

Administrator shall next allocate funds toward the requests for internal connections submitted by schools and libraries eligible for an 80 percent discount, then for a 70 percent discount, and shall continue committing funds for internal connections in the same manner to the applicants at each descending discount level until there are no funds remaining.

* * * * *

■ 5. Section 54.517 is amended by revising paragraph (b) to read as follows:

§ 54.517 Services provided by non-telecommunications carriers.

* * * * *

(b) *Supported services.* Non-telecommunications carriers shall be eligible for universal service support under this subpart for providing interconnected voice over Internet protocol (VoIP), voice mail, Internet access, and installation and maintenance of internal connections.

* * * * *

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA-2009-0093]

RIN 2127-AG51

Federal Motor Vehicle Safety Standards; Roof Crush Resistance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Final rule; further response to comments.

SUMMARY: In May 2009, NHTSA published a final rule that upgraded the agency's safety standard on roof crush resistance. This document provides a further response to comments submitted by the National Truck Equipment Association (NTEA) during that rulemaking.

FOR FURTHER INFORMATION CONTACT: For non-legal issues, you may call Christopher J. Wiacek, NHTSA Office of Crashworthiness Standards, telephone 202-366-4801. For legal issues, you may call J. Edward Glancy, NHTSA Office of Chief Counsel, telephone 202-366-2992. You may send mail to these officials at the National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., West Building, Washington, DC 20590.

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I. Background

A. Final Rule Upgrading FMVSS No. 216

On May 12, 2009, as part of a comprehensive plan for reducing the serious risk of rollover crashes and the risk of death and serious injury in those crashes, NHTSA published in the **Federal Register** (74 FR 22348) a final rule substantially upgrading Federal Motor Vehicle Safety Standard (FMVSS) No. 216, *Roof Crush Resistance*. The upgraded standard is designated FMVSS No. 216a.

First, for the vehicles previously subject to the standard, i.e., passenger cars and multipurpose passenger vehicles, trucks and buses with a Gross Vehicle Weight Rating (GVWR) of 2,722 kilograms (6,000 pounds) or less, the rule doubled the amount of force the vehicle's roof structure must withstand in the specified test, from 1.5 times the vehicle's unloaded weight to 3.0 times the vehicle's unloaded weight. We note that this value is sometimes referred to as the strength-to-weight ratio (SWR), e.g., a SWR of 1.5, 2.0, 2.5, and so forth.

Second, the rule extended the applicability of the standard so that it will also apply to vehicles with a GVWR

greater than 2,722 kilograms (6,000 pounds), but not greater than 4,536 kilograms (10,000 pounds). The rule established a force requirement of 1.5 times the vehicle's unloaded weight for these newly included vehicles.

Third, the rule required all of the above vehicles to meet the specified force requirements in a two-sided test, instead of a single-sided test. For the two-sided test, the same vehicle must meet the force requirements when tested first on one side and then on the other side of the vehicle.

Fourth, the rule established a new requirement for maintenance of headroom, i.e., survival space, during testing in addition to the existing limit on the amount of roof crush. The rule also included a number of special provisions, including ones related to leadtime, to address the needs of multi-stage manufacturers, alterers, and small volume manufacturers.

B. Challenge by NTEA

NTEA filed a petition for review of the May 2009 final rule in the United States Court of Appeals for the Sixth Circuit. That organization had submitted comments during the rulemaking opposing the agency's proposed revisions with respect to multi-stage vehicles.

C. Consent Motion To Stay Briefing Schedule

NHTSA filed with the Court a motion for a stay of the briefing schedule. The agency stated that it believed the Court's consideration of the challenge by NTEA would be facilitated by a fuller response to the comments that organization had submitted during the rulemaking, which would permit both NTEA and the Court to more fully address the agency's rationale. NHTSA also noted that petitions for reconsideration of the rule were pending before the agency. NTEA consented to the motion and the Court granted a six-month stay of the briefing schedule on October 2, 2009.

II. Today's Document and Related Actions

In this document, we provide a fuller response to comments submitted by NTEA on our proposal to upgrade FMVSS No. 216.

We are also publishing two separate documents related to the May 2009 final rule. One is a response to petitions for reconsideration of that rule. The other is a correcting rule. The correcting rule incorporates a provision that was discussed in the preamble but inadvertently omitted from the regulatory text. As explained in the preamble, the agency decided to

exclude a narrow category of multi-stage vehicles from FMVSS No. 216 altogether, multi-stage trucks with a GVWR greater than 2,722 kilograms (6,000 pounds) not built on either a chassis-cab or an incomplete vehicle with a full exterior van body. The regulatory text inadvertently omitted the reference to incomplete vehicles with a full exterior van body.

III. Multi-Stage Vehicles and the Multi-Stage Certification Scheme

A. Multi-Stage Vehicles

Multi-stage vehicles are motor vehicles that are produced in two or more stages. These vehicles are not produced by a single manufacturer on an assembly line as is the typical passenger car or sport utility vehicle. Instead, one manufacturer produces an "incomplete vehicle" which requires further manufacturing operations to become a completed vehicle. As defined in 49 CFR 567.3, an incomplete vehicle is an assemblage consisting, at a minimum, of chassis (including the frame) structure, power train, steering system, suspension system, and braking system, in the state that those systems are to be part of the completed vehicle, but requires further manufacturing operations to become a completed vehicle.¹

Most incomplete vehicles are manufactured by large manufacturers, such as General Motors, Ford and Chrysler. Most final-stage manufacturers are small businesses.² Multi-stage vehicles are aimed at a variety of niche markets, most of which are too small to be serviced economically by single stage manufacturers.

In terms of degree of completeness, the spectrum of incomplete vehicles ranges from a stripped chassis, i.e., an incomplete vehicle without an occupant compartment, to a chassis-cab. As defined in 49 CFR 567.3, a chassis-cab is an incomplete vehicle, with a completed occupant compartment, that requires only the addition of cargo-carrying, work-performing, or load-bearing components to perform its intended functions. A type of incomplete vehicle that falls between stripped chassis and chassis-cabs on this spectrum is a chassis cutaway, which is an incomplete vehicle delivered with a partial occupant compartment that does not have a rear wall.

In a typical situation, the incomplete vehicle is delivered to the final-stage

manufacturer which adds work-performing or cargo-carrying components to complete the vehicle. For example, the incomplete vehicle may be a chassis-cab, i.e., have a cab, but nothing built on the frame behind the cab. As completed, it may be a dry freight van (box truck), dump truck, tow truck, or plumber's truck. In some cases, there may also be intermediate stage manufacturers involved in the production of a multi-stage motor vehicle.

B. Safety Standards and Certification

NHTSA issues Federal motor vehicle safety standards applicable to the manufacture and sale of new motor vehicles and certain items of motor vehicle equipment under the authority of the National Traffic and Motor Vehicle Safety Act, as amended, codified as Chapter 301 of Title 49 of the United States Code, "Motor Vehicle Safety" (Vehicle Safety Act).³ The agency does not provide approvals of motor vehicles or equipment. Instead, the Vehicle Safety Act establishes a "self-certification" process under which each manufacturer is responsible for certifying that its products meet all applicable safety standards.⁴

Each of NHTSA's safety standards specifies the test conditions and procedures that the agency will use to evaluate the performance of the vehicle or equipment being tested for compliance with the particular safety standard. NHTSA follows these specified test procedures and conditions when conducting its compliance testing. However, manufacturers are not required to test their products in the manner specified in the relevant safety standard, or even to test the product at all, as their basis for certifying that the product complies with all relevant standards.

A manufacturer may evaluate its products in various ways to determine whether the vehicle or equipment will comply with the safety standards when tested by the agency according to the procedures specified in the standard and to provide a basis for its certification of compliance. Depending on the circumstances, the manufacturer may be able to base its certification on actual testing (according to the procedure specified in the standard or some other procedure), computer simulation, engineering analysis, engineering judgment or other means.⁵

All motor vehicles, whether single stage or multi-stage, must be certified to

meet applicable FMVSSs.⁶ NHTSA has developed specific certification regulations for multi-stage vehicles. The certification process is governed by 49 CFR part 567 *Certification*. 49 CFR 567.5 sets forth the certification requirements for manufacturers of vehicles manufactured in two or more stages. Certification responsibilities for the applicable FMVSSs are communicated between manufacturers with the use of an incomplete vehicle document (IVD). With limited exceptions,⁷ each manufacturer of an incomplete vehicle and each intermediate manufacturer⁸ assumes legal responsibility for all certification-related duties under the Vehicle Safety Act with respect to:

- (i) Components and systems it installs or supplies for installation on the incomplete vehicle, unless changed by a subsequent manufacturer;
- (ii) The vehicle as further manufactured or completed by an intermediate or final-stage manufacturer, to the extent that the vehicle is completed in accordance with the IVD; and
- (iii) The accuracy of the information contained in the IVD.⁹

Final-stage manufacturers have complementary duties. Pursuant to 49 CFR 567.5(d), final-stage manufacturers assume

legal responsibility for all certification-related duties and liabilities under the Vehicle Safety Act, except to the extent that the incomplete vehicle manufacturer or an intermediate manufacturer has provided equipment subject to a safety standard or expressly assumed responsibility for standards related to systems and components it supplied and except to the extent that the final-stage manufacturer completed the vehicle in accordance with the prior manufacturers' IVD or any addendum furnished pursuant to 49 CFR part 568, as to the Federal motor vehicle safety standards fully addressed therein.¹⁰

Final-stage manufacturers also have the duty to affix a certification label to each vehicle in a manner that does not obscure labels affixed by previous stage manufacturers and that, among other things, contains certification statements.¹¹ The final-stage manufacturer may make one of the following alternative certification statements: (1) The vehicle conforms to all applicable FMVSS; (2) the vehicle was completed in accordance with the prior manufacturers' IVD where applicable and conforms to all applicable FMVSS; or (3) the vehicle

¹ The definition of "incomplete vehicle" also includes incomplete trailers.

² As defined by The Regulatory Flexibility Act of 1980, as amended, 5 U.S.C. 601(3).

³ 49 U.S.C. 30101 *et seq.*

⁴ 49 U.S.C. 30112(a) and 30115.

⁵ See 71 FR 28183-28184.

⁶ 49 U.S.C. 30112(a) and 30115.

⁷ See 70 FR at 7432-33, 49 CFR 567.5(b) and (c).

⁸ In the remainder of the preamble, NHTSA will not discuss intermediate manufacturers separately.

⁹ 49 CFR 567.5(b)(1).

¹⁰ 49 CFR 567.5(d)(1).

¹¹ 49 CFR 567.5(d)(2).

was completed in accordance with the prior manufacturers' IVD where applicable except for certain listed exceptions by FMVSS and the vehicle conforms to all applicable FMVSS.¹²

As reflected above, the incomplete vehicle manufacturer furnishes an IVD for incomplete vehicles pursuant to 49 CFR 568.4. For each applicable FMVSS, the incomplete vehicle manufacturer makes one of three affirmative statements in the IVD: (1) a Type 1 statement that the vehicle when completed will conform to the standard if no alterations are made in identified components (this representation is most often made with respect to chassis-cabs since, as indicated earlier, they have a completed occupant compartment); (2) a Type 2 statement that sets forth the specific conditions of final manufacture under which the incomplete vehicle manufacturer specifies that the completed vehicle will conform to the standard (e.g., the vehicle, when completed, will meet the brake standard if it does not exceed gross axle weight ratings, the center of gravity at a specific vehicle weight rating is not above a certain height and no alterations are made to any brake system component on the incomplete vehicle); or (3) a Type 3 statement that conformity to the standard cannot be determined based on the incomplete vehicle as supplied, and the incomplete vehicle manufacturer makes no representation as to conformity with the standard (e.g., when components and systems must be added by the final-stage manufacturer and compliance cannot be decided at the time the incomplete vehicle leaves the incomplete vehicle manufacturer).

When the IVD makes a Type 1 or Type 2 statement, there is "pass-through" certification unless obviated by a subsequent manufacturer. The final-stage manufacturer can rely on the IVD to certify the vehicle to a particular standard.

Multi-stage vehicle manufacturers sometimes "alter" a vehicle to the end-users' specifications. An altered vehicle is one that is completed and certified in accordance with the agency's regulations and then altered before the first retail sale of the vehicle, in such a manner as may affect the vehicle's compliance with one or more FMVSS or the validity of the vehicle's stated weight ratings or vehicle type classification. This definition does not include the addition, substitution, or removal of readily attachable components, such as mirrors or tire and rim assemblies, or by minor finishing operations such as painting. The person

which performs such operations on a completed vehicle is referred to as a vehicle "alterer." An alterer must certify that the vehicle remains in compliance with all applicable FMVSS affected by the alteration.

C. 2005 and 2006 Final Rules on Certification of Vehicles Built in Two or More Stages

On February 14, 2005, NHTSA published in the **Federal Register** (70 FR 7414) a final rule amending four different parts of Title 49 to address various certification issues related to vehicles built in two or more stages and, to a lesser degree, to altered vehicles. Among other things, the rule allowed the use of pass-through certification so that it can be used not only for multi-stage vehicles based on chassis-cabs, but also for those based on other types of incomplete vehicles.

In the preamble to the February 2005 final rule, and in other documents in that rulemaking, NHTSA discussed the history of issues related to the certification of vehicles built in two or more stages, which have long been sources of contention within the affected industry and before the agency and the courts.

Since 1977, NHTSA's regulations for certification of multi-stage vehicles have contained provisions for certification statements by chassis-cab manufacturers.¹³ In 1990, the United States Court of Appeals for the Sixth Circuit ruled in *National Truck and Equipment Ass'n v. NHTSA*, 919 F.2d 1148 (6th Cir. 1990), that the requirements of a particular FMVSS were impracticable for final-stage manufacturers using vehicles other than chassis-cabs for which the incomplete vehicle manufacturer was not required to provide "pass-through" certification. That decision led to rulemaking that ultimately resulted in the February 2005 multi-stage certification final rule.

NTEA petitioned for reconsideration of the February 2005 multi-stage certification final rule. NHTSA responded to that organization's petition in a final rule; response to petition for reconsideration published in the **Federal Register** (71 FR 28168) on May 15, 2006. While the agency made some changes in the February 2005 final rule in response to the petition, it denied the remainder of the petition for reconsideration that addressed issues regarding certification of multi-stage vehicles and responsibility for recalls of multi-stage vehicles.

In its petition for reconsideration of the February 2005 certification final rule, NTEA challenged the regulatory scheme of certifying multi-stage vehicles.¹⁴ It claimed, among other things, that the provided IVDs are unworkable, insufficient, and that it is not possible for a final-stage manufacturer to comply with the agency's multi-stage certification regulations. Furthermore, NTEA argued that even if compliance were possible, it would be economically ruinous to NTEA's members.

In denying most aspects of NTEA's petition for reconsideration, NHTSA provided specific and detailed responses to these and other relevant arguments. We explained that certification is important for safety and that the certification scheme is "workable."

We stated that in recognition of the fact that incomplete vehicle manufacturers do not control work performed by final-stage manufacturers and can fairly anticipate only some things, but not everything done by final-stage manufacturers, the regulatory system of "pass-through" certification is reasonable. The IVD provides the basis for the final-stage manufacturer's certification with enumerated FMVSS, on various conditions, including, for example, that the final-stage manufacturer does not exceed the GVWR of the chassis or introduce modifications to the incomplete vehicle that interfere with compliance. As we explained, the IVD is a general document that accompanies the incomplete vehicle. IVDs are typically not limited to one application (one body or type of equipment), but contain limits and conditions in light of the nature and capacity of the chassis and potential problems resulting from completion of an incomplete vehicle. Final-stage manufacturers are informed, by the IVD, of components and systems that should not be altered, and, by following those instructions and other information from the incomplete vehicle manufacturer, they are able to certify.

Overall, NTEA sought to remove the certification responsibility from final-stage manufacturers and impose much of that responsibility on incomplete vehicle manufacturers. NTEA's petition ignored the fact that incomplete vehicle

¹⁴ We note that NTEA submitted its comments on NHTSA's notice of proposed rulemaking (NPRM) to upgrade the roof crush resistance standard in November 2005. Those comments, which addressed a number of multi-stage issues, were thus submitted after the agency had published its February 2005 final rule on certification of multi-stage vehicles but before NHTSA responded to NTEA's petition for reconsideration of the certification rule.

¹² 49 CFR 567.5(d)(2)(v)(A).

¹³ 49 CFR 567.5 (1977 and 1978). See 42 FR 37814 (July 25, 1977).

manufacturers do not control what final-stage manufacturers do with the incomplete vehicles.

As we noted, a system of pass-through certification has existed for more than 25 years, and in that time many multi-stage vehicles have been built and certified by final-stage manufacturers. This fact alone indicates that the system is workable and operates as intended. Moreover, as we pointed out, the availability of multi-stage vehicles belies NTEA's position,¹⁵ and, contrary to that petitioner's position, market forces create business reasons for incomplete vehicle manufacturers to provide workable IVDs. We noted that NTEA's argument ignores the fact that the system is not broken—many types of multi-stage vehicles are being manufactured and offered for sale, including those manufactured by NTEA members. These include ambulances, service trucks, small school buses, mid-size buses, tow trucks and vans.¹⁶ The fact that vehicles such as these are being made indicates that the IVDs are workable. We also noted that NTEA ignored the cooperative relationships between incomplete and final-stage manufacturers.¹⁷

In our May 2006 response to petitions, we explained that certification serves an important safety function in the multi-stage vehicle business. Many multi-stage vehicles carry people and important cargo—from schoolchildren on school buses to liquid fuel on propane and gasoline trucks. The safety need for certification of compliance with FMVSS in these types of vehicles is uncontroverted.¹⁸

As part of responding to NTEA's claim in its petition to the 2005 Rule that the existing IVD's are not workable, we carefully examined the certification statements included in an IVD that NTEA appended to its petition.¹⁹ The IVD was for the General Motors (GM) CK chassis-cab. We analyzed certification statements for FMVSS Nos. 105, Hydraulic and Electric Brake Systems; 135, *Light Vehicle Brake Systems*; 204, *Steering Control Rearward Displacement*; 201, *Occupant Protection in Interior Impact*; 212, *Windshield*

Mounting; 219, *Windshield Zone Intrusion*; 214, *Side Impact Protection*; 208, *Occupant Crash Protection*; 216, *Roof Crush Resistance*; and 301, *Fuel System Integrity*. In each instance, we showed why the IVD was workable and why various limitations were reasonable.

We also explained that many resources are available to final-stage manufacturers.²⁰ As a group, final-stage manufacturers do not operate in an informational vacuum. In addition to the IVDs, these resources include upfitter²¹ guides from incomplete vehicle manufacturers, incomplete vehicle manufacturer help lines, the final-stage manufacturers' own experience and judgment, and commercially available software.

We also explained that issues regarding impracticability should be decided in the context of rulemaking for each FMVSS.²²

IV. Multi-Stage Issues in the Rulemaking To Upgrade FMVSS No. 216

A. FMVSS No. 216 Prior to the Upgrade

FMVSS No. 216 seeks to reduce deaths and serious injuries resulting from the roof of a vehicle being crushed and pushed into the occupant compartment when the roof strikes the ground during rollover crashes. Prior to the upgrade, the standard required that when a large steel test plate (sometimes referred to as a platen) is placed in contact with either side of the forward edge of the roof of a vehicle and then pressed downward, simulating contact of the roof with the ground during a rollover crash, with steadily increasing force until a force equivalent to 1.5 times the unloaded weight of the vehicle is reached, the distance that the test plate has moved from the point of contact must not exceed 127 mm (5 inches). The criterion of the test plate not being permitted to move more than a specified amount is sometimes referred to as the "platen travel" criterion. The application of force was limited to 22,240 Newtons (5,000 pounds) for passenger cars, even if the unloaded weight of the car times 1.5 is greater than that amount.

Since 1991, this standard applied to passenger cars, multipurpose passenger vehicles (MPVs), trucks, and buses with a GVWR of 2,722 kilograms (6,000 pounds) or less.²³ Compliance with the

final rule was required on September 1, 1994. Therefore, FMVSS No. 216 has applied to some multi-stage vehicles, e.g., certain small trucks and small recreation vehicles, since 1994.²⁴

B. The Proposed Rule

1. NPRM and SNPRM in General

On August 23, 2005, NHTSA published in the **Federal Register** (70 FR 49223) a NPRM to upgrade FMVSS No. 216, *Roof Crush Resistance*.²⁵ The NPRM reflected comments received in response to a Request for Comments ("RFC") published in the **Federal Register** (66 FR 53376) on October 22, 2001, and research and testing conducted prior to the publication of the RFC.

To better address fatalities and injuries occurring in roof-involved rollover crashes, we proposed to extend the application of the standard to vehicles with a GVWR of up to 4,536 kilograms (10,000 pounds), and to strengthen the requirements of FMVSS No. 216 by mandating that the vehicle roof structures withstand a force equivalent to 2.5 times the unloaded vehicle weight ("SWR"), and to eliminate the 22,240 Newton (5,000 pound) force limit for passenger cars. We note that shortly before the NPRM was published, Congress enacted the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which included a specific requirement for us to upgrade FMVSS No. 216 relating to roof strength for driver and passenger sides for motor vehicles with a GVWR of not more than 4,536 kilograms (10,000 pounds).

Further, in recognition of the fact that the pre-test distance between the interior surface of the roof and a given occupant's head varies from vehicle model to vehicle model, we proposed to regulate roof strength by requiring that the crush not exceed the available headroom. Under the proposal, this requirement would replace the current limit on platen travel.

We also proposed to:

- Allow vehicles manufactured in two or more stages, other than chassis-cabs, to be certified to the roof crush requirements of FMVSS No. 220, *School Bus Rollover Protection*, instead of FMVSS No. 216.

- Clarify the definition and scope of exclusion for convertibles.

²⁴ GM has sold an incomplete vehicle chassis-cab, the GMT-355, that has a GVWR of 2,722 kilograms (6,000 pounds) or less and is therefore subject to FMVSS No. 216. This chassis-cab is based on the Chevrolet Colorado/GMC Canyon. Final-stage manufacturers can certify completed vehicles by using the IVD for the GMT 355.

²⁵ Docket No. NHTSA-2005-22143.

¹⁵ 71 FR at 28176 (section titled "The Availability of Multi-stage Vehicles Belies NTEA's Position") and at 28184-85 (section titled "NHTSA's Market Forces Argument Is Justified and Consistent With the Multi-stage Vehicle Market").

¹⁶ See, e.g., <http://www.ntea.com/mr/divisions.asp>.

¹⁷ We cited the example of General Motors' relationships with final-stage manufacturers it refers to as Special Vehicle Manufacturers. 71 FR at 28185.

¹⁸ 71 FR at 28176; See also 71 FR at 28175.

¹⁹ 71 FR at 28177-28183 (section titled "The Existing IVDs Are Workable").

²⁰ 71 FR 28183-28184 (section titled "Additional Resources Available to Final-Stage Manufacturers").

²¹ Final-stage manufacturers are sometimes referred to as upfitters in the trade.

²² 71 FR 28186.

²³ 56 FR 15510.

- Revise the vehicle tie-down procedure to minimize variability in testing.

On January 30, 2008, NHTSA published in the **Federal Register** (73 FR 5484) a supplemental notice of proposed rulemaking (SNPRM) for our ongoing roof crush resistance rulemaking.²⁶ In that document, we asked for public comment on a number of issues that might affect the content of the final rule, including possible variations in the proposed requirements. We also announced the release of the results of various vehicle tests conducted since the proposal.

2. Multi-Stage Issues

In our August 2005 NPRM to upgrade FMVSS No. 216, we included a section titled “Vehicles Manufactured in Two or More Stages.”²⁷ For vehicles manufactured in two or more stages, other than vehicles incorporating chassis-cabs, we proposed to give manufacturers the option of certifying to either the existing roof crush requirements of FMVSS No. 220, *School Bus Rollover Protection*, or the new roof crush requirements of FMVSS No. 216. FMVSS No. 220 uses a horizontal plate, instead of the angled plate of Standard No. 216.

In developing our proposal, we considered whether the proposed standard would be appropriate for the type of motor vehicle for which it would be prescribed. We stated that we believed it was appropriate to consider incomplete vehicles, other than those incorporating chassis-cabs, as a vehicle type subject to different regulatory requirements. We anticipated that final-stage manufacturers using chassis-cabs to produce multi-stage vehicles would be in position to take advantage of “pass-through certification” of chassis-cabs, and therefore did not believe the option of alternative compliance with FMVSS No. 220 was appropriate.

We noted that while we believed that the requirements in FMVSS No. 220 have been effective for school buses, we were concerned that they may not be as effective for other vehicle types. The FMVSS No. 216 test procedure results in roof deformations that are consistent with the observed crush patterns in the real world for light vehicles. Because of this, we explained that our preference would be to use the FMVSS No. 216 test procedure for light vehicles. We believed, however, that this approach would fail to consider the practicability problems and special issues for multi-stage manufacturers.

We stated that in these circumstances, we believed that the requirements of FMVSS No. 220 appeared to offer a reasonable avenue to balance the desire to respond to the needs of multi-stage manufacturers and the need to increase safety in rollover crashes. We noted that several states already require “para-transit” vans and other buses, which are typically manufactured in multiple stages, to comply with the roof crush requirements of FMVSS No. 220.²⁸ We tentatively concluded that these state requirements show the burden on multi-stage manufacturers for evaluating roof strength in accordance with FMVSS No. 220 is not unreasonable, and applying FMVSS No. 220 to these vehicles would ensure that there are some requirements for roof crush protection where none currently exist.

C. Public Comments

We received comments concerning requirements for multi-stage and altered vehicles from Advocates for Highway Safety (“Advocates”), NTEA, National Mobility Equipment Dealers Association (NMEDA) and Recreational Vehicle Industry Association (RVIA).

1. Overview of Comments on Multi-Stage Issues

Advocates stated that it opposed permitting FMVSS No. 220 as an alternative for multi-stage vehicles. It claimed that FMVSS No. 220 is a “weak” standard whose effects on roof strength in actual rollover crashes are mostly unknown.

NTEA recommended that all multi-stage vehicles be excluded from roof crush resistance requirements. It stated that manufacturers of non-chassis-cab vehicles will not be able to conduct the tests or perform engineering analysis to ensure conformance to FMVSS No. 220. NTEA also disagreed with the assumption that the presence of State requirements for FMVSS No. 220 compliance demonstrates that final-stage manufacturers can actually comply.

NTEA also stated it is impractical for the agency to assume manufacturers of multi-stage vehicles built on chassis-cabs will be able to rely on IVDs to provide pass-through certification for compliance as it relates to roof strength. It argued that the final-stage manufacturer would therefore be responsible for conducting costly analyses and testing to verify compliance with FMVSS No. 216.

NMEDA expressed concern that the FMVSS No. 220 option would only be available for multi-stage vehicles. It asked that the FMVSS No. 220 option be extended to raised or altered roof vehicles. To encompass the modifiers in the proposed upgrade to FMVSS No. 216, NMEDA asked that a vehicle roof that is altered after first retail sale be considered in compliance if it meets the requirements of FMVSS No. 216 or FMVSS No. 220. NMEDA also stated that raising a roof increases the available headroom and that the roof therefore can crush more before there is any contact with an occupant’s head. NMEDA requested the agency account for the additional headroom beyond the original vehicle’s headroom in establishing any requirement.

RVIA supported our proposal to permit FMVSS No. 220 as an option for small motor homes as this would allow manufacturers to address the unique issues concerning such specialized vehicles built in two or more stages.

2. Detailed Summary of NTEA Comments

NTEA stated that NHTSA incorrectly assumes that final-stage manufacturers of vehicles built on chassis-cabs will be able to use pass-through certification as a means to comply with the rule. According to NTEA, NHTSA acknowledged certification problems faced by final-stage manufacturers with respect to safety standards that are based on the performance of a vehicle in a dynamic test. NTEA stated that in the preamble to the proposed rule to upgrade FMVSS No. 216, NHTSA made several references to the compliance difficulties and compliance issues faced by final-stage manufacturers, but without any explanation of the root cause of those problems. NTEA said the proposed standard is a dynamic test standard. NTEA stated that in the rulemaking revising certification regulations for multi-stage vehicles, NHTSA concluded that the cost of dynamic vehicle testing is a legitimate concern when relatively small numbers of similarly configured vehicles are produced by a small manufacturer. NTEA stated that the agency also noted that alternative means of compliance such as computer modeling are not appreciably more affordable for small volume manufacturing.

According to NTEA, under these circumstances, no company could incur the costs of performing the tests described in the proposed rule (or in any other dynamic test standard). NTEA stated that the multi-stage manufacturers, for the most part, do not produce any standard models. The

²⁶ Docket No. NHTSA-2008-0015.

²⁷ 70 FR 49234-49235.

²⁸ These states include Pennsylvania, Minnesota, Wisconsin, Tennessee, Michigan, Utah, Alabama, and California.

overwhelming majority of multi-stage vehicles are produced to end-user specifications on a custom-order basis reflecting specifications provided by the customer.

NTEA argument that an FMVSS is not practicable if the only means of compliance offered in the Standard is the use of pass-through certification.

NTEA argued that an FMVSS is not practicable if the only means of compliance offered in the Standard is the use of pass-through certification. It noted that the Vehicle Safety Act at 49 U.S.C. 30111(a) states that each FMVSS must “be practicable, meet the need for motor vehicle safety, and be stated in objective terms.” NTEA cited the 1990 NTEA case, and stated that the Sixth Circuit ruled that “for a standard to be practicable, it must offer in the body of the standard, a means for all subject to the standard to prove compliance.”²⁹

NTEA stated that NHTSA anticipates that final-stage manufacturers will be able to pass-through, and thereby rely on, the conformity statements provided by the chassis-cab manufacturers in IVDs. NTEA stated there is no requirement in NHTSA’s regulations that compels an incomplete vehicle manufacturer to provide the type of conformity statement as to any safety standard that would facilitate pass-through opportunities for the final-stage manufacturer. That organization said that the chassis-cab manufacturer has absolute discretion whether to provide a Type 1, Type 2, or Type 3 statement.

NTEA said that NHTSA apparently believes market forces will cause chassis-cab manufacturers to provide reasonable compliance envelopes when making conformity statements. NTEA cited the agency’s multi-stage vehicle certification rulemaking, and the petition for reconsideration it submitted on the May 2005 final rule which, at that time, had not yet been responded to by NHTSA. NTEA claimed that it demonstrated through the submission of IVDs with its petition that NHTSA’s market forces theory is not supported by the IVDs that are provided by major incomplete vehicle manufacturers. NTEA stated that those IVDs show that incomplete vehicle manufacturers routinely provide Type 1 and Type 2 conformity statements that are so restrictive that they provide no opportunity whatsoever for pass-through certification.

NTEA stated that if a chassis-cab manufacturer provides a Type 3 conformity statement, there is nothing to pass-through to the final-stage

manufacturer. It stated that if the chassis-cab manufacturer provides a Type 1 conformity statement—i.e., one that states the vehicle will conform to the standard if no alterations are made to identified components in the vehicle—or if the manufacturer provides a Type 2 conformity statement—i.e., one that sets out specific conditions of final manufacture under which the vehicle would conform to the test—then the final-stage manufacturer’s ability to rely on (or “pass-through”) the conformity statement depends entirely on whether the vehicle can be completed by the final-stage manufacturer within the parameters and limitations contained in the conformity statement. NTEA stated that if the parameters and limitations are reasonable, then there is some chance of pass-through, but if the parameters and limitations are unreasonable (or if the stated conditions of conformity are simply conservative as an engineering matter), pass-through will not be possible.

NTEA also argued that incomplete vehicle manufacturers have strong incentive to provide very narrow compliance envelopes, given responsibilities set forth in the agency’s certification regulation. NTEA cited 49 CFR 567.5 and stated that the certification regulations allocate to the incomplete vehicle manufacturer legal responsibility for all components incorporated by a final-stage manufacturer (other than defective components and systems) to the extent the vehicle is completed in accordance with the instructions contained in the IVD, while the regulations allocate to the final-stage manufacturer legal responsibility for any work done by the final-stage manufacturer to complete the vehicle that was not performed in accordance with instruction contained in the IVD.

NTEA argued that in the context of pass-through certification, a conformity statement in an IVD is a zero-sum game. It said that if the final-stage manufacturer can complete the vehicle within the parameters and conditions of the incomplete vehicle manufacturer’s Type 1 or Type 2 conformity statement, the incomplete vehicle manufacturer bears legal responsibility for compliance with the FMVSS in question; if the final-stage manufacturer cannot complete the vehicle within the parameters of the incomplete vehicle manufacturer’s Type 1 or Type 2 conformity statement, or if the incomplete vehicle manufacturer provides a Type 3 conformity statement, the final-stage manufacturer bears legal responsibility for compliance with the subject FMVSS. NTEA stated that the

incomplete vehicle manufacturer’s control over the type and text of its conformity statements essentially gives it unfettered discretion to allocate to itself or to the final-stage manufacturer the legal responsibilities and liability for compliance with the safety standard, and its decision is not subject to review or challenge because the regulations do not require the incomplete vehicle manufacturer to be reasonable or to act in good faith in crafting its conformity statements. NTEA argued that this aspect of the certification scheme—the ability of an interested private party to determine the legal liability of another party with respect to a safety standard—amounts to an impermissible delegation of NHTSA’s statutory authority to a private party. It cited several cases.³⁰

NTEA argued that a safety standard cannot meet the statutory requirement that it be practicable if the sole, plausible means of compliance available to affected manufacturers is the use of pass-through certification. It said that this is the case because that means of compliance depends entirely on the actions of private parties (i.e., incomplete vehicle manufacturers) that are free to provide Type 3 statements as to any standard, and that are free to establish any parameters and conditions they wish, reasonable or unreasonable, in any Type 1 or Type 2 conformity statement. NTEA argued that the proposed rule thus fails to meet the requirement of the 1990 NTEA case that a standard offer in the body of the standard a means for all subject to the standard to prove compliance. NTEA cited its petition for reconsideration of the multi-stage vehicle certification rule, and claimed that it had demonstrated that incomplete vehicle manufacturers routinely provide Type 1 and Type 2 conformity statements with respect to dynamic test standards that are so restrictive as to effectively provide no pass-through opportunity whatsoever. NTEA argued that in the real world, i.e., the reality defined by the IVDs that chassis manufacturers provide with their products, pass-through certification is not a viable option for final-stage manufacturers.

NTEA argument that the conformity statements in existing IVDs make clear that final-stage manufacturers are not likely to have pass-through opportunities for the proposed rule.

NTEA claimed that the inadequacy of pass-through certification as the sole, plausible means of demonstrating compliance to the proposed rule is plainly reflected in the IVDs that exist for chassis-cabs rated up to 2,722

²⁹ NTEA comment to the NPRM at p. 5, quoting NTEA decision, 919 F.2d at 1153.

³⁰ See NTEA comment at p. 8.

kilograms (6,000 pounds) GVWR and for those rated 2,723 and 4,536 kilograms (6,001—10,000 pounds) GVWR. That organization provided IVDs with conformity statements as examples of the restrictiveness of IVDs.

NTEA stated that there is currently only one chassis-cab sold today that is rated 2,722 kilograms (6,000 pounds) or less and is therefore subject to the existing FMVSS No. 216: the General Motors GMT-355 chassis-cab. According to NTEA, all other currently available chassis-cabs are rated above 2,722 kilograms (6,000 pounds) GVWR and thus fall outside the purview of the existing standard.

NTEA cited language from the IVD for the 2006 model year GMT-355, and attached a copy of the IVD to its comments. That organization claimed that the Type I conformity statement to FMVSS No. 216 included in that IVD would provide no pass-through opportunity whatsoever to a final-stage manufacturer. NTEA argued that it would be invalidated by any alteration that affected the function, physical, chemical, or mechanical properties of any component, assembly or system in the chassis-cab. NTEA stated that final-stage manufacturers at a minimum will install a truck body onto the GMT-355 chassis-cab. NTEA claimed that the simplest installation of a truck body likely weighing several hundred pounds, plus the means used by the final-stage manufacturer to mount that body (e.g., by drilling holes in to the frame of the chassis-cab and bolting the body to the frame) will affect the physical properties, for example, of the chassis frame and numerous other structural components of the chassis-cab.

NTEA stated that GM includes an identical conformity statement for FMVSS No. 216 in its C/K fullsize pickup truck IVD. That organization stated that this also shows that GM is inclined to give a highly restrictive Type I statement. NTEA also stated that the IVDs provided by Ford for incomplete vehicles in the 2,723 and 4,536 kilograms (6,001 to 10,000 pound) GVWR range provide highly restrictive conformity statements, and cited conformity statements for FMVSS Nos. 212, 219 and 301.

NTEA argument that it is impracticable for multi-stage vehicles built on non-chassis-cabs to be certified to the proposed rule or to FMVSS No. 220.

NTEA argued that manufacturers of multi-stage vehicles built on non-chassis-cabs will be unable to confirm compliance of those vehicles either to the proposed rule or to FMVSS No. 220.

It stated that those manufacturers will be unable to conduct the tests described in the proposed rule or to perform some alternative engineering analysis. NTEA argued that NHTSA's attempt to provide manufacturers with a reasonable certification option is well-intended, but misses the mark for several reasons.

NTEA stated that, as NHTSA seems to recognize, pass-through certification is unlikely to be available to manufacturers of multi-stage vehicles built on non-chassis-cabs, either for FMVSS No. 216 or for FMVSS No. 220, because those vehicles do not have completed cab compartments (which likely will cause the incomplete vehicle manufacturers to provide Type 3 conformity statements or highly restrictive Type 1 or 2 conformity statements). NTEA stated that NHTSA proposed to permit manufacturers of multi-stage vehicles built on non-chassis-cabs the option of certifying to FMVSS No. 220 instead of FMSS No. 216.

First, according to NTEA, the only vehicles rated 10,000 pounds or less that are subject to FMVSS No. 220 are Type A school buses. NTEA stated that these vehicles are built primarily on the Ford E series cutaway chassis and the GM G-Van cutaway chassis. That organization stated that Ford and GM provide Type 3 conformity statements for these vehicle and that, accordingly, manufacturers of multi-stage vehicles completed on these non-chassis-cabs will have no opportunity to pass-through the certification of the incomplete vehicle manufacturer. NTEA attached copies of the IVDs for these vehicles to its comment.

NTEA stated that as to all of the other models of non-chassis-cabs rated 10,000 pounds or less, there simply is no conformity statement provided with respect to FMVSS No. 220. That organization stated that this reflects the fact that none of these incomplete vehicles are used in the manufacturing of school buses.

NTEA stated that NHTSA indicated in the preamble of the proposed rule that certain States require para-transit vans and other buses to comply with FMVSS No. 220 and that these State requirements show that the burden on multi-stage manufacturers for evaluating roof strength in accordance with FMVSS No. 220 is not unreasonable. NTEA stated that the existence of State requirements concerning compliance with a dynamic test standard is not good evidence that final-stage manufacturers in fact are able to confirm compliance of vehicles with that standard.

NTEA also stated that to the extent school bus manufacturers or para-transit

bus manufacturers are able to comply with FMVSS No. 220, that would merely reflect the particular circumstances regarding the manufacture of those vehicles, i.e., the production of relatively standardized models in relatively large production runs. NTEA stated that the fact that manufacturers in certain niche markets may be able to comply with FMVSS No. 220 does not change the fact that the typical final-stage manufacturer, which produces scores of vehicle configurations in small production runs, cannot demonstrate compliance with that dynamic testing standard through testing or engineering analysis.

NTEA compliance cost estimates.

NTEA stated that, in connection with its proposal, NHTSA presented extensive cost data which explain how much it would cost to structurally upgrade a vehicle in order to meet the new testing requirements, and then factored in increased vehicle weight and the effect on fuel costs. That organization stated that these costs are applied to populations of vehicle models each in the hundreds of thousands of vehicles.

NTEA stated that NHTSA's cost estimates do not factor in the costs of compliance testing for multi-stage produced vehicles. That organization stated that its members are faced with at least 1,085 identifiable vehicle configurations in the affected weight category that would require separate compliance testing. It stated that these vehicle configurations could be built by almost any of the 1,000 or more final-stage manufacturers in the U.S. NTEA stated that as each of these companies are competitors, there is no reason to believe that if one company actually tested one configuration that they would or could share that testing with another company. It also stated that no trade association or consortium could ever conduct over 1,000 compliance tests for the affected vehicle designs and then continue to test each year any of these configurations that are redesigned.

NTEA cited cost estimates for conducting the FMVSS No. 216 test and a test based on FMVSS 220. It also stated that the test is a destructive test, and that while the vehicle could be repaired and sold as used, this would be unwise for liability reasons and the vehicle should be destroyed after the test. NTEA stated that there are few, if any, final-stage manufacturers that have the equipment or personnel to conduct such tests, and that they would need to outsource the testing. NTEA stated that to its knowledge there are only three companies in the country that regularly perform such tests for third parties, and

final-stage manufacturers would have to incur substantial costs to transport their vehicles long distances to have them tested. It also said that following the testing, the vehicles could not be sold as new and would need to be repaired even to be sold as used, resulting in additional costs to be absorbed by the final-stage manufacturer. NTEA stated that, given these costs, it would be impracticable for manufacturers to demonstrate compliance by performing tests.

NTEA stated that NHTSA appeared to recognize that the cost of testing would be prohibitive for both vehicles built on chassis-cabs and those built on non-chassis-cabs, and that it would also be impracticable to demonstrate compliance by computer simulation or other engineering analysis. And, despite that recognition, NTEA stated that NHTSA proposed to apply the standard.

Based on discussions with one of the companies that conduct FMVSS compliance tests, NTEA understands that the average cost of conducting the existing test in FMVSS No. 216 is approximately \$3,600 per vehicle configuration. It stated that NHTSA estimates that tests to comply with the proposed regulation will cost approximately \$5,000. NTEA stated that a total test cost of \$5,000 plus a vehicle value loss of \$15,000 for 1,085 vehicle configurations results in testing costs of \$21,700,000. It stated that this figure does not include design or structural costs for compliance or certain other costs.

NTEA concluded this portion of its comment by stating that the cost benefit analysis prepared by NHTSA ignores more than 20 million dollars in compliance tests primarily placed on small businesses.

NTEA conclusion.

NTEA stated that, as demonstrated, final-stage manufacturers will face compliance burdens that are not reasonable under NHTSA's proposed rule, and that compliance with the proposed requirements in FMVSS No. 216 will not be possible for final-stage manufacturers.

That organization stated that while it applauded NHTSA's decision to propose an alternative to compliance with FMVSS No. 216, the option to comply with FMVSS No. 220 would not provide any relief to manufacturers of multi-stage vehicles built on non-chassis-cabs. It stated that, due to costs, those manufacturers will not be able to perform the dynamic tests set forth in the proposed rule or in FMSVS No. 220, nor conduct engineering analyses to simulate the performance of vehicles in those tests. It also stated that because

manufacturers of non-chassis-cabs do not have a completed occupant compartment, there will be no pass-through certification opportunities for multi-stage vehicles built on those chassis. NTEA argued that the option of certifying to FMVSS No. 220 is no option at all.

NTEA stated that as the demonstration of compliance with neither FMVSS No. 220 nor the proposed FMVSS No. 216 requirements will be possible for most final-stage manufacturers building on chassis-cabs or non-chassis-cabs, it urged that all vehicles manufactured in two or more stages be excluded from the rule.

D. May 2009 Final Rule

1. The Final Rule in General

As discussed earlier, on May 12, 2009, as part of a comprehensive plan for reducing the serious risk of rollover crashes and the risk of death and serious injury in those crashes, NHTSA published in the **Federal Register** (74 FR 22348) a final rule substantially upgrading FMVSS No. 216. The upgraded standard is designated FMVSS No. 216a.

First, for the vehicles currently subject to the standard, i.e., passenger cars and MPVs, trucks and buses with a GVWR of 2,722 kilograms (6,000 pounds) or less, the rule doubled the amount of force the vehicle's roof structure must withstand in the specified test, from 1.5 times the vehicle's unloaded weight to 3.0 times the vehicle's unloaded weight.

Second, the rule extended the applicability of the standard so that it will also apply to vehicles with a GVWR greater than 2,722 kilograms (6,000 pounds), but not greater than 4,536 kilograms (10,000 pounds). The rule established a force requirement of 1.5 times the vehicle's unloaded weight for these newly included vehicles.

Third, the rule required all of the above vehicles to meet the specified force requirements in a two-sided test, instead of a single-sided test, i.e., the same vehicle must meet the force requirements when tested first on one side and then on the other side of the vehicle.

Fourth, the rule established a new requirement for maintenance of headroom, i.e., survival space, during testing in addition to the existing limit on the amount of roof crush.

The rule also included a number of special provisions, including ones related to leadtime, to address the needs of multi-stage manufacturers, alterers, and small volume manufacturers.

2. The Final Rule and Multi-Stage Issues

In the May 2009 final rule upgrading FMVSS No. 216, we included a section in the preamble titled "Requirements for Multi-Stage and Altered Vehicles."³¹ We included a summary of the comments concerning requirements for multi-stage and altered vehicles from NTEA, NMEDA, Advocates, and RVIA, and a response to those comments.

In addressing the issues raised by NTEA, we stated that, as a general matter, we believe that it is neither necessary nor would it be appropriate to exclude all multi-stage vehicles from roof crush resistance requirements. We explained that the purpose of FMVSS No. 216 is to improve occupant safety in the event of a rollover. If a multi-stage vehicle is involved in a rollover, the vehicle's roof strength will be an important factor in providing occupant protection. We stated that, therefore, while we seek to address the special needs and circumstances of multi-stage manufacturers, we declined to provide any blanket exclusion for all multi-stage vehicles. However, based on NTEA's comments, we did not extend FMVSS No. 216 to any trucks built on van cutaways or other types of incomplete vehicles without a completed roof structure, a difference from the NPRM.

The upgraded FMVSS No. 216 rule does not apply to any vehicles with a GVWR greater than 4,536 kilograms (10,000 pounds), including multi-stage vehicles, such as tow-trucks, some airport shuttles, and customized farm trucks, have a GVWR greater than 4,536 kilograms (10,000 pounds). Also, as with the previous version of FMVSS No. 216, the standard does not apply to school buses, which have been covered by FMVSS No. 220.

In the final rule, we then addressed the issues raised by NTEA and other commenters separately for the different types of multi-stage vehicles. The requirements that apply to multi-stage vehicles with a GVWR of 4,536 kilograms (10,000 pounds) or less are dependent on the GVWR and type of vehicle, including whether the vehicle was built using a chassis-cab.

Multi-stage vehicles built on chassis-cab incomplete vehicles.

If a vehicle is built on a chassis-cab, and it has a GVWR of 4,536 kilograms (10,000 pounds) or less, it is required to meet the same FMVSS No. 216 requirements as single stage vehicles. Therefore, these vehicles must meet the requirements of FMVSS No. 216a and

³¹ 74 FR at 22372-74. This section was part of a larger section titled "Agency Decision and Response to Comments."

have a SWR of at least 3.0 if they have a GVWR of 2,722 kilograms (6,000 pounds) or less and a SWR of 1.5 if they have a GVWR above that level but not greater than 4,536 kilograms (10,000 pounds).

As background, we explained that a chassis-cab is an incomplete vehicle, with a completed occupant compartment, that requires only the addition of cargo-carrying, work-performing, or load-bearing components to perform its intended functions. As such, chassis-cabs have intact roof designs. Chassis-cabs are based on vehicles that are sold as complete vehicles by larger manufacturers, e.g., medium and full size pickup trucks, so their roof structure will be designed to meet the upgraded requirements of FMVSS No. 216. A good example of a chassis-cab vehicle is a moving truck. The driver of a chassis-cab vehicle would need to exit the vehicle to access the contents in the rear of the vehicle.

We stated that after considering the comments of NTEA, we believed that final-stage manufacturers can rely on the incomplete vehicle documents (IVD) for pass-through certification of compliance with FMVSS No. 216 for vehicles built using chassis-cabs. To do this, final-stage manufacturers will need to remain within specifications contained in the IVD. We stated that since the stringency of FMVSS No. 216 (SWR requirement) is dependent on a vehicle's unloaded vehicle weight, the final-stage manufacturer would need to remain within the specification for unloaded vehicle weight. If they did not, the roof would not likely have the strength to comply with FMVSS No. 216. We also explained that final-stage manufacturers will need to avoid changes to the vehicle that would affect roof strength adversely.³²

Multi-stage trucks with a GVWR greater than 2,722 kilograms (6,000 pounds) not built using a chassis-cab and not built using an incomplete vehicle with a full exterior van body.

We explained that, based on the comments received, we had decided to exclude from FMVSS No. 216 multi-stage trucks with a GVWR greater than 2,722 kilograms (6,000 pounds) not built using a chassis cab and not built using an incomplete vehicle with a full

exterior van body. This was a change from the NPRM. First, to be excluded, these multi-stage vehicles must be a truck. A truck is defined in 49 CFR 571.3 as being a "motor vehicle with motive power * * * designed primarily for the transportation of property or special purpose equipment." Second, to be excluded, these multi-stage trucks cannot be built using a chassis-cab or using an incomplete vehicle with a full exterior van body. Both chassis-cabs and incomplete vehicles built on a full exterior van body contain a completed roof structure, but would need additions before a final-stage manufacturer could certify its compliance as a completed vehicle. Incomplete vehicles with full exterior van bodies could include a van that did not have any seats. An incomplete vehicle such as this could, for example, be completed as a truck (cargo van) by adding front seats and interior shelves and partitions. Such a vehicle would not be excluded from the standard.

If a multi-stage truck within this weight range is not built on a chassis-cab or on a full exterior van body, then the vehicle is excluded from FMVSS No. 216 and the final-stage manufacturer would not need to certify compliance with the standard. Typically, these vehicles would be built on cutaways or on a stripped chassis. A cutaway chassis is a van cab design whose occupant compartment is not complete and ends immediately behind the driver and front passenger seat, i.e. there is no wall behind the front seats. A good example of this type of a multi-stage truck is a parcel delivery vehicle. These specialized vehicles are typically built on van cutaways because the driver or passenger may need access to the contents in the rear of the vehicle. A stripped chassis is an incomplete vehicle that is less complete than a cutaway, and could be nothing more than a rolling chassis consisting of only the engine, transmission, and ladder-type frame.

The agency excluded these vehicles in the final rule because there may be practicability problems. These incomplete vehicles will not have an intact roof. Because the strength of the roof may be dependent on the structure to be added by the final-stage manufacturer, the incomplete vehicle manufacturer may not provide IVD or similar information that would permit pass-through certification. Moreover, the design of the completed truck may be such that it is not possible to test the vehicle to FMVSS No. 216 (due to interference with the FMVSS test device) or inappropriate for testing with FMVSS No. 220.

Multi-Stage Buses and MPVS Not Built on Chassis-Cabs

For other multi-stage vehicles not built on chassis-cabs, we stated that we continued to believe, for the reasons discussed in the NPRM, that permitting FMVSS No. 220 as an option is a reasonable way to balance the desire to respond to the needs of multi-stage manufacturers and the need to increase safety in rollover crashes. These vehicles would be classified as a bus or MPV. Under 49 CFR 571.3, a bus is a motor vehicle " * * * designed for carrying more than ten persons," and a MPV is defined as a motor vehicle " * * * designed to carry ten passengers or less which is constructed on a truck chassis or with special features for occasional off-road operation." These buses and MPVs are built commonly using a van cutaway and would include, e.g., transit shuttle vehicles, ambulances, mobility vehicles and recreation vehicles. The FMVSS No. 220 test uses a single, horizontal platen and requires a SWR of 1.5.

In responding to Advocates' comment arguing against permitting FMVSS No. 220 as an alternative for multi-stage vehicles because it believes that FMVSS No. 220 is not sufficiently stringent, we noted that the organization did not provide analysis or data addressing the special circumstances faced by multi-stage manufacturers, or explain why it believed these manufacturers could certify compliance of their vehicles to FMVSS No. 216. We stated, therefore, that the commenter had not provided a basis for us to take a different position than we had taken in the NPRM. We stated that, as we had discussed in the NPRM, we believed the requirements in FMVSS No. 220 have been effective for school buses, but we are concerned that they may not be as effective for other vehicle types. We explained that our preference would be to use the FMVSS No. 216 test procedure for light vehicles, but that this approach would fail to consider the practicability problems and special issues for multi-stage manufacturers.

We noted that RVIA supported our proposal permitting testing to the FMVSS No. 220 standard, and that some of the vehicles in this category are already required to meet the requirements of FMVSS No. 220 as a result of State regulations.

³² We also noted that some changes made by final-stage manufacturers could affect the ability to conduct an FMVSS No. 216 test, e.g., for a multi-stage truck, the addition of a cargo box structure higher than the occupant compartment could interfere with the placement of the FMVSS No. 216 test device. To address this concern, we included a specification in the final rule that such structures are removed prior to testing. (However, the structures are still counted as part of a vehicle's unloaded weight.)

Multi-Stage Vehicles and Complete Vehicles With a GVWR Greater Than 2,722 Kilograms (6,000 Pounds) Which Have Been Changed by Raising Their Original Roof

In the May 2009 final rule preamble, we stated that, in response to the comments of NMEDA, we agreed that the FMVSS No. 220 option should be available to multi-stage and complete vehicles with a GVWR greater than 2,722 kilograms (6,000 pounds) which have been changed by raising their original roof.

We stated that we believed that practicability issues arise for vehicles with a GVWR greater than 2,722 kilograms (6,000 pounds) whose roofs are raised. We also stated that we believe that the FMVSS No. 220 option is appropriate for the “para-transit” vans and buses. We stated that the FMVSS No. 220 option will help ensure that these occupants are afforded a level of protection that is currently not required. We stated that we were not providing this option to vehicles with raised roofs and a GVWR of less than or equal to 2,722 kilograms (6,000 pounds).

We stated that we believed that the practicability issues for vehicle alterers which raise roofs on the vehicles at issue are comparable to those of final-stage manufacturers. An alterer may raise a roof on a vehicle that was originally certified to FMVSS No. 216. We also stated that we believe that permitting alterers which raise roofs on these vehicles the option of certifying to FMVSS No. 220 balances potential practicability issues with the need to increase safety in rollovers.

Multi-Stage Vehicles With a GVWR of 2,722 Kilograms (6,000 Pounds) or Less

If a multi-stage vehicle has a GVWR of 2,722 kilograms (6,000 pounds) or less, it previously was subject to FMVSS No. 216. If these vehicles are built using a chassis-cab, they must comply with the upgraded roof crush resistance standard, including the 3.0 SWR requirement. For these vehicles that are not built on a chassis-cab, the final-stage manufacturer has the option of meeting either the upgraded roof crush resistance standard in FMVSS No. 216a, or can meet the standard in FMVSS No. 220 (1.5 SWR). As previously discussed, that test uses a single, horizontal platen.

V. Further Response to Comments Regarding Multi-Stage Vehicles

As a general matter, NTEA’s comments on the agency’s proposal to upgrade FMVSS No. 216 centered on two premises: (1) NHTSA’s assumption that pass-through certification is

available is invalid as evidenced by present IVDs; and (2) because NHTSA’s pass-through certification scheme is invalid, NHTSA’s analysis of the rule’s impact and costs are flawed. The end result, according to NTEA, is that NHTSA’s regulation on roof crush is impracticable for multi-stage vehicles, and, therefore, NHTSA’s roof crush regulations should not include any requirements for multi-stage vehicles.

To get to NTEA’s conclusion—FMVSS No. 216 should not apply to multi-stage vehicles—one has to believe that the certification scheme for multi-stage vehicles, which has been in place for several decades, is unworkable and invalid, at least as applied to FMVSS No. 216. NTEA has been making this argument in various contexts for over 25 years.³³

Generally, NTEA makes the argument that pass-through certification is an impermissible delegation of NHTSA’s statutory authority to a private party. Specific to FMVSS No. 216, NTEA believes NHTSA incorrectly assumes that pass-through certification will be available. NTEA argues that current IVDs prepared by incomplete vehicle manufacturers for FMVSS No. 216 and other standards are so restrictive that a final-stage manufacturer would violate the IVD by making a simple installation.

If that is so, NTEA argues, the final-stage manufacturers would be left to conduct their own testing to certify compliance with FMVSS No. 216. According to that organization, neither the two-sided platen test in FMVSS No. 216 nor the horizontal platen school bus test in FMVSS No. 220 is workable. Testing to either standard is, in NTEA’s estimation, too burdensome and costly. According to NTEA, because NHTSA incorrectly assumes that pass-through certifications will be available, the agency’s analysis of the costs of the rule is incorrect, and the rule is overly burdensome as to final-stage manufacturers.

For the reasons discussed below, NHTSA rejects NTEA’s arguments and their conclusions.

A. Introduction

While NTEA has repeatedly claimed that the present certification scheme for multi-stage vehicles is invalid and unworkable, the availability of multi-stage vehicles belies that claim. There are many multi-stage vehicles on the road that have been certified to a number of standards, and the final-stage manufacturers are still in business. There are large numbers of multi-stage vehicles, such as school buses, box

trucks, tanker trucks, work trucks, flatbed and stake trucks, tow trucks, dump trucks, and gasoline tank trucks on the road.

Moreover, final-stage manufacturers have certified multi-stage vehicles with a GVWR of 2,722 kilograms (6,000 pounds) or less to the current version of FMVSS No. 216. As noted earlier, FMVSS No. 216 was extended to trucks, buses, and MPVs with a GVWR of 2,722 kilograms (6,000 pounds) or less in a final rule published in 1991. This is a relatively low gross vehicle weight rating for commercial vehicles, which results in limited offerings. But, significantly, General Motors (GM) has sold an incomplete vehicle chassis-cab, the GMT-355, that has a GVWR of 2,722 kilograms (6,000 pounds) or less and is therefore subject to FMVSS No. 216. GM would not have offered the vehicle for years if there was not a market for them, as completed by final-stage manufacturers.

We note that under the May 2009 final rule, FMVSS No. 216 will not be applicable to vehicles with a GVWR greater than 4,536 kilograms (10,000 pounds). Incomplete vehicle manufacturers will not need to provide an IVD regarding FMVSS No. 216 for these heavier vehicles. In our estimation, the largest number of multi-stage vehicles are in this category.

In addition, final-stage manufacturers are currently certifying the compliance of their vehicles with a number of complex safety standards that include crash testing as part of the agency’s compliance tests. These include, for example, FMVSS No. 214, *Side Impact Protection*, FMVSS No. 208, *Occupant Crash Protection* (frontal air bag technology), and FMVSS No. 301, *Fuel System Integrity*. These manufacturers ordinarily rely on the IVD in making these certifications.

NTEA’s comments further contemplate no assistance from the incomplete vehicle manufacturer. However, NHTSA has seen the converse to be true—there are IVDs, upfitter guides, best practices manuals and help lines provided by incomplete vehicle manufacturers. Final-stage manufacturers also have their own technical expertise and engineering judgment, and commercially available computer aided engineering software.

Final-stage manufacturers can use their judgment, including engineering or technical judgment, to certify vehicles. Testing, as provided in the FMVSS, is not required as a matter of law to certify

³³ See 71 FR 28169–28171.

a vehicle.³⁴ Instead, sound judgment may be used. Many final-stage manufacturers bring considerable judgment to bear. They have been building and certifying vehicles for years. Final-stage manufacturers can and do use their base of experience in certifying vehicles as complying with the FMVSS.

In addition, NHTSA provided substantial leadtime. The rule becomes effective for multi-stage vehicles with a GVWR of 2,722 kilograms (6,000 pounds) or less, i.e., the vehicles already covered by FMVSS No. 216, on September 1, 2016, and for the other multi-stage vehicles with a GVWR of 4,536 kilograms (10,000 pounds) or less on September 1, 2017. These dates are one year after the requirements are fully effective for single stage vehicles.

B. The Current Certification Scheme Is Not an Unlawful Delegation of Agency Authority

NTEA argued that under the current certification scheme the ability of an interested private party to determine the legal responsibility of another party with respect to a safety standard, which it contends is the result of the incomplete vehicle manufacturer creating the IVD, amounts to an impermissible delegation of NHTSA's statutory authority to a private party.

NTEA made the same argument in its petition for reconsideration of the certification rule, and the agency addressed it in its May 2006 response to that petition.³⁵ As we explained in that response, NTEA relied on a case involving an unlawful delegation of an agency's authority to a private entity.³⁶ However, NTEA ignored the holding in that case, that the relevant inquiry on a private delegation issue is to assess Congressional intent, based on the pertinent statute(s) and its legislative history.

In the Vehicle Safety Act, Congress imposed the responsibility to certify compliance on manufacturers and distributors.³⁷ The Safety Act created a self-certification scheme. Under this statutory framework, the agency promulgates the FMVSSs, and it is then the manufacturer's or distributor's responsibility to comply with these standards and to furnish a certification to the distributor or dealer that the vehicle or equipment conforms to all applicable FMVSSs. The statute, as

originally enacted, did not provide for agency review and approval of the manufacturer's certification or for agency allocation of responsibility of certification in the multi-stage vehicle context.

NHTSA's regulations do not provide for the agency to allocate certification responsibility between incomplete vehicle manufacturers and final-stage manufacturers.

In 2000, Congress enacted the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act.³⁸ Section 9 of the Act amended 49 U.S.C. 30115 to address certification labels.³⁹ In general, the amendments required an intermediate or final-stage manufacturer to certify with respect to each FMVSS either that it has followed the compliance documents provided by the incomplete vehicle manufacturer or that it has chosen to assume responsibility for compliance with that standard.⁴⁰ The amendments further provided that if an intermediate or final-stage manufacturer assumes responsibility for compliance with a standard covered by the documentation, it must notify the incomplete vehicle manufacturer within a reasonable time.⁴¹ Significantly, the TREAD Act amendments did not alter the regulatory approach in 49 CFR 567.5 and 49 CFR part 568. They did not require NHTSA to allocate certification responsibilities between the various manufacturers in the chain of production of multi-stage vehicles.

In contrast to this regulatory approach, Congress has enacted other regulatory schemes that require agency review and approval of manufacturers' certifications. For example, the Clean Air Act requires the Administrator of the Environmental Protection Agency (EPA) to test or require testing of motor vehicles or engines to determine whether they comply with the emissions requirements and, if they conform, to issue a certificate of conformity.⁴² In that context, EPA has a significant administrative role. In contrast, in the Vehicle Safety Act, Congress did not provide for agency review or approval of a manufacturer's certification before first sale. Moreover, the TREAD Act amendments specifically addressed certification in the multi-stage vehicle context and did not assign the agency an arbiter role in the certification process.

In view of the foregoing, NHTSA does not accept NTEA's argument that the certification scheme in NHTSA's regulations delegates too much power to a private entity.

C. Current IVDs Concerning FMVSS No. 216 Are Workable

NTEA submitted with its comment relevant portions of the IVDs with Type 1 conformity statements for the General Motors 2006 GMT-355 incomplete truck and also the IVD for the GM 2006 C/K full size incomplete truck.⁴³ NTEA attached these documents to demonstrate that the simplest installation of a truck body likely weighing several hundred pounds, plus the means used by the final-stage manufacturer to mount that body (e.g., by drilling holes into the frame of the chassis-cab and bolting the body to the frame) will affect the physical properties, e.g., of the chassis frame and numerous other structural components of the chassis-cab.

GM's IVD allows for additions to the chassis-cab. The GMT-355's IVD states that the incomplete vehicle will comply with FMVSS No. 216 "providing no alterations are made which affect the function, physical, chemical, or mechanical properties, environment, location, or vital spatial clearances of the components, assemblies or systems including but not limited to those listed below: antennae; body roof structure or components/reinforcements; body sheet metal/reinforcements; body structural components/reinforcements; front rear and side glazing materials and mounting; structural components and door assemblies; windshield wipers; and windshield wiper motor."

NTEA read the IVD and claimed that adding a box to a chassis-cab frame would affect the physical, chemical, or mechanical properties of the body's structural components/reinforcements. Based on this statement, NTEA concluded that pass-through certification is not available. NHTSA disagrees.

Before turning to the specifics, we note that NTEA characterized the FMVSS No. 216 test as a dynamic test. As a technical matter, the test is considered a quasi-static test rather than a dynamic test. In a quasi-static test, the conditions vary slowly enough so that

³⁴ This has been recognized in interpretations by NHTSA's Chief Counsel.

³⁵ 71 FR at 28186-87.

³⁶ *Nat'l Park and Conservation Ass'n v. Stanton*, 54 F.Supp. 2d 7 (D.D.C. 1999).

³⁷ See Section 114 of the Act, Public Law 89-563, 80 Stat. 726 (recodified at 49 U.S.C. 30115).

³⁸ Public Law 106-414.

³⁹ 114 Stat. 1805.

⁴⁰ *Id.*

⁴¹ *Id.*

⁴² 42 U.S.C. 7525(a).

⁴³ NTEA stated that GM included an identical conformity statement for FMVSS No. 216 in its IVD for the GM 2006 C/K full size incomplete truck, although, to NTEA's knowledge, GM did not produce a C/K chassis rated 6,000 pounds GVW or below. FMVSS No. 216 would have applied to the vehicle only if it were rated with a GVWR of 2,722 kilograms (6,000 pounds) or less.

the dynamic effects are negligible.⁴⁴ In developing our proposal to upgrade FMVSS No. 216, we considered potential dynamic tests, e.g., the Jordan Rollover System test and the Controlled Rollover Impact System test, but decided to focus on the quasi-static test procedure. This was an issue that was addressed in detail in the rulemaking. The quasi-static test in this standard does, however, have some dynamic characteristics.⁴⁵ In any event, potential compliance difficulties relate to the specific details of a test and relevant requirements based on that test rather than whether the test is called quasi-static or dynamic.

We now turn to the GMT-355 incomplete vehicle. This incomplete vehicle is classified as a body-on-frame, as distinguished from unibody construction used in making passenger cars, which generally do not have frames. The cab is attached to the frame. Roof strength is dependent on structural members of the vehicle's largely vertical pillars, including the A pillar (between the windshield and the front of the front door) and the B pillar (behind the front door), and the roof itself.

In completing an incomplete GMT-355, the final-stage manufacturer adds a unit behind the cab. That unit or truck body is attached to the frame.

⁴⁴ That is the case with the lowering of the FMVSS No. 216 test device. In the FMVSS No. 216 test procedure, a test device applies a force, based on the vehicle's unloaded weight, to the vehicle's roof. The lower surface of the test device must not move more than the specified distance. The May 2009 final rule maintained the fundamental nature of the test.

⁴⁵ We believe the quasi-static test has sufficient dynamic characteristics that we would consider the new procedures adopted by the agency in the 2005 and 2006 certification rules for applying for temporary exemptions to be available for FMVSS No. 216, although we are not aware of any specific situations in which they would be needed. In those rules, NHTSA amended its regulations to establish a new process under which intermediate and final-stage manufacturers and alterers can obtain temporary exemptions from dynamic performance requirements of certain standards. While the 2005 rule limited this process to dynamic crash test requirements, in response to NTEA's petition, the agency expanded the scope of the availability of the new procedures in the 2006 rule so that manufacturers of multi-stage vehicles can petition the agency for a temporary exemption from requirements that incorporate various dynamic tests generally, and not exclusively dynamic crash tests. NHTSA explained that a dynamic test is one that requires application of forces or energy to the vehicle and the FMVSS include a variety of dynamic tests in addition to those involving crash tests. The agency noted that in some circumstances, there may be considerable costs associated with dynamic tests other than dynamic crash tests, and there may be significant damage to vehicles from such tests. Given the broad language used in characterizing dynamic tests, we would consider the procedures to be available for the quasi-static test specified by FMVSS No. 216. The test does require application of forces or energy to the vehicle and may result in significant damage to the vehicle.

Commonly, the attached unit is a box of some form that goods or materials can be carried in. The attached unit does not attach to the cab. Pass-through certification is readily available for this vehicle. The conformity statement in the IVD is written to allow modifications to the incomplete vehicle, but not to the components that affect the vehicle's roof strength.

While pass-through certification is not provided if vehicle components related to roof strength are modified, NTEA has not provided an example where the addition of a truck body would modify the structural members of the A- and B-pillars, and NHTSA is unaware of one. NTEA did not provide other examples where roof modifications would be necessary. In the example of mounting a box to the frame, there would be no modifications to the roof.

D. Final-Stage Manufacturers Can Certify Their Vehicles Built on Chassis-cabs as Being Compliant With FMVSS No. 216a

FMVSS No. 216 has applied to multi-stage vehicles with a GVWR of 2,722 kilograms (6,000 pounds) or less since the early 1990s. Despite NTEA's articulated problems with the GMT-355 IVD, final-stage manufacturers undoubtedly have made additions to this incomplete vehicle and certified it compliant. Otherwise, GM would not have offered it for sale for years.

There are a number of resources available for final-stage manufacturers. Many of these were mentioned in the 2006 response to NTEA's petition.⁴⁶ These resources are still available. For example, General Motors has relationships with final-stage manufacturers, which it refers to as "Special Vehicle Manufacturers," or SVMs. According to GM Upfitters' Best Practices Manual, "[t]he success of the Upfitter Integration group depends on an atmosphere of communication, cooperation and trust between SVMs and GM. SVMs would therefore be expected to use the Upfitter Integration resources available to them (i.e., telephone hotline, quality surveys, guideline manuals and Upfitter Integration engineering expertise). SVMs are expected to have documented processes which are understood and accepted by all." (p. 4).⁴⁷

According to the GM Upfitters' Best Practices Manual, NTEA reviews and recommends Body-Mounting Practices in the GM Upfitters' Best Practices Manual that identifies industry

⁴⁶ 71 FR 28185

⁴⁷ http://www.gmupfitter.com/publicat/Best_Practices.pdf.

recognized processes and procedures. NTEA has a "Body Practices Subcommittee" that reviewed the mounting methods of several chassis manufacturers. NTEA approved four general mounting types. All mount to the frame and are permissible under the IVD for the GMT-355. None of the mounting methods involve attachments to the A- and B-pillars.

A final-stage manufacturer is not limited to the IVD. If a final-stage manufacturer wanted to make modifications beyond the IVD, it could still use the IVD as a starting point and then utilize technical judgment. This is different from a vehicle built on a stripped chassis where the final-stage manufacturer would be designing the complete occupant compartment structure. The final-stage manufacturer is beginning with a vehicle with a completed occupant compartment structure, including the roof, that it knows already meets FMVSS No. 216, and can use judgment to ensure that the modifications it makes will not weaken the roof. As such, a final-stage manufacturer could complete the vehicle and certify it.

In the case of chassis-cabs, for example, data are available on the strength of the roofs. Chassis-cabs have intact roof designs and for the most part are the same as vehicles that are sold as complete vehicles, such as large pickup trucks. The roof structures of those trucks will be designed to meet the upgraded requirements of FMVSS No. 216. NHTSA tests vehicles, including pickup trucks, to FMVSS No. 216 and makes the data available.⁴⁸ Final-stage manufacturers can readily refer to these data for certification.

NTEA also argued that Ford provided guidance for 10 safety standards in its 2006 Pickup Box Removal/Alterations Design Recommendations for the pickup box removal for the Ford Ranger, but not for FMVSS No. 216 (p. 8 of NTEA's comments, footnote 4). It said that, therefore, in the alterer context, the alterer is on its own as to the roof crush resistance standard. We note that Ford's 2006 Pickup Box Removal/Alterations Design Recommendations do not involve incomplete vehicles. The Ranger is not sold as an incomplete vehicle. Ford's recommendations are for

⁴⁸ For example, there are data available on NHTSA's testing of pickup trucks. NHTSA's testing of completed trucks under 6,000 lbs shows the following: (a) MY 2007 Chevy Colorado, GVWR = 4850 lbs, SWR 2.18 (Test 560), (b) MY 2007 Toyota Tacoma, GVWR = 5250 lbs, SWR 3.29, (Test 566), (c) MY 2007 Toyota Tacoma, GVWR = 4550 lbs, SWR 4.4 (Test 530).

alterers⁴⁹ that remove a pick-up box from a completed vehicle. Ford has already certified that vehicle. The document cited in NTEA's comment is guidance and is not required under 49 CFR 567.7 for certification.

Moreover, we have reviewed the Ford document in question and believe that NTEA has not shown a real problem for alterers. For pickup trucks such as the Ranger, the passenger compartment is completely separate from the cargo box. Each is separately secured to a common frame. For this reason, simply replacing the pickup box with an aftermarket body would not affect the strength of the roof.⁵⁰

In the FMVSS No. 216a test procedure adopted in the 2009 final rule, the body of the vehicle is securely mounted. In the case of a body-on-frame pickup truck, the occupant compartment cab would be rigidly mounted such that only the roof strength of the occupant compartment of the vehicle is tested. In support of the final rule, the agency tested a number of pickup trucks in one- and two-sided test configurations.⁵¹ In addition, the agency also tested an incomplete 2008 Ford F-250 (NHTSA Test No. 571)⁵² chassis-cab pickup. The F-250 was delivered and tested without a cargo bed. From our testing, the presence of the cargo box did not have any impact on the strength of the roof.⁵³

NTEA also stated that for the 2004 model year, Ford produced the Freestar/Monterey van as an incomplete vehicle to be used in the manufacturer of mobility vehicles. It stated that these vehicles had a GVWR of 2,722 kilograms (6,000 pounds) or less, and were thus subject to FMVSS No. 216. NTEA stated that for reasons that are unclear, Ford did not provide a conformity statement for FMVSS No. 216 in the IVD for this vehicle. NTEA stated that this is a

situation where the final-stage manufacturer would have no pass-through certification opportunity. NHTSA notes that the Freestar/Monterey vans have not been produced for years and NTEA did not demonstrate that the issue is likely to recur with newer models. We note, however that Ford has a mobility vehicle program, for transporting handicapped people, and NTEA has not demonstrated that there are any problems with respect to availability or certification of mobility vehicles. We also note that NMEDA did not cite any such difficulties. In addition, Ford has programs to assist mobility manufacturers.⁵⁴

FMVSS No. 216 is not, of course, currently applicable to vehicles with a GVWR greater than 2,722 kilograms (6,000 pounds). For that reason, the IVDs for chassis-cabs currently used for these heavier vehicles do not and cannot be expected to address FMVSS No. 216. However, as the upgraded standard will apply to these vehicles, manufacturers will address it in the future.⁵⁵

E. In General, IVDs Are Workable

NTEA claimed that IVDs containing conformity statements for standards other than FMVSS No. 216 are overly restrictive. It cited the conformity statements provided by GM for the C/K fullsize pickup truck IVD. It also cited the IVD provided by Ford for the E-series incomplete vehicle with respect to FMVSS Nos. 212, 219 and 301. NTEA stated that the conformity statements are based on the performance of the vehicle in the dynamic tests in those standards.

As noted earlier, in our May 2006 response to NTEA's petition for reconsideration of the certification rule, we addressed in detail NTEA's arguments in connection with the certification statements in the GM IVD that NTEA identified as inadequate. In each case, the agency's findings supported the conclusion that the existing IVDs are workable. Moreover, we demonstrated that the current multi-stage certification is workable and pointed out the errors in NTEA's arguments. Among other things, we noted that NTEA's petition did not identify any final-stage manufacturer that has been unable to certify a vehicle under the existing framework. Since this rulemaking is about FMVSS No. 216, and given the above discussion, there is no need to address other standards.

The final rule becomes effective for multi-stage vehicles with a GVWR of

2,722 kilograms (6,000 pounds) or less, i.e., the vehicles already covered by FMVSS No. 216, on September 1, 2016, and to the other multi-stage vehicles with a GVWR of 4,536 kilograms (10,000 pounds) or less on September 1, 2017. These dates are one year after the requirements are fully effective for single stage vehicles. This is a seven-year leadtime for vehicles currently subject to the standard, and an eight-year leadtime for the vehicles newly subject to the standard. NHTSA anticipates that this leadtime will be ample for incomplete vehicle manufacturers and final-stage manufacturers to work out any issues.

F. NHTSA Provided a Testing Alternative, FMVSS No. 220

NTEA commented that final-stage manufacturers of vehicles built on incomplete vehicles other than chassis-cabs (cutaways, chassis cowl,⁵⁶ or stripped chassis) cannot rely on pass-through certification or perform the tests in FMVSS Nos. 216 or 220. It did not agree with statements in the NPRM that the existence of State operational requirements for para-transit vans and other buses to comply with FMVSS No. 220 is good evidence that final-stage manufacturers in fact are able to comply with that standard. It also said that the fact that final-stage manufacturers are able to comply with FMVSS No. 220 for some vehicles merely reflects the particular manufacturing of that vehicle, and the fact that certain niche markets can comply with FMVSS No. 220 does not translate to final-stage manufacturers that produce scores of vehicles in small production runs. NTEA thus advocated a lowest common denominator approach.

NHTSA sees no reason to exclude all multi-stage vehicles from the requirements of FMVSS No. 216. We do recognize, unlike vehicles derived from chassis-cabs, there will not be an opportunity for a pass-through certification of FMVSS No. 216 for vehicles without intact roofs such as cutaways and stripped chassis. In light of this, in the 2009 final rule, for multi-stage trucks, NHTSA decided not to extend the coverage of the upgraded FMVSS No. 216 as proposed in the NPRM. Multi-stage trucks not built on a chassis-cab or a full exterior van body with a GVWR greater than 2,722 kilograms (6,000 pounds) are not covered. This is discussed below.

⁴⁹ An alterer "means a person who alters by addition, substitution, or removal of components (other than readily attachable components) a certified vehicle before the first purchase of the vehicle other than for resale." 49 CFR 567.3.

⁵⁰ The weight of the aftermarket body could affect the unloaded weight of the vehicle and, therefore, the amount of force the vehicle would need to withstand in a FMVSS No. 216 test. If replacing the pickup box with an aftermarket body resulted in greater unloaded vehicle weight, the alterer could consult with the manufacturer about implications for FMVSS No. 216 compliance.

⁵¹ 74 FR 22391, Appendix B and C.

⁵² Test reports available at <http://www-nrd.nhtsa.dot.gov/database/asp/comdb/quirytesttable.aspx>.

⁵³ The F-250 chassis-cab's roof resisted a maximum force of just over 54,000 N when the first side of the roof was tested. In a test conducted with a 2003 Ford F-250 with the cargo bed attached, the roof resisted over 44,000 N on the first side. The difference in peak strength of the roof is attributed to the vehicles being different body styles for different model year vehicles.

⁵⁴ See <https://www.fleet.ford.com/truckbbas/non-html/qpg/2004/mobilityguidelines04.pdf>.

⁵⁵ See 49 CFR 568.4.

⁵⁶ An incomplete vehicle which is similar to a stripped chassis but includes a portion of the body bounded by the front fenders, hood and base of the windshield.

Multi-stage trucks with a GVWR of 2,722 kilograms (6,000 pounds) or less have already been subject to FMVSS No. 216, and no practicability issues have been identified. While there are differences between the existing requirements and those of the upgraded standard, the basic nature of the FMVSS No. 216 test is the same, i.e., a quasi-static test that applies a force to the roof. Moreover, the FMVSS No. 220 option will also be available (other than for trucks built using chassis-cabs). Given these considerations, we believe that these vehicles do not raise practicability concerns. We note that we are not aware of any incomplete cutaway vehicles with a GVWR of 2,722 kilograms (6,000 pounds) or less.

We decided not to extend the standard to multi-stage trucks with a GVWR above 2,722 kilograms (6,000 pounds) not built on a chassis-cab or a full exterior van body. The incomplete vehicles for these excluded multi-stage trucks will not have an intact roof, and because the strength of the roof may be dependent on the structure to be added by the final-stage manufacturer in completing the truck, the incomplete vehicle manufacturer may not provide for pass-through certification. Moreover, the FMVSS No. 220 test was designed for school buses and uses a horizontal plate over the driver and passenger compartment instead of the angled plate of Standard No. 216. This test may not be appropriate for trucks with certain roof configurations.

For the remaining multi-stage vehicles other than trucks, we believe that the FMVSS No. 220 option is a reasonable way to balance the need to increase safety in rollover crashes of multi-stage vehicles and the capabilities of multi-stage manufacturers. Examples of vehicles in this category include Type II ambulances,⁵⁷ small recreation vehicles, and shuttle vans with a GVWR greater than 2,722 kilograms (6,000 pounds) but not greater than 4,536 kilograms (10,000 pounds). Some of these vehicles involve vans with raised roofs.

First, NTEA's argument, which appears to be largely in the context of work trucks, on relatively unique configurations and very limited production numbers, does not truly apply. There are companies that make ambulances, other companies that make small RVs, and others that make shuttle vans. These vehicles are generally made in larger production runs and/or with

relatively standardized exterior structures. Therefore, there are significantly fewer issues related to special structural issues potentially affecting roof configuration and roof strength for multipurpose vehicles and buses than for trucks which may have more specialized and customized uses.⁵⁸

Second, these vehicles transport passengers, not property. While we are concerned about the safety of occupants in all kinds of vehicles, there is a greater safety concern about unnecessarily excluding passenger vehicles, such as 15-passenger vans and small shuttle buses from roof strength requirements, given the number of occupants.

NTEA is correct that current IVDs do not provide a Type I or Type II statement regarding FMVSS No. 220, *School Bus Rollover Protection*. The Type 3 statements for Ford and GM cutaway chassis used for school buses are reasonable given the fact that these incomplete vehicles do include occupant compartment structures. School bus manufacturers using these chassis provide their own occupant compartment structures, and have long certified their vehicles to FMVSS No. 220.

As we noted in the NPRM, several states already require "para-transit" vans and other buses, which are typically manufactured in multiple stages, to comply with the roof crush requirements of FMVSS No. 220. Moreover, the RVIA endorsed the agency's proposal. Recreational vehicles, including motorhomes, are used to transport passengers, not property, and are commonly built on stripped chassis. The RVIA stated that several thousand of the smallest motor homes produced each year would be subject to the proposed rule and that virtually all of the affected vehicles are manufactured in two or more stages. RVIA stated that NHTSA rightly acknowledged that the requirements of FMVSS No. 220 appear to offer a reasonable avenue to balance the desire to respond to the needs of multi-stage manufacturers and the need to increase safety in rollover crashes.

While NTEA claimed that the cited State laws are not good evidence that final-stage manufacturers in fact are able to confirm compliance of vehicles with FMVSS No. 220, it did not provide reasons for us to doubt manufacturer

claims that their vehicles meet these requirements. We also note that the Ambulance Manufacturers Association of NTEA adopted a standard, AMD Standard No. 001, with a test based on FMVSS No. 220. AMD Standard No. 001, *Ambulance Body Structure Static Load Test*, is issued by the Ambulance Manufacturers Association of NTEA. The purpose of that standard is to demonstrate the static strength of the patient compartment of an ambulance when subjected to a uniform load. NTEA stated that an ambulance manufacturer recently had three units tested at a cost of \$40,000, i.e., an amount slightly over \$13,000 each. NTEA stated that ambulances are unlike most multi-stage vehicles in that most manufacturers produce a small number of models that require only limited alterations to meet specific customer needs and that, as a result, these testing costs, while still significant, can be allocated over multiple vehicle sales.

A limited internet search reveals that many manufacturers, including alterers, advertise that various mobility, para-transit and other vehicles meet the requirements of FMVSS No. 220.⁵⁹

For example:

- National Van sells wheelchair vans/ambulettes with modified roofs that are said to be FMVSS No. 220 School Bus Rollover certified.⁶⁰ These can be built on the Ford E-150 chassis.

- New England Wheels sells a Municipal Transporter that has a 30" raised transporter roof with a FMVSS No. 220 certified roll cage. New England Wheels also sells a Ford E-250 Van with an 18" Executive Raised Roof w/FMVSS 220 Certified Roll Cage.⁶¹

- Accubilt sells a shuttle van with an 8,600 lbs GVWR that has an "exclusive tubular steel roll cage (FMVSS certified)."⁶²

- MobilityWorks of Akron, Ohio advertises that "[a]ll MobilityWorks vehicles meet or exceed the requirements set forth for vehicles of gross weight less than 10,000 lbs." for the FMVSS No. 220 load test.⁶³

⁵⁹ In some cases, the manufacturer indicates that a vehicle is "certified" to meet FMVSS No. 220. We note that unless an FMVSS applies to a vehicle, it cannot be certified to the FMVSS for purposes of the Vehicle Safety Act.

⁶⁰ http://www.nationalvans.com/models/wheelchair_vans.html (last accessed on January 17, 2010).

⁶¹ <http://www.newenglandwheels.com/commercial-vans/municipal-transporter.html> (last accessed on January 17, 2010).

⁶² http://www.accubuiltmobility.com/shuttle_specs.html (last accessed on January 17, 2010).

⁶³ <http://www.mobilityworks.com/Commercial/Commercial-Van-AboutUs.php> (last accessed on January 17, 2010).

⁵⁷ See the *Federal Specification for the Star-of-Life Ambulance* (KKK-A-1822F), as promulgated by the General Services Administration. http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/ambulanc_1_R2FI5H_0Z5RDZ-i34K-pr.pdf.

⁵⁸ On a related note, as to school buses, NTEA has recognized that these vehicles are produced in relatively large production runs of similarly configured vehicles, and that Ford and GM provide guidance. NTEA stated that it expressed no view as to the practicability of FMVSS No. 220 for currently affected manufacturers.

• Mid America Coach of Kansas City, MO, sells full-size wheelchair vans with a FMVSS No. 220 roll cage.⁶⁴

• Safety Vans, LLC, of Hagerstown, MD, sells vans with reinforced roofs for which “[r]oof load tests (FMVSS 220 compliant) demonstrate how the SafetyVan, under the weight of nearly 6 tons, is still capable of allowing access into and egress from the passenger area!”⁶⁵ According to the company, standard features for these vans include them being built on GM’s Model CG 33706—Express/Savanna: Pass. Van Ext. 3500, 9,600 GVW.⁶⁶

Furthermore, the agency conducted a FMVSS No. 220 roof strength test on a Roadtrek Class B MPV motorhome (Test No. 693) with a GVWR of 3,901 kg (8,600 pounds). The motorhome was built on a General Motors incomplete vehicle van body where the multi-stage manufacturer added a raised fiberglass roof to the body. The results of the test showed the vehicle met the 1.5 SWR required under the standard within 130 mm (5.125 inches) of displacement of the load application plate. The test illustrated that it is practicable for multi-stage vehicles with a raised or altered roof and with a GVWR greater than 2,722 kg (6,000 pounds) but less than 4,536 kilograms (10,000 pounds), to conform to the requirements of FMVSS No. 220 as an option.

G. There Is Little Cost for Multi-Stage Manufacturers To Comply With FMVSS No. 216a

NTEA commented that in proposing to upgrade FMVSS No. 216, the agency ignored more than 20 million dollars in compliance tests primarily placed on small businesses. That organization stated that there are at least 1,085 identifiable vehicle configurations in the affected weight category that would require separate testing. NTEA multiplied this figure by \$5,000 per test plus a vehicle value loss of \$15,000, resulting in a total of \$21,700,000. The 1,085 vehicle configuration number included 798 that were based on chassis-cabs.⁶⁷

These cost projections are grossly exaggerated. As indicated above, testing, as provided in a FMVSS, is not required as a matter of law to certify a vehicle.

⁶⁴ <http://www.midamericacoach.com/category/full-size-wheelchair-vans> (last accessed on January 17, 2010).

⁶⁵ <http://www.safetyvans.com/index.html> (last accessed on January 17, 2010).

⁶⁶ <http://www.safetyvans.com/specs.html> (last accessed on January 17, 2010).

⁶⁷ NTEA stated that there are 42 chassis-cab models in the affected weight category that could accommodate 19 different body and/or equipment configurations. Multiplying 42 by 19 results in the 798 number.

A manufacturer may choose any valid means of evaluating its products to determine whether the vehicle or equipment will comply with the safety standards when tested by the agency according to the procedures specified in the standard and to provide a basis for its certification of compliance.

NTEA’s projected costs assume, inaccurately, that pass-through certification is not available for any of its member’s vehicles, and, that they, as final-stage manufacturers, will need to conduct testing for these vehicles. However, for the reasons discussed earlier, final-stage manufacturers will be able to rely on the IVDs for vehicles built using chassis-cabs or incomplete vehicles with a full exterior van body. They will be able to certify their vehicles using pass-through and engineering judgment and will not need to incur testing costs for these vehicles.

Moreover, the agency did not adopt the proposal in the NPRM to extend FMVSS No. 216 to multi-stage trucks with a GVWR greater than 2,722 kilograms (6,000 pounds) not built on a chassis-cab and not built on an incomplete vehicle with a full exterior van body, e.g., those built using cutaways and stripped chassis. Therefore, there will not be any FMVSS No. 216 compliance costs for these vehicles.

As to other multi-stage vehicles, final-stage manufacturers will have the option of certifying with the FMVSS No. 216 test or the FMVSS No. 220 test. The FMVSS No. 220 test option will minimize the costs of compliance for these vehicles. As noted above, these vehicles are used to transport passengers. Various mobility, para-transit and other vehicles were also being designed to meet the FMVSS No. 220 test prior to this rulemaking. Models are produced in sufficient quantities and do not vary such that compliance tests would be required for each variation. In light of the above, the requirements are reasonable. Also, RVIA supported this aspect of the proposal.

We also observe that new procedures adopted by the agency in the 2005 and 2006 certification rules for applying for temporary exemptions are available, although we are not aware of any specific situations in which they would be needed.

H. Conclusion

While NTEA commented that the proposed upgrade of FMVSS No. 216 would be impracticable for its members, the final rule we adopted is not impracticable for final-stage manufacturers.

Final-stage manufacturers that build their vehicles using chassis-cabs will be able to rely on pass-through certification. A reasonable reading of the provided IVDs demonstrates this, as does the fact of the number of multi-stage vehicles on the road today that are certified to comply with many FMVSSs. In extending FMVSS No. 216 to heavier light vehicles, we did not include trucks other than those built using a chassis-cab or incomplete vehicle with a full exterior van body—a change from the NPRM. Also, for multi-stage vehicles other than those built using chassis-cabs, NHTSA provided an alternative test procedure that is used for school buses and has also been used by a number of States for para-transit buses. Many manufacturers are already building vehicles to this alternative.

Issued: April 2, 2010.

David L. Strickland,
Administrator.

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA-2009-0093]

RIN 2127-AG51

Federal Motor Vehicle Safety Standards; Roof Crush Resistance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Final rule; correcting amendment.

SUMMARY: In May 2009 we published a final rule that upgraded the agency’s safety standard on roof crush resistance. In this document, we correct two errors in that rule. We also identify errors in the preamble to that rule.

DATES: This rule is effective May 7, 2010.

FOR FURTHER INFORMATION CONTACT: For non-legal issues, you may call Christopher J. Wiacek, NHTSA Office of Crashworthiness Standards, telephone 202-366-4801. For legal issues, you may call J. Edward Glancy, NHTSA Office of Chief Counsel, telephone 202-366-2992. You may send mail to these officials at the National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., West Building, Washington, DC 20590.