime and phase-in, (4) exclusion of certain vehicles, and (5) test procedures. We considered dynamic head protection systems to be beyond the scope of the original rulemaking and addressed the petitions filed on this issue in a final rule published in the **Federal Register** on August 4, 1998 (63 FR 41451).

The remaining issues were addressed through a final rule published on April 8, 1997 (62 FR 16718). The April 1997 final rule amended Standard No. 201 to add another phase-in option to the existing phase-in requirements, allowed manufacturers to carry forward credits for vehicles certified to the new requirements prior to the beginning of the phase-in period, excluded buses with a GVWR of more than 3,860 kilograms (8,500 pounds), specified that

all attachments to the upper interior components are to remain in place during compliance testing, and clarified the test procedure.

An issue considered in both the petitions for reconsideration and the April 8, 1997 final rule was the appropriate minimum separation distance between tested target areas within the same vehicle. S8.14(c) of the Standard provides that, in the event that target areas are located in near proximity to each other, no test impact may occur within 150 mm (6 inches) of any other impact. This provision forbids testing of target areas that are so close together that the FMH would impact two or more targets in a single impact, and that damage resulting from the one test impact may impair countermeasures located at the nearby target area. In the petitions submitted in response to the August 1995 rule, manufacturers argued that the 150 mm (6 inch) distance provided in the Standard was inadequate, particularly in those instances in which the installed countermeasure did not use padding, but instead relied on another means. However, because the petitioners did not submit any data substantiating their claim that the 150 mm (6 inch) distance was inadequate, NHTSA rejected their request to increase this distance when it issued the April 1997 final rule.

### C. Petitions for Reconsideration

American Automobile Manufacturers Association (AAMA) and ASC, Incorporated (ASC) filed petitions for reconsideration of the April 8, 1997 final rule. ASC's petition expressed concerns about the impact of the final rule on the integrated convertible roof and frame designs and requested a further amendment to the definition of "convertible roof frame system." AAMA's petition requested that NHTSA reconsider and modify the final rule in reference to approach angles, moveable side glazing, multiple impacts, the procedure for locating CG-F (a reference point corresponding to the location of a front seat occupant's head), and the definition of "forehead impact zone."

In a notice published on April 22, 1998, (63 FR 19839) we denied these petitions for reconsideration. In regard to approach angles, NHTSA rejected AAMA's request for the exclusion of targets that cannot be tested using the existing approach angles contained in S8.13.4. We concluded that targets that cannot be tested using the existing approach angles can be relocated under the protocols found in S10(b) or S10(c). Thus, excluding the targets would not be necessary. We denied AAMA's request that hinges and latches for

sunroofs and moveable side glazing be excluded from the FMH test requirements, as we concluded that it was feasible to pad these components. The April 1998 notice also explained that AAMA's concern regarding the location of CG-F had been resolved by an amendment to Standard No. 201 and that we believed that the organization's concerns about the proper definition of the forehead impact zone resulted from a misunderstanding of the terms of that definition. Accordingly, we declined to modify the definition.

The April 1998 notice also set forth our reasoning for rejecting AAMA's request that we reconsider our decision not to expand the minimum separation distance between two target areas. Without providing supporting test data, AAMA argued that the existing 150 mm (6 inch) distance was not sufficient because test damage to one target could affect the performance of a nearby target, depending on the type of countermeasure, the target location, the size of the target component, the approach angles used and the effects of chin loading on one target when another is struck. We rejected AAMA's arguments, explaining that we were satisfied that existing evidence showed that the 150 mm (6 inch) separation distance was adequate. As the maximum width of the FMH is 150 mm (6 inches) and the forehead impact zone on the FMH was smaller, we concluded that the existing difference was sufficient to prevent FMH impact overlap between targets. We also noted that Standard No. 201 allowed testing of targets on both the right and left side of the vehicle interior and that manufacturers could use this as an opportunity to ensure that target areas were much farther apart from each other than 150 mm (6 inches) when actual testing is performed.

AAMA also requested that we consider limiting impacts to one impact per component. Again, AAMA did not submit any data indicating that limiting tests to one impact per component was necessary. We therefore rejected this request because there was not any test data indicating that such a limitation was realistic and necessary.

As noted below, AAMA sent a letter to NHTSA on March 31, 1998 which discussed several of the issues addressed in the agency's April 22, 1998 notice denying the AAMA and ASC petitions for reconsideration. As this letter arrived shortly before the agency issued the April 22, 1998 notice, the issues raised by AAMA in this letter were not considered or discussed in that notice. They are addressed below.

#### *D. March 31, 1998 Letter*

On March 31, 1998, AAMA sent a letter to the agency expressing concern about the laboratory test procedure for Standard No. 201. In order to provide guidance and assistance to agency contractors performing compliance tests, the agency produces laboratory test procedures outlining recommended practices for performing compliance tests for the various safety standards. These test procedures are not surrogates for the safety standards—they are merely used by NHTSA to facilitate testing by its contractors.

AAMA expressed its belief that multiple impacts and chin contacts during Standard No. 201 testing using the laboratory test procedure could create uncertainty about the ability of particular countermeasures to meet the Standard. The letter included test data from testing on prototype countermeasures that, in AAMA's view, supported its contention that multiple impacts and chin contacts compromised the ability of countermeasures to perform adequately when adjacent target circles were subject to successive impacts. AAMA requested that the agency's test procedure include a restriction on testing adjacent target circles and also contain a provision stating that any test failure should be carefully scrutinized to determine if and when chin contact occurred. AAMA suggested that the test procedure provide that, if early chin contact occurred, the test be run again with the headform rotated to a new position in which early chin contact would not occur.

#### *E. August 1998 Meeting*

On August 19, 1998, AAMA staff persons and representatives of AAMA member companies met with NHTSA officials to discuss ongoing concerns regarding test issues in Standard No. 201. These issues included multiple impacts on the same component, headform chin and cheek contact during HIC calculations, and window position during testing. In this meeting, AAMA members displayed samples of prototype A- and B-pillar trim pieces being developed to meet Standard No. 201. They also presented data generated from tests in which individual trim components were subjected to multiple impacts. The trim samples showed that, instead of using padding as a countermeasure, AAMA members were developing energy absorbing plastic trim composed of conventional plastic trim with ribs on the reverse side.

Test data submitted by Ford showed the results of a series of impacts on

simulated pillar structures in which one test impact was followed by a second test impact 150 mm (6 inches) below the first. The trim used in these tests was constructed of plastic with a smooth facing and ribs cast into the backside. Data presented by Ford showed that trim that had been subjected to impacts at the upper location suffered a degradation in performance at the lower impact site ranging from 7.3 percent to 32.1 percent. On average, when a trim component equipped with countermeasures was tested at the lower location after an upper location of the same trim had been tested, the HIC scores were 19.2 percent higher than those resulting from impacts at the same point into identical trim components that had never been impacted. The Ford data also showed that the rib structures on the backside of the plastic trim were deformed up to 150 mm (6 inches) below the impact area.

Representatives of AAMA, the Association of International Automobile Manufacturers, Chrysler, GM, Ford and Mitsubishi indicated that secondary impacts by the chin and lower portion of the FMH after primary impacts by the FMH forehead impaired the ability of target circles on or near the secondary impact area to meet the requirements of the Standard when subjected to testing.

#### *F. New Vehicle Configurations*

As light trucks continue to grow in popularity and consumers expect greater versatility from their vehicles, manufacturers are responding by introducing designs that differ from the traditional sedan. A number of manufacturers are now producing pickup trucks with 3- and 4-door designs that, unlike the established "crew cab" design, do not have pillars between doors. In these vehicles, the rearmost door is hinged at the rear rather than the front. The front and the rear doors latch together without an intervening pillar. Similar designs have also been employed in passenger cars. In these vehicles, the frames of the two doors, when closed and latched, form a structure that presents a surface that may be viewed as the structural equivalent of a pillar.

We are also aware of other designs used in soft-top light utility vehicles that involve the use of a freestanding vertical structure to provide an attachment point for the upper anchorage of a lap and shoulder belt. This structure, which must be relatively stiff in order to ensure the stability of the belt anchorage, is necessarily located near the head of the occupant of the seating position for which the belt is provided. However, because this

structure does not support the roof of the vehicle and is not a stiffener or a roll bar, it does not, by definition, have any target areas that would be subject to the requirements of Standard No. 201.

This final rule addresses the safety consequences of these new designs. Because these door frames and seat belt mounting structures did not fit within the existing definitions of "pillar," "roll bar" or "stiffener" found in Standard No. 201, they did not previously have to meet the head impact protection criteria.

#### *G. Notice of Proposed Rulemaking*

After consideration of the issues raised by the petitions for reconsideration, the March 31, 1998 AAMA letter, and the information presented in the August 1998 meeting, NHTSA proposed amendments to Standard No. 201 in a notice of proposed rulemaking (NPRM) published in the **Federal Register** on April 5, 2000 (65 FR 17842). The agency proposed to enlarge the minimum separation distance between pillar target areas to prevent testing to target areas that suffered damage from an impact overlap from a previous test impact, and to include pillar-like structures within the standard. To address impact overlap, the agency proposed adding a 200 mm (8 inch) minimum separation distance for certain vertically oriented target locations. To address the performance of newer vehicle designs with structures that are functionally equivalent to pillars, roll bars and braces, our proposal sought to add new sections to S3 and S10 that defined pillar-like structures and established procedures for locating target areas on those structures.

The head impact protection provisions of Standard No. 201 set minimum performance requirements for vehicle interiors by establishing target areas within the vehicle that must be properly padded or otherwise have energy absorbing properties to minimize head injury in the event of a crash. Compliance with these performance requirements is tested by launching the FMH within a specified angle range at any speed up to and including either 18 km/h or 24 km/h (12 mph or 15 mph) at a specific target area. Target locations are identified through use of the procedures in S10 of the Standard. Some of these targets are located such that when the forehead impact area of the FMH contacts the intended target, the chin or lower portions of the FMH may approach, or perhaps even contact, another target area on the same component.

As Standard No. 201 specifies performance requirements for a number of target areas within a vehicle, S8.14(a) provides that, subject to certain limitations, a single vehicle component may be impacted multiple times. S8.14(b), which was included in the standard to allow sufficient time for resilient countermeasures to recover after impacts, provides that impacts within 300 mm (12 inches) of each other may not occur less than 30 minutes apart. To prevent damage caused by one impact from impairing the performance of a nearby target, S8.14(c) specifies that no impact may occur within 150 mm (6 inches) of any other impact. Given that S8.14(d) says that the distance between impacts is the distance between the centers of the target for each impact, S8.14(c) means that if the centers of two target circles are within 150 mm (6 inches) of each other, only one of the two targets may be impacted.

The 150 mm (6 inch) distance was based on the maximum width of the FMH and not its height. To address the potential impact overlap damage caused by the height of the FMH instead of its width, the NPRM proposed increasing the 150 mm (6 inch) minimum separation distance to 200 mm (8 inches) for certain targets to preclude impact overlap damage caused by impacts to targets below the intended target.

The NPRM also proposed adding new target locations to door frames and seat belt mounting structures. The proposal sought to add two new sections to S10 of Standard No. 201 that would specify target locations on frames of pairs of adjacent side doors that are not separated by an intervening pillar and proposed to add definitions of "door frame" and "other door frame" to S3.

Finally, the NPRM proposed to amend S3 to include a definition of "Seat Belt Mounting Structure" and to amend S10 to add a new target location procedure for locating three targets on these structures.

#### *H. Comments in Response to the NPRM*

The agency received two comments in response to the April 5, 2000 NPRM. Comments were submitted by a trade association, the Alliance of Automobile Manufacturers (AAM), and by Bornemann Products (Bornemann), a seat manufacturer. Both commenters were generally supportive of the agency's proposal, although AAM voiced a number of concerns regarding the means of attaining the proposal's objectives and Bornemann offered more global objections concerning the costs that compliance with Standard No. 201 imposes on final stage manufacturers.

AAM addressed five issues: (1) The minimum separation distance for targets, (2) the definition of, and target locations on, seat belt mounting structures, (3) vertical approach angles, (4) targets on other door frames and door frames, and (5) leadtime.

AAM argued that the agency's proposal to increase the separation distance between targets on vertical surfaces from 150 mm (6 inches) to 200 mm (8 inches) was inadequate. According to AAM, the distance from the bottom of the chin to the top of the forehead impact zone of the FMH, measured along the mid-sagittal plane of the FMH head skin, is 250 mm (10 inches). AAM contended that this distance represents the minimum separation distance between two impacts when the top boundary of the forehead impact zone and the lowest point of the FMH contact the interior during a test.

AAM also noted that NHTSA's proposal that sought to extend the minimum separation distance between tested targets was limited to targets on pillars and vertical components of roll bars, braces, and stiffeners. AAM characterized this approach as a component-based method and offered a number of comments. In AAM's view, component-based criteria would not include all components where FMH chin contact could compromise performance at a nearby target. The organization stated that the upper roof target is as much at risk for impact overlap as pillar targets. Moreover, AAM contended that certain targets on or near pillars would not be located on a portion of the vehicle that meets the NHTSA's definition of "pillar." AAM stated that targets AP1, BP1 and RP1 are often not located on pillars, even though they are labeled as pillar targets.

To address these concerns, AAM recommended that the method for preventing impact overlap proposed by the agency be replaced with an alternative method. The alternative offered by AAM specifies that no impact may occur within the "Keep Out Zone" of any other target. The AAM "Keep Out Zone" is derived through use of a procedure in which a sphere with a radius of 250 mm (10 inches) is centered on a target. Two vertical planes parallel to a vertical plane perpendicular to the target are then placed not more than 150 mm (6 inches) from either side of the target center. The aforementioned vertical planes, in conjunction with the outer edge of that portion of the sphere projected onto the vehicle interior that lies between the vertical planes, establishes the outer boundaries of AAM's "Keep Out Zone."

The organization also offered comments in regard to the agency's proposed definition of "seat belt mounting structures" and the target location procedures used in placing targets on them. AAM commented that the definition of "seat belt mounting structure" in the regulatory text of the NPRM could easily be construed to include areas of the vehicle that are not within the agency's view of what constitutes a seat belt mounting structure as explained in the preamble. AAM provided pictures of a number of 2-door convertibles where the upper anchorage for the shoulder belt provided for front seat occupants is located in the quarter panel behind the door opening. Application of the agency's proposed definition to these vehicles would, in AAM's view, lead to the conclusion that the entire interior rear quarter was a seat belt mounting structure. Since NHTSA's proposal calls for targets to be located on seat belt mounting structures, including belt anchorages, these rear quarter areas would be subjected to FMH impact tests even though they are too low in the vehicle (in AAM's view) to present a significant risk of head injury. AAM recommended that the pillar-like structures the agency intended to regulate be defined by describing them as components projecting above the vehicle beltline (*i.e.*, lower edge of the side daylight opening). The organization also recommended that any definition of a seat belt mounting structure specify that any seat belt anchorage located on the structure must not be lower than one-quarter of the height of an adjacent daylight opening measuring from the vehicle beltline and that any targets on the seat belt mounting structure are not lower than the same height.

AAM's comments also referred to an apparent inconsistency between the description of the maximum vertical angle for door frame targets in the NPRM preamble and the proposed regulatory text. According to AAM, the preamble indicated that NHTSA intends to specify a FMH downward rotation of 10 degrees for the door frames, other door frames and seat belt mounting structures. However, the proposed amendments to the regulatory text stated that the amount of downward rotation used to determine the vertical approach angle should be five degrees. AAM's view is that this text incorrectly leads to the conclusion that door frames and seat belt mounting structures use a maximum vertical angle similar to that of the A-pillar, which is 5 degrees.

AAM also indicated concern about the methodology employed in the proposal for locating door frame targets.

First, AAM is concerned that the proposed method for determining the location of a proposed target—OD2 (Other Door 2)—is not clear when the side doors are a pair of symmetric doors. In AAM's view, use of the proposed method will invariably place the OD2 target circle into the gap between the front and rear door trim panels. As target OD2 in such a location could not be contacted by the FMH and would have to be relocated using the procedure described in S10(b) and (c), AAM requested that NHTSA confirm the methods for locating targets on door frames.

The organization also indicated its concern that the method proposed for determining the location of the door frame reference point (DFR) was inappropriate. The agency's proposal set forth that NHTSA would use the rearmost edge of the forward door opening as a reference point to locate the point "DFR." AAM pointed out that the rearward edge of the forward door opening could be located at any height, including a point well below the vehicle beltline. Since the purpose of the head impact protection provisions of the standard is to reduce deaths or injury due to head impacts with the upper interior, AAM believes that using a reference point below the vehicle beltline is contrary to that purpose. The organization suggested two options to correct this situation. First, the AAM recommended that the definition of "Door Frame" be modified to include portions of the door above the horizontal plane passing the lowest point of the door's daylight opening(s). Second, the AAM recommended that S10.14(a) be amended to read:

S10.14(a) Target DF1—Locate the point on the vehicle interior at the intersection of the horizontal plane passing through the highest point of the forward door opening and a transverse vertical plane (Plane 32) tangent to the rearmost edge of the forward door, as viewed laterally with the adjacent door open. When identifying the rearmost edge of the forward door tangent to Plane 32, the point tangent to Plane 32 should be located by only utilizing the rearmost edge of the front door above a horizontal plane (Plane DFT) passing through the lowest point of the front door's daylight opening(s). Locate the point. \* \* \*

Finally, AAM expressed serious concerns about the effective date of the proposed amendments. In AAM's view, the new requirements proposed for door frames, other door frames and seat belt mounting structures would require a minimum leadtime of three years.

Mr. Paul N. Wagner, President of Bornemann Products, Inc., responded to the April 5, 2000 NPRM on head impact protection. Bornemann Products is a

small volume manufacturer of seating systems and other equipment for multi-stage vehicle manufacturers. Mr. Wagner's comments did not directly address the issues raised by the agency's proposal. Instead, Mr. Wagner argued for extending the phase-in requirements for all manufacturers for an additional two years, claimed a need for alternative testing methods for small volume manufacturers, and asked NHTSA to reassess international harmonization of FMVSS No. 201 and the compliance costs of small volume manufacturers.

### III. Agency Analysis of Comments

#### A. Alliance of Automobile Manufacturers

NHTSA has carefully reviewed the comments filed in response to the NPRM. The discussion below sets forth the agency's response to these comments beginning with those filed by AAM. As noted above, AAM was generally supportive of NHTSA's proposal. However, the organization provided specific comments and suggestions directed toward the agency's proposal for establishing a minimum separation distance between target circles, the definition of, and target locations on, seat belt mounting structures, vertical approach angles to targets, leadtime and the location of targets on door frames.

In regard to the minimum separation distance required between targets to prevent impact overlap, AAM recommended that NHTSA abandon its proposal to establish a 200 mm minimum separation distance between allowable impacts on vertical components. Instead, AAM suggested that NHTSA adopt a "Keep Out Zone" method designed by its member companies. After a careful review, NHTSA concludes that the "Keep Out Zone" suggested by AAM is unnecessarily large and would exclude targets that would not be compromised by impact overlap when the target centered in the "Keep Out Zone" is tested. We note first that the AAM "Keep Out Zone" is based on the belief that a 250 mm (10 inch) distance is necessary to prevent overlap between targets. This 250 mm (10 inch) distance is based on measurement of the distance along the mid-sagittal plane of the FMH from the upper boundary of the forehead impact zone to the lower tip of the chin. In suggesting this distance, AAM assumes that after the initial contact, the FMH will maintain contact with the interior of the vehicle and "roll" along the surface of the FMH skin until the lowest part of the chin makes contact. It is extremely unlikely that the

FMH could behave in this fashion during an impact test, as explained below. Moreover, AAM did not provide any data to substantiate that such motion can or would occur in a compliance test.

Within the FMH approach angle limits specified in Standard No. 201 (See Table 1 of FMVSS No. 201), the upper boundary of the forehead impact zone of the FMH is not intended to be an impact point for compliance tests. An impact on this upper boundary, if it were to occur, would likely produce an extremely poor, glancing impact without significant head rotation. In order for the AAM distance to be valid, an extraordinary amount of FMH rotation would have to occur. The height (vertical distance) between the upper boundary of the forehead impact zone and the forward most point of the FMH chin is less than 215 mm (8.5 inches). If the soft skin of the FMH is removed, the height between the two corresponding points on the metal skull is approximately 200 mm (8 inches). For practical purposes, the agency's compliance tests are performed using the worst possible test condition. The middle and lower portions, and not the top, of the forehead impact zone are the contact points that will strike a target in a worst possible test condition. Since those portions of the FMH provide a more direct impact on the target and result in a higher HIC, the proposed 200 mm (8 inch) separation distance is sufficient to prevent impact overlap between two targets.

In addition to the excessively large distance between targets suggested by AAM, the organization's suggested "Keep Out Zone" method raises several problematic issues. We note that the AAM procedure for defining the "Keep Out Zone" specifies that the zone shall be bound on either side of the target by two vertical planes—one to the left of the target and the other to the right. Each of these planes would be located not more than 150 mm (6 inches)—as measured on a horizontal line along the surface of the vehicle interior—to either side of the target circle. Under the AAM procedure, the vertical plane is located at the furthest point possible along the vehicle interior from the target circle. Therefore, if the target circle is located on a pillar, the vertical planes defining the width of the AAM "Keep Out Zone" would be located either 150 mm (6 inches) from the target center or where the vehicle interior meets a daylight opening, depending on which point is closer to the center of the target. Applying this procedure to a slender component such as an A-pillar would, because of the requirement that the

vertical planes be located at a point on a line on the vehicle surface, produce a very narrow "Keep Out Zone." Using the AAM method, the "Keep Out Zone" determined for a pillar target such as AP2 could be very narrow—as little as 75 mm (3 inches) to 100 mm (4 inches) wide. On a pillar that is likely to be mounted at an angle backward and have targets distributed at different heights along its length, the AAM exclusion zone would not cover other targets on the pillar. For example, target AP3 is located on the A-pillar halfway between the intersection of the dashboard and the A-pillar reference point known as APR. Since APR is likely to be located on the vehicle roof above where the upper portion of the A-pillar joins the roof and AP2 is between APR and AP3, the AAM exclusion zone for AP2 would not cover APR and/or AP3 unless the A-pillar was either very wide or nearly vertical. However, the resulting "Keep Out Zone" would nonetheless still be approximately 500 mm (20 inches) high. This high and narrow "Keep Out Zone" would do little to mitigate impact overlap.

In addition to voicing concerns about the distance needed to prevent impact overlap, AAM also questioned our proposal to limit the application of the 200 mm (8 inch) exclusion zone to pillars and vertical components of roll bars, braces and stiffeners. AAM first noted that a number of "pillar" targets, such as AP1, are not likely to actually be located on a pillar. In AAM's view, these targets, as well as the upper roof target, are very likely to be located in proximity to other targets that could be damaged by impact overlap. However, AAM observed that our proposal would not apply to these targets. In addition, AAM indicated that our proposal would apply the proposed 200 mm (8 inch) separation distance to vertical components of roll bars, braces and stiffeners without providing adequate guidance as to what a "vertical" component is.

We agree with AAM's observation that certain pillar targets, such as AP1, BP1, and RP1 are likely not to be located on pillars. These targets are, however, as far as the nomenclature of Standard No. 201 is concerned, "pillar" targets. Each of these targets are located on reference points for locating other targets on a particular pillar. For example, the target known as BP1 is located on the B-pillar reference point, BPR. BPR is used as a reference point for locating other B-pillar targets such as BP3 and BP4. We recognize that BPR and BP1 will, on most vehicles, be above the highest daylight opening on either side of the B-pillar and therefore above rather than

"on" the B-pillar. Because BP1 is located on the B-pillar reference point and is one of a series of B-pillar targets located through the use of that reference point, it is named as a B-pillar target even though it is unlikely to actually be located on the B-pillar.

We do not agree with AAM's contention that the proposal is too vague in regard to targets on vertical components of stiffeners, braces and roll bars. Nonetheless, the final rule modifies our original proposal by eliminating stiffener, brace and roll bar targets from the list of targets for which the "exclusion zone" applies. We have done so because we believe that there is no practical likelihood that an impact with a tested target on one of these components will result in collateral damage to a nearby target. A brace has only one target. A stiffener is basically a horizontal component with one target, ST1, and a potential second target, ST2, if a seat belt anchorage is on the stiffener. Both ST1 and ST2 are on the same horizontal component and, therefore, the existing 150 mm (6 inch) minimum separation distance is adequate. Roll bars usually consist of two vertical components and a horizontal component. Two targets are specified for roll bars—RB1 and RB2. RB1 is located in a vertical longitudinal plane passing through the seating reference point, SgRP, of any outboard designated seating position. When striking RB1, the FMH lower face/chin should not rotate into any vertical components as it is extremely unlikely that these components would be located adjacent to the SgRP. Similarly, since RB2 is a seat belt anchorage target, it exists only if there is a seat belt anchorage located on a roll bar. If RB2 is located on a horizontal component, then the 150 mm (6 inch) minimum separation distance criterion is adequate. If RB2 is located on the vertical component, it would be the only target on that vertical component. Given the configurations of roll bars, stiffeners and braces and that no more than two targets, which would not be oriented vertically with respect to each other, would be located on them, we believe that there is no need to apply the "exclusion zone" defined in the final rule to these targets.

AAM also submitted comments indicating that the proposed definition of a seat belt mounting structure was too broad and that the procedure for locating targets on such a structure was flawed. The organization indicated that the proposed definition of seat belt mounting structures would include seat belt anchorages on convertibles and similar vehicles that are not mounted on

separate structures, but are instead integrated into quarter panels. AAM suggested that this problem of over-inclusion could be resolved by setting a minimum height for any targets located on a seat belt mounting structure. We agree that our proposal was primarily intended to create a definition for "stand-alone" structures rising from the floor of a vehicle and that the proposed definition for seat belt mounting structures is broader than necessary to accomplish that purpose. However, we do not agree with AAM's suggestion that any belt anchorage target on a seat belt mounting structure must be located at a point above one-quarter of the vertical space of an adjacent daylight opening. Seat belt mounting structures are employed primarily in open body vehicles where no other suitable structure, including any pillar, is available for mounting a seat belt upper anchorage. NHTSA believes that defining the daylight opening for these vehicles may be uncertain or difficult. For example, an open body vehicle with a soft roof assembly and detachable side doors (like a military jeep) does not have a well-defined daylight opening. In addition, an open body vehicle does not necessarily have a roof and/or side door assembly. Accordingly, it seems more appropriate to describe the structure height in reference to the head CG of the Hybrid-III 50th percentile male dummy or an alternative fixed point inside the vehicle. The final rule defines the seat belt mounting structure as a vehicle component incorporating an upper seat belt anchorage that extends above a horizontal plane 200 mm (8 inches) below the head CG of a seated Hybrid III 50th percentile male dummy in the closest adjacent designated seating position. Since the dummy head CG is 660 mm (26 inches) above the seating reference point (SgRP), the definition states that the seat belt mounting structure is a component of the vehicle body, including trim that extends 460 mm (18 inches) above the SgRP.

Although we do not agree with AAM's suggestion that target heights on seat belt mounting structures should be dependent on the location and height of the nearest daylight opening, AAM's examination of these heights is worthy of consideration. AAM indicated that target locations for seat belt mounting structures should not be lower than other target locations and suggested that BP4, a B-pillar target, serve as a benchmark. The NPRM proposed three potential targets for the seat belt mounting structure, SB1 (seat belt anchorage), SB2 and SB3. SB1 is located on the belt anchorage. Its height will be

determined by the anchorage location requirements of Standard No. 210. It is unlikely that the top of the mounting structure would reach the height of the head CG of the seated 50th percentile male Hybrid-III dummy. For mounting structures that do not reach that height, target SB2, which, as proposed, is at the same height of the head CG, would be located in open space above the top of the structure and, therefore, not exist. The third target, SB3, would, if located as proposed, be on the surface of the seat belt mounting structure 225 mm (9 inches) below a horizontal plane passing through the structure and the head CG of a Hybrid III 50th percentile male dummy seated at the adjacent rear outboard seating position. This target height is about 25 mm (1 inch) lower than that of other targets established by the Standard. NHTSA believes that it would be appropriate to elevate the target SB3 by at least 25 mm (1 inch) and to make the proposed definition of seat belt mounting structures more restrictive by incorporating a reference to a fixed height.

AAM's comments also noted that the NPRM contained an inconsistency. According to AAM, NHTSA indicated in the NPRM preamble that the approach angles used for door frame targets would be similar to those prescribed for B-pillars. However, AAM observed that the proposed regulatory text allows a downward rotation of 5 degrees when determining the proper offset to the vertical approach angle when the preamble and existing provisions for B-pillars indicate that the amount of downward rotation should be 10 degrees. AAM's observation is correct. The regulatory text is revised in this final rule for consistency.

AAM raised two issues related to the agency's proposed target locations for door frames. First, the organization indicated that if the proposed target OD2 were located on a pair of symmetric door frames, the target would fall into the gap where the two doors meet when closed. As such a target location would not be contactable by the FMH, AAM requested that NHTSA "confirm" that such a target would have to be relocated using the procedures specified in S10(b) and (c). AAM also indicated that a reference point used in the target location procedure for door frames, DFR, might be located below the beltline of the vehicle. The AAM observed that locating this reference point is inconsistent with reducing injuries caused by impact with the upper interior of the vehicle.

The agency agrees that if a designated target point is not contactable by the forehead impact zone of the FMH, then

the target point must be relocated using the procedure specified in S10(b) and (c). Therefore, if the OD2 target circle were located in the "gap" between two doors and could not be struck by the FMH, it would have to be relocated. NHTSA does not agree with AAM's position that a reference point used to determine target locations must be located above the vehicle beltline. We note that other reference points used in Standard No. 201 are below the vehicle beltline. For instance, the seating reference point, SgRP, is used as a reference point for locating several target points and is below the vehicle beltline.

Finally, AAM requested that NHTSA set the effective date for the proposed door frame and seat belt mounting structure requirements not less than three years from the publication date of the final rule, instead of 180 days from publication of the final rule. AAM observed that the August 1995 final rule establishing the upper interior head protection requirements allowed a minimum lead of three years before the first year of a phase-in. The organization argued that a similar leadtime would be needed for the new target areas in our proposal. The agency does not agree. We note that manufacturers have gained significant knowledge and expertise in developing and employing the countermeasures required to meet the upper interior head impact protection requirements since the promulgation of the final rule in 1995. The components affected by the agency's proposal, door frames and seat belt mounting structures, are similar to pillars and other components that must now comply. Countermeasures currently in use can be readily adapted and applied to door frames and seat belt mounting structures. Thus, a leadtime of 18 months is adequate.

#### *B. Bornemann Products*

The comments submitted by Bornemann are general in nature and directed toward the overall impact of the upper interior head protection requirements on small manufacturers of multi-stage vehicles and other companies that supply components for those vehicles. Bornemann suggested that the phase-in period for all manufacturers should be extended for an additional two years beyond the current final phase-in date of September 1, 2002 due to the limited availability of testing facilities and the agency proposal to add new requirements. In addition to requesting an extension of the existing phase-in, Bornemann commented that the cost of testing each vehicle was high, and that NHTSA had

placed an undue burden on multi-stage and small volume manufacturers. Bornemann suggested that NHTSA should either provide a "reasonable" means of alternative testing for compliance, or exclude multi-stage and small volume manufacturers from the headform impact test requirements of FMVSS No. 201. In support of this request, Bornemann indicated that the current cost of compliance testing was approximately \$48,000 per vehicle model and that designing some vehicles with outside engineering firms could cost up to \$600,000 per vehicle. Finally, Bornemann asserted that NHTSA should reconsider the need to harmonize the Standard No. 201's requirements with other countries.

We note first that the comments submitted by Bornemann requested changes that are beyond the scope of the agency's proposal and with the exception of additional costs imposed by that proposal, which Bornemann's comments do not specifically address, have only an indirect bearing on this final rule. However, the comments submitted by Bornemann are virtually identical to the allegations contained in petitions for rulemaking filed by the Recreation Vehicle Industry Association (RVIA) on October 4, 2001 and the National Truck Equipment Association (NTEA) on November 27, 2001. Both petitions requested that NHTSA extend the existing phase-in for manufacturers of multi-stage vehicles (*i.e.*, the fourth one described above) from September 1, 2002 to March 1, 2004. By letters dated March 28 and April 5, 2002, NHTSA indicated it was granting the petitions. On August 28, 2003, the agency published an interim final rule in the **Federal Register** (68 FR 51706) postponing the date by which manufacturers of vehicles built in two or more stages must comply with the upper interior head protection requirements of Standard No. 201. Accordingly, we have determined that Bornemann's concerns have been more properly addressed in our response to the RVIA and NTEA petitions.

With respect to Bornemann's suggestion that FMVSS No. 201 be harmonized with the requirements of other countries, the agency has worked through the United Nations, Economic Commission for Europe, and World Forum for Harmonization of Vehicle Regulations to harmonize head protection requirements. FMVSS No. 201 is currently being examined as a basis for development of a global regulation.

#### IV. Final Rule

After careful consideration of the comments submitted by AAM and Bornemann, NHTSA is adopting the proposal contained in the NPRM with several modifications. These modifications include changing the method used to determine the appropriate distance for excluding impacts on adjacent targets to prevent impact overlap, modifying the proposed definition of seat belt mounting structures, modifying the definition of "B-pillar," and establishing the correct offset for the vertical approach angle used for door frame targets.

In regard to preventing impact overlap, the agency has examined its original proposal, the method suggested by AAM, and a modified version of the AAM method developed by NHTSA. All of these methods have certain limitations. In an effort to seek an effective resolution, NHTSA examined whether a 200 mm (8 inch) separation distance would be adequate to eliminate impact overlap. The results of this examination indicated that the 200 mm (8 inch) distance originally proposed is adequate to prevent impact overlap. Comparison of a modified version of the AAM method and the agency's original proposal led NHTSA to determine that a modified version of the AAM proposal would provide the most practicable method. The final rule specifies that no impact on any target may occur within the "exclusion zone" of any pillar target (including those not actually located on pillars but designated as pillar targets), door frame target, upper roof target or seat belt mounting structure target. The "exclusion zone" is to be determined by first locating a 200 mm (8 inch) sphere and a 150 mm (6 inch) sphere centered on the designated target. After the spheres are located, two vertical planes are located 150 mm (6 inches) on either side of the intended target. The horizontal angles of the two aforementioned planes are parallel to, and determined by, the horizontal approach angle used in testing the intended target within the "exclusion zone." The two spheres are then projected onto the vehicle interior and the exclusion zone is that area of the vehicle interior located between the vertical planes below the boundary of the smaller sphere and above the boundary of the larger sphere. The result is an oval shape representative of the outline of the FMH.

As indicated above, a 200 mm (8 inch) distance is, in our view, sufficient to prevent impact overlap caused by the impact of the lower portion of the FMH with targets other than the intended

target. Similarly, the left, right, and upper boundaries of the "exclusion zone," which are not less than 150 mm (6 inches) from the center of the intended target circle, will prevent impact overlap on targets above and to the sides of the intended target. Targets whose centers are located within the "exclusion zone" will not be tested. Targets whose centers are on or outside the boundary of the "exclusion zone" will remain subject to testing.

The final rule also expressly specifies that the "exclusion zone" would apply to all designated pillar targets, upper roof targets, door frame targets and seat belt mounting structure targets. This alleviates concerns that the component-based approach used in our proposal would prevent application of the exclusion zone to impacts on targets that are not located on specific components such as pillars.

The final rule also clarifies the definition of "seat belt mounting structure" in order to address concerns that the agency's proposed definition would include seat belt anchorages located on rear quarter panels. The revised definition establishes that a seat belt mounting structure is a component of the vehicle that is not a pillar or part of the roof, serves as a mounting point for an upper seat belt anchorage and is located above a horizontal plane 460 mm (18 inches) above the seating reference point of the closest adjacent designated outboard seating position. In addition, the final rule modifies the prior definition of "B-pillar" in order to clarify the status of pillars immediately behind "door frame" targets. As the agency considers door frames to be pillar surrogates, NHTSA believes that any door frame aft of the A-pillar and forward of any other pillars is the equivalent of the B-pillar. However, as defined prior to the issuance of this final rule, "B-pillar" would have included any pillar immediately behind a door frame. The final rule modifies the definition of "B-pillar" to make it clear that where a door frame occupies the position of the B-pillar, pillars behind that door frame are not B-pillars.

The final rule also corrects typographical errors. The agency's proposal incorrectly referred to SB2 rather than SB3 in the final sentence of S10.16(c) and, in proposing revisions to S8.13.4.2(b)(2), incorrectly stated that the FMH is rotated downward by five degrees, instead of ten degrees, to determine the maximum vertical approach angle.

#### V. Effective Date

The agency does not agree with AAM's view that a three year leadtime

is necessary for the new targets on door frames and seat belt mounting structures. The agency's proposal indicated that the new requirements would become effective 180 days from the date of publication of the final rule. NHTSA recognizes that new tooling and molds will likely be necessary to manufacture countermeasures for the door frames and other surfaces encompassed by this rule even though technologies already developed for other target areas inside vehicles can be readily adapted to the new target areas. Therefore, we believe that the principal challenge in implementing these countermeasures will be found in production rather than design and development. The final rule adds a provision to S6.3 providing that the door frame and seat belt mounting structure requirements will become effective for the first model year that occurs 18 months or more after the publication of the final rule. We believe that this effective date serves the public interest by providing manufacturers sufficient time to design and produce countermeasures for these target areas without imposing undue economic burdens. (As with other safety standards, we construe model years to begin on September 1 of the preceding calendar year.) The amendments addressing the revisions to S8.14 governing multiple impacts will become effective 180 days after publication of this final rule.

#### VI. Rulemaking Analyses and Notices

##### A. Regulatory Policies and Procedures

Executive Order 12866, "Regulatory Planning and Review" (58 FR 51735, October 4, 1993), provides for making determinations whether a regulatory action is "significant" and therefore subject to Office of Management and Budget (OMB) review and to the requirements of the Executive Order. The Order defines a "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or



(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

We have considered the impact of this rulemaking action under Executive Order 12866 and the Department of Transportation's regulatory policies and procedures. This rulemaking document was not reviewed by the Office of Management and Budget under E.O. 12866. It is also not considered to be significant under the Department's Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

This document amends 49 CFR Part 571.201 by modifying existing test procedures to increase the minimum separation distance between tested targets. It also adds targets on certain door frames and seat belt mounting structures not previously covered by the Standard. The agency notes that these structures, *i.e.*, door frames and freestanding seat belt mounting structures, are not, to NHTSA's knowledge, present in vehicles with more conventional configurations. In particular, seat belt mounting structures appear to be used only in soft top vehicles where no roof structure, pillars (except the A pillar), roll bars or stiffeners exist.

The economic analysis prepared by NHTSA in conjunction with our August 1995 final rule was based on the assumption that all vehicles would have conventional pillar layouts. As a result of that assumption, vehicles that had pillar-like structures instead of pillars were mistakenly included in that analysis and were treated, for the purpose of estimating costs, as though they had conventional pillar layouts. The number of pillars that these vehicles were assumed to have is the same as the total number of pillars and pillar-like structures that they actually have.

The agency has concluded that the costs of installing countermeasures on these pillar-like structures will not differ appreciably from installing the same countermeasures on pillars. Thus, despite the erroneous assumptions, the previous economic analysis correctly estimated the compliance costs for vehicles with pillar-like structures, and included those costs in the overall estimate of the costs of the upper interior head protection requirements. Since the economic costs of extending those requirements to vehicles with surrogate pillars have already been accounted for, we believe that the economic impacts of this final rule do not warrant further regulatory evaluation.

#### *B. Executive Order 13132 (Federalism)*

The agency has analyzed this rulemaking action in accordance with the principles and criteria set forth in Executive Order 13132. This final rule does not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

#### *C. Executive Order 13045*

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) is determined to be "economically significant" as defined under E.O. 12866, and (2) concerns an environmental, health or safety risk that NHTSA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, we must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by us.

This rule is not subject to the Executive Order because it is not economically significant as defined in E.O. 12866 and does not involve decisions based on environmental, safety or health risks having a disproportionate impact on children.

#### *D. Executive Order 12778*

Pursuant to Executive Order 12778, "Civil Justice Reform," we have considered whether this final rule will have any retroactive effect. We conclude that it will not have such effect. Under 49 U.S.C. 30103, whenever a Federal motor vehicle safety standard is in effect, a State may not adopt or maintain a safety standard applicable to the same aspect of performance which is not identical to the Federal standard, except to the extent that the state requirement imposes a higher level of performance and applies only to vehicles procured for the State's use. 49 U.S.C. 30161 sets forth a procedure for judicial review of final rules establishing, amending or revoking Federal motor vehicle safety standards. That section does not require submission of a petition for reconsideration or other administrative proceedings before parties may file suit in court.

#### *E. Regulatory Flexibility Act*

Pursuant to the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996) whenever an agency is required to publish a notice of rulemaking for any

proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small governmental jurisdictions). However, no regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities.

The Administrator has considered the effects of this rulemaking action under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) and certifies that this final rule will not have a significant economic impact on a substantial number of small entities. We estimate that there are at most five small manufacturers of passenger cars in the U.S., producing a combined total of at most 500 cars each year. We do not believe small businesses manufacture even 0.1 percent of total U.S. passenger car and light truck production each year.

The primary cost effect of the requirements will be on manufacturers of passenger cars and LTVs. Final stage manufacturers, those who use incomplete vehicles produced by larger manufacturers to produce specialty products, are generally small businesses. However, NHTSA believes that this final rule is not burdensome for final stage manufacturers. The amendments in this rulemaking impose additional mandatory requirements only on those vehicles with specific door configurations or specialized seat belt mounting structures. We note that vehicles with these configurations presently represent only a small percentage of annual production and are typically not used as base vehicles by final stage manufacturers. Accordingly, the agency has not prepared a regulatory flexibility analysis.

#### *F. National Environmental Policy Act*

We have analyzed this final rule amendment for the purposes of the National Environmental Policy Act and determined that it will not have any significant impact on the quality of the human environment.

#### *G. Paperwork Reduction Act*

Under the Paperwork Reduction Act of 1995, a person is not required to respond to a collection of information by a Federal agency unless the

collection displays a valid OMB control number. This final rule does not adopt any new information collection requirements.

*H. National Technology Transfer And Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104-113, section 12(d) (15 U.S.C. 272) directs us to use voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs us to provide Congress, through OMB, explanations when we decide not to use available and applicable voluntary consensus standards. We note that there are no available voluntary consensus standards that are equivalent to Standard No. 201.

*I. Unfunded Mandates Reform Act*

Section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA) requires Federal agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than \$100 million in any one year (adjusted for inflation with base year of 1995). Before promulgating a NHTSA rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if we publish with the final rule an explanation why that alternative was not adopted.

This final rule will not result in costs of \$100 million or more to either State,

local, or tribal governments, in the aggregate, or to the private sector. Thus, this final rule is not subject to the requirements of sections 202 and 205 of the UMRA.

*J. Regulation Identifier Number (RIN)*

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN contained in the heading at the beginning of this document to find this action in the Unified Agenda.

**List of Subjects in 49 CFR Part 571**

Imports, Motor vehicle safety, Motor vehicles, Rubber and rubber products, Tires.

■ In consideration of the foregoing, 49 CFR part 571 is amended as follows:

**PART 571—[AMENDED]**

■ 1. The authority citation for part 571 continues to read as follows:

**Authority:** 49 U.S.C. 322, 21411, 21415, 21417, and 21466; delegation of authority at 49 CFR 1.50.

■ 2. Section 571.201 is amended by revising the definition of B-pillar in S3 and adding, in alphabetical order, definitions of B-pillar, Door frame, Other door frame, and Seat belt mounting structure to S3; by adding S6.3(e) and SB.13.4.1(e) through (h); revising S8.13.4.2(b), S8.14, and S10(a) through (b); and by adding S10.14, S10.15 and S10.16 to read as follows:

**§571.201 Standard No. 201; Occupant protection in interior impact.**

\* \* \* \* \*  
S3. \* \* \*  
\* \* \* \* \*

*B-pillar* means the forwardmost pillar on each side of the vehicle that is, in whole or in part, rearward of a transverse vertical plane passing through the seating reference point of the driver's seat, unless:

- (1) There is only one pillar rearward of that plane and it is also a rearward pillar; or
- (2) There is a door frame rearward of the A-pillar and forward of any other pillar or rearward pillar.

\* \* \* \* \*

*Door frame* means the rearmost perimeter structure, including trim but excluding glass, of the forward door and the forwardmost perimeter structure, including trim but excluding glass, of the rear door of a pair of adjacent side doors that:

- (1) Have opposing hinges;
- (2) Latch together without engaging or contacting an intervening pillar;
- (3) Are forward of any pillar other than the A-pillar on the same side of the vehicle; and
- (4) Are rearward of the A-pillar.

\* \* \* \* \*

*Other door frame* means the rearmost perimeter structure, including trim but excluding glass, of the forward door and the forwardmost perimeter structure, including trim but excluding glass, of the rear door of a pair of adjacent side doors that:

- (1) Have opposing hinges;
- (2) Latch together without engaging or contacting an intervening pillar; and
- (3) Are rearward of the B-pillar.

\* \* \* \* \*

*Seat belt mounting structure* means a component of the vehicle body or frame, including trim, extending above a horizontal plane 460 mm above the seating reference point, SgRP, of the closest outboard designated seating position, with an upper seat belt anchorage conforming to the requirements of S4.2.1. and S4.3.2 of Standard No. 210 (49 CFR 571.210) attached to it, and is not a pillar, roll bar, brace or stiffener, side rail, seat, or part of the roof.

\* \* \* \* \*

S6.3 A vehicle need not meet the requirements of S6.1 through S6.2 for:

\* \* \* \* \*

(e) Any target located on the seat belt mounting structures, door frames and other door frames before September 1, 2005.

\* \* \* \* \*

S8.13.4 *Approach angles.* The headform launching angle is as specified in Table 1. For components for which Table 1 specifies a range of angles, the headform launching angle is within the limits determined using the procedures specified in S8.13.4.1 and S8.13.4.2, and within the range specified in Table 1, using the orthogonal reference system specified in S9.

TABLE 1.—APPROACH ANGLE LIMITS (IN DEGREES)

Target component	Horizontal Angle	Vertical angle
Front Header .....	180 .....	0–50

TABLE 1.—APPROACH ANGLE LIMITS (IN DEGREES)—Continued

Target component	Horizontal Angle	Vertical angle
Rear Header .....	0 or 360 .....	0–50
Left Side Rail .....	270 .....	0–50
Right Side Rail .....	90 .....	0–50
Left Sliding Door Track .....	270 .....	0–50
Right Sliding Door Track .....	90 .....	0–50
Left A-Pillar .....	195–255 .....	–5–50
Right A-Pillar .....	105–165 .....	–5–50
Left B-Pillar .....	195–345 .....	–10–50
Right B-Pillar .....	15–165 .....	–10–50
Left Door Frame .....	195–345 .....	–10–50
Right Door Frame .....	15–165 .....	–10–50
Other Left Pillars .....	270 .....	–10–50
Other Right Pillars .....	90 .....	–10–50
Other Left Door Frame .....	270 .....	–10–50
Other Right Door Frame .....	90 .....	–10–50
Left Rearmost Pillar .....	270–345 .....	–10–50
Right Rearmost Pillar .....	15–90 .....	–10–50
Upper Roof .....	Any .....	0–50
Overhead Rollbar .....	0 or 180 .....	0–50
Brace or Stiffener .....	90 or 270 .....	0–50
Left Seat Belt Mounting Structure .....	195–345 .....	–10–50
Right Seat Belt Mounting Structure .....	15–165 .....	–10–50
Seat Belt Anchorages .....	Any .....	0–50

\* \* \* \* \*

S8.13.4.1 *Horizontal approach angles for headform impacts.*

\* \* \*

(e) *Left door frame horizontal approach angles.*

(1) Locate a line formed by the shortest horizontal distance between CG–F2 for the left seat and the left door frame. The maximum horizontal approach angle for the left door frame equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise, or 270 degrees, whichever is greater.

(2) Locate a line formed by the shortest horizontal distance between CG–R for the left seat and the left door frame. The minimum horizontal approach angle for the left door frame equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise.

(f) *Right door frame horizontal approach angles.*

(1) Locate a line formed by the shortest horizontal distance between CG–F2 for the right seat and the right door frame. The minimum horizontal approach angle for the right door frame equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise, or 90 degrees, whichever is less.

(2) Locate a line formed by the shortest horizontal distance between CG–R for the right seat and the right door frame. The maximum horizontal approach angle for the right door frame equals the angle formed by that line and

the X-axis of the vehicle measured counterclockwise

(g) *Left seat belt mounting structure horizontal approach angles.*

(1) Locate a line formed by the shortest horizontal distance between CG–F2 for the left seat and the left seat belt mounting structure. If the seat belt mounting structure is below a horizontal plane passing through CG–F2 for the left seat, locate the point 200 mm directly below CG–F2 and locate a line formed by the shortest horizontal distance between that point and the left seat belt mounting structure. The maximum horizontal approach angle for the left seat belt mounting structure equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise, or 270 degrees, whichever is greater.

(2) Locate a line formed by the shortest horizontal distance between CG–R for the left seat and the left seat belt mounting structure. If the seat belt mounting structure is below a horizontal plane passing through CG–R for the left seat, locate the point 200 mm directly below CG–R and locate a line formed by the shortest horizontal distance between that point and the left seat belt mounting structure. The minimum horizontal approach angle for the left seat belt mounting structure equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise. If the CG–R does not exist, or is forward of the seat belt mounting structure, the maximum horizontal approach angle is 270 degrees.

(h) *Right seat belt mounting structure horizontal approach angles.*

(1) Locate a line formed by the shortest horizontal distance between CG–F2 for the right seat and the right seat belt mounting structure. If the seat belt mounting structure is below a horizontal plane passing through CG–F2 for the right seat, locate the point 200 mm directly below that CG–F2 and locate a line formed by the shortest horizontal distance between that point and the right seat belt mounting structure. The minimum horizontal approach angle for the right seat belt mounting structure equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise, or 90 degrees, whichever is less.

(2) Locate a line formed by the shortest horizontal distance between CG–R for the right seat and the right seat belt mounting structure. If the seat belt mounting structure is below a horizontal plane passing through CG–R, locate the point 200 mm directly below CG–R and locate a line formed by the shortest horizontal distance between that point and the right seat belt mounting structure. The maximum horizontal approach angle for the right seat belt mounting structure equals the angle formed by that line and the X-axis of the vehicle measured counterclockwise. If the CG–R does not exist, or is forward of the seat belt mounting structure, the maximum horizontal approach angle is 90 degrees.

S8.13.4.2 *Vertical approach angles.*

\* \* \*  
\* \* \*

(2) For all pillars, except A-pillars, and all door frames and seat belt mounting structures, keeping the forehead impact zone in contact with the target, rotate the FMH downward by 10 degrees for each target to determine the maximum vertical angle.

#### S8.14 Multiple impacts.

(a) A vehicle being tested may be impacted multiple times, subject to the limitations in S8.14(b), (c), (d) and (e).

(b) As measured as provided in S8.14(d), impacts within 300 mm of each other may not occur less than 30 minutes apart.

(c) As measured as provided in S8.14(d), no impact may occur within 150 mm of any other impact.

(d) For S8.14(b) and S8.14(c), the distance between impacts is the distance between the center of the target circle specified in S8.11 for each impact, measured along the vehicle interior.

(e) No impact may occur within the "exclusion zone" of any pillar target specified in S10.1 through S10.4, door frame target specified in S10.14 and S10.15, upper roof target specified in S10.9, or seat belt mounting structure target specified in S10.16. The "exclusion zone" is determined according to the procedure in S8.14(f) through S8.14(k).

(f) Locate the point, Point X, at the center of the target circle specified in S8.11 for the tested target.

(g) Determine two spheres centered on Point X. Radii of these spheres are 150 mm and 200 mm, respectively.

(h) Locate a horizontal plane passing through Point X. Determine the intersection points, if they exist, of the small sphere surface, the horizontal plane, and the vehicle interior surface. Relative to Point X, the point on the left is Point L and the point on the right is Point R.

(i) Locate a vertical plane, Plane Z, passing through Point X and coincident (within  $\pm 5^\circ$ ) with the horizontal approach angle used or intended for use in testing the target centered on Point X.

(j) If either Point L or Point R does not exist, extend Line LX and/or Line RX, as appropriate, perpendicular to Plane Z beyond Point X by 150 mm. The end of the line is designated as Point L or Point R, as appropriate.

(k) Locate a vertical plane, Plane ZL, passing through Point L and parallel to Plane Z. Locate another vertical plane, Plane ZR, passing through Point R and parallel to Plane Z. The "exclusion zone" is the vehicle interior surface area between Plane ZL and Plane ZR below the upper boundary of the smaller sphere and above the lower boundary of the larger sphere. Points on the

intersection of the vehicle interior surface and the large sphere below the target, the small sphere above the target, Plane ZL and Plane ZR are not included in the "exclusion zone."

\* \* \* \* \*

#### S10 \* \* \*

(a) The target locations specified in S10.1 through S10.16 are located on both sides of the vehicle and, except as specified in S10(b), are determined using the procedures specified in those paragraphs.

(b) Except as specified in S10(c), if there is no combination of horizontal and vertical angles specified in S8.13.4 at which the forehead impact zone of the free motion headform can contact one of the targets located using the procedures in S10.1 through S10.16, the center of that target is moved to any location within a sphere with a radius of 25 mm, centered on the center of the original target, which the forehead impact zone can contact at one or more combination of angles.

\* \* \* \* \*

#### S10.14 Door frame targets.

(a) *Target DF 1.* Locate the point (Point 21) on the vehicle interior at the intersection of the horizontal plane passing through the highest point of the forward door opening and a transverse vertical plane (Plane 32) tangent to the rearmost edge of the forward door, as viewed laterally with the adjacent door open. Locate the point (Point 22) at the intersection of the interior roof surface, Plane 32, and the plane, described in S8.15(h), defining the nearest edge of the upper roof. The door frame reference point (Point DFR) is the point located at the middle of the line from Point 21 to Point 22 in Plane 32, measured along the vehicle interior surface. Target DF1 is located at Point DFR.

(b) *Target DF2.* If a seat belt anchorage is located on the door frame, Target DF2 is located at any point on the anchorage.

(c) *Target DF3.* Locate a horizontal plane (Plane 33) which intersects Point DFR. Locate a horizontal plane (Plane 34) that passes through the lowest point of the adjacent daylight opening forward of the door frame. Locate a horizontal plane (Plane 35) half-way between Plane 33 and Plane 34. Target DF3 is the point located in Plane 35 and on the interior surface of the door frame, which is closest to CG-F2 for the nearest seating position.

(d) *Target DF4.* Locate a horizontal plane (Plane 36) half-way between Plane 34 and Plane 35. Target DF4 is the point located in Plane 36 and on the interior surface of the door frame that is closest to CG-R for the nearest seating position.

#### S10.15 Other door frame targets.

#### (a) Target OD1.

(1) Except as provided in S10.15(a)(2), target OD1 is located in accordance with this paragraph. Locate the point (Point 23) on the vehicle interior, at the intersection of the horizontal plane through the highest point of the highest adjacent door opening or daylight opening (if there is no adjacent door opening) and the center line of the width of the other door frame, as viewed laterally with the doors in the closed position. Locate a transverse vertical plane (Plane 37) passing through Point 23. Locate the point (Point 24) at the intersection of the interior roof surface, Plane 37 and the plane, described in S8.15(h), defining the nearest edge of the upper roof. The other door frame reference point (Point ODR) is the point located at the middle of the line between Point 23 and Point 24 in Plane 37, measured along the vehicle interior surface. Target OD1 is located at Point ODR.

(2) If a seat belt anchorage is located on the door frame, Target OD1 is any point on the anchorage.

(b) *Target OD2.* Locate the horizontal plane (Plane 38) intersecting Point ODR. Locate a horizontal plane (Plane 39) passing through the lowest point of the daylight opening forward of the door frame. Locate a horizontal plane (Plane 40) half-way between Plane 38 and Plane 39. Target OD2 is the point located on the interior surface of the door frame at the intersection of Plane 40 and the center line of the width of the door frames, as viewed laterally, with the doors in the closed position.

#### S10.16 Seat belt mounting structure targets.

(a) *Target SB1.* Target SB1 is located at any point on the seat belt anchorage mounted on the seat belt mounting structure.

(b) *Target SB2.* Locate a horizontal plane (Plane 41), containing either CG-F2 or CG-R, as appropriate, for any outboard designated seating position whose seating reference point, SgRP, is forward of and closest to, the vertical center line of the width of the seat belt mounting structure as viewed laterally. Target SB2 is located on the seat belt mounting structure and in Plane 41 at the location closest to either CG-F2 or CG-R, as appropriate.

(c) *Target SB3.* Locate a horizontal plane (Plane 42), containing CG-R for any outboard designated seating position rearward of the forwardmost designated seating position or positions whose seating reference point, SgRP, is rearward of and closest to, the vertical center line of the width of the seat belt mounting structure, as viewed laterally. Locate a horizontal plane (Plane 43) 200

mm below Plane 42. Target SB3 is located on the seat belt mounting structure and in Plane 43 at the location close to CG—R, as appropriate.

Issued on February 23, 2004.

**Jeffrey W. Runge,**  
Administrator.

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## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

#### 49 CFR Part 571

[Docket No. NHTSA 2003–14165; Notice 2]

#### Federal Motor Vehicle Safety Standards

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), DOT.

**ACTION:** Response to petitions for reconsideration.

**SUMMARY:** On January 6, 2003, the agency published a final rule amending Federal Motor Vehicle Safety Standard (FMVSS) No. 208, “Occupant crash protection.” That final rule responded, in part, to petitions for reconsideration of the December 18, 2001, final rule. The Association of International Automobile Manufacturers (AIAM), the Alliance of Automobile Manufacturers (Alliance), and the American Honda Motor Co., Inc. (Honda) submitted petitions for reconsideration of the January 6, 2003, final rule.

The petitioners request that the time duration for low risk deployment (LRD) testing for the 5th percentile female and rear facing infant dummies be reduced to 100 milliseconds (ms). Petitioners also requested the option of testing at either the previous or current target points for one of the 5th percentile female LRD tests. Finally, the petitioners requested that the removable label located on the dashboard or steering wheel hub have a bullet added to make it consistent with the new visor label.

NHTSA published a technical amendment on August 20, 2003 (68 FR 50077), addressing the label issue. This document denies the remaining petitions for reconsideration of the January 6, 2003, final rule.

**FOR FURTHER INFORMATION CONTACT:** For non-legal issues: Louis Molino, Office of Crashworthiness Standards, NVS–112, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, DC 20590. Telephone (202) 366–2264. Fax: (202) 493–2290.

For legal issues, Christopher Calamita or Rebecca MacPherson, Office of Chief Counsel, at (202) 366–2992. Fax: (202) 366–3820.

#### SUPPLEMENTARY INFORMATION:

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##### I. Background

On December 18, 2001, NHTSA issued a final rule, Response to Petitions for Reconsideration of Federal Motor Vehicle Safety Standard (FMVSS) No. 208, “Occupant Crash Protection” (66 FR 65376). The December 18, 2001, final rule was in response to petitions for reconsideration of the May 12, 2000, final rule (65 FR 30680), which, among other things, added advanced air bag requirements to FMVSS No. 208. By February 6, 2002, NHTSA received 10 petitions for reconsideration of the December 18, 2001, rule. On January 6, 2003, the agency published a Final Rule (68 FR 504), which responded, in part, to these petitions for reconsideration of the December 18, 2001, final rule. The January 6, 2003, final rule specifically addressed several issues. These were the length of time data are collected during low risk deployment (LRD) tests for the three-year-old (3YO) and six-year-old (6YO) dummy positions, a change in dummy positioning procedure for one of the driver position LRD tests, and issues related to the air bag warning labels and the telltale that indicates when the passenger air bag has been automatically suppressed.

##### II. The Petitions

The Association of International Automobile Manufacturers (AIAM), the Alliance of Automobile Manufacturers (Alliance), and Honda submitted petitions for reconsideration of the January 6, 2003, final rule. The petitions addressed the following issues.

###### A. Time Duration for Low Risk Deployment (LRD) Testing

In the January 6, 2003, final rule (68 FR 504) the agency modified the LRD test procedure using the 3YO and 6YO dummies such that the data acquisition would be limited to 100 ms after initiation of the first stage of air bag deployment. Previously, the data acquisition period was 125 ms after initiation of the final stage of air bag deployment. We stated our rationale for

modifying the data acquisition period for the 3YO and 6YO tests as follows:

We agree with manufacturers that high injury measurements due to secondary impacts can be an artifact of the low risk deployment test. The 100 ms time frame adopted today will minimize the likelihood that a vehicle occupant will be thrown into the seat back or other vehicle component prior to 100 ms, as vehicle manufacturers will need to ensure that their air bags are sufficiently benign to avoid such contacts during that time frame.

The Alliance and Honda subsequently requested that the agency reconsider its decision not to reduce the time duration for the 5th percentile female driver LRD test to 100 ms. Both the Alliance and Honda provided test data from a single LRD test using a 5th percentile female dummy. The Alliance further requested that the same duration be set for the rear-facing infant LRD test.

In its petition, the Alliance characterized the data previously provided for the 3YO and 6YO LRD tests as follows:

[T]he 3 and 6-year-old tests demonstrated that secondary impacts from static deployments were significantly more severe than those encountered in real world crashes due to the momentum of the occupant in such crashes. Since the fifth female has a greater mass than the 6-year-old, the influence of dummy momentum in reducing secondary impact severity in real world crashes is expected to be even greater.

For the rear-facing infant test, the Alliance argued that the agency’s previous justification, that the infant in a rear-facing child restraint system will not have significant momentum, is not correct. It contended:

Based on the laws of physics, the Alliance agrees with NHTSA that the seat belt will reduce the momentum of the child and child restraint in the brief time interval between the crash initiation and the time when the air bag significantly interacts with the child restraint. However, since seat belts can only provide tensile forces (not compression), once the rear facing child seat interacts with the air bag and begins to move/pivot toward the vehicle seat back the belts become slack and no longer react [to] the remaining momentum of the child seat/dummy. Since this occurs very early in the crash, there is still a significant “momentum effect” that reduces the seat back interaction in real world crashes compared to that measured in static deployment tests.

###### 1. Discussion and Analysis

In the agency’s original analysis that led to the reduction in the data acquisition period for the 3YO and 6YO dummy tests, we also considered reducing the duration for the LRD tests using the rear-facing infant and 5th percentile female driver dummies (68