

conclude that the equipment is unlikely to fail as a result of exposure to even severe crash conditions or environmental exposures. Such test conditions are necessarily more severe than typical crash conditions, to ensure a margin of safety in the standard. That is, even if the test conditions were not directly representative of actual crash conditions, the test conditions are so demanding that one can confidently predict that equipment that withstands the test conditions will withstand most crash conditions, even severe crash conditions.

The specification to apply the test load over 27 ± 3 seconds is not intended to be representative of an actual crash condition. Instead, it represents a test condition intended to be sufficiently demanding to ensure that the anchorage will not fail even under the most severe crash conditions. Thus, NHTSA denies the petitioner's request to revise the 27 ± 3 second load application.

On the other hand, the 10 second hold time for the full load application in Standard No. 225 is reduced to 1 second. A 1-second hold time is currently specified for the tether anchorage test of Standard No. 225 (S8.1(c)(3)). The agency has determined that this change is not likely to result in a reduction of safety. A 1-second hold time is still much longer than an actual crash event, which lasts typically 250 milliseconds, and will allow for scrutiny of the performance of the anchorages. In addition, the agency believes that much of the changes in the anchorages' material structure will occur during the 27 ± 3 seconds load application. The agency notes that this amendment harmonizes the hold time with a Transport Canada requirement that has been in place for many years regarding tether anchorages. Accordingly, S11(a) and (b) are revised to specify that the loads are held for 1 second.

3. Phasing-In Strength Requirements

The period during which vehicle manufacturers may meet the Canadian and draft ISO requirements for tether and lower LATCH anchorages, respectively, is currently scheduled to end on August 31, 2004. That means that, absent further amendment, vehicles manufactured on or after September 1, 2004 will have to meet the 15,000 and 11,000 N strength requirements for those anchorages. This final rule provides more time to manufacturers to meet the requirements for a few model lines.

The agency is providing additional time because this final rule makes several important amendments to

requirements of the standard relating to how the 15,000 and 11,000 N loads are applied and how the agency determines compliance with the requirements. Examples of these are the change from the 125 mm displacement criterion for the tether anchorage to one that determines whether the anchorage withstood the force by assessing the deformation of the structure; and the change in the load application rate for the 11,000 N load for the lower anchorages from 10 seconds to 1 second. The agency has determined that these changes may necessitate the reassessment by manufacturers of some vehicle models as to whether the vehicles comply with the amended standard. Further, some manufacturers may need more time than the period from now until August 31, 2004 to make whatever changes are needed to the structure of the vehicles to meet the new requirements.

This final rule gives vehicle manufacturers an additional year, for a few model lines, to assess whether their vehicles meet this rule's amended strength requirements and to make necessary changes to meet the requirements. Ninety (90) percent of the vehicles they manufacture on or after September 1, 2004 and before September 1, 2005 must be certified as meeting the amended strength requirements. One hundred (100) percent of the vehicles manufactured on or after September 1, 2005 must be certified as meeting the requirements. For final-stage manufacturers, alterers and small volume manufacturers, this rule permits these manufacturers to meet the Canadian or draft ISO requirements for all their vehicles until September 1, 2005. These phase-in requirements are set forth in a new S16 that is added to the standard. Reporting requirements implementing the phase-in are also set forth in Part 596.

4. Superwebbing

The March 1999 final rule specified that the SFAD have a tether strap that attaches to the vehicle's tether anchorage. The rule specified that the tether strap consists of webbing that must meet the breaking strength and elongation limits for lap belt assemblies, specified in Standard No. 209, "Seat Belt Assemblies" (49 CFR 571.209). The Alliance petitioned for reconsideration of this decision, stating that there is too much variation in elongation of the webbing to test the tether anchorage. NHTSA responded to the petition in the August 1999 final rule, by stating that it will use a steel cable to attach the SFAD to the tether anchorage. The agency believed that test complications due to

elongation of a strap would be minimized if a steel cable were used.

Ford and the Alliance petitioned for reconsideration of the use of steel cable. Petitioners stated that using cable results in a less realistic test, and the displacement measured in such a test would not be representative of real world tether anchor/strap performance. The Alliance suggested specifying a narrow range of elongation, such as between 2 and 4 percent (Docket 6160-21) at a tensile load of 14,490 lb. The Alliance also petitioned NHTSA to include a specification to pretension all belt systems, including the tether strap, prior to testing.

Today's final rule changes the specification for use of steel cable and specifies use of webbing material with an elongation limit of 4 percent at a tensile load of 65 kN (14,612 lb). This rule includes the requirement to pretension the tether strap prior to the test.

5. Technical Amendments

i. SFAD 2. In a petition for reconsideration, Mitsubishi noted that Figure 17 of FMVSS No. 225, which depicts the dimensions of the SFAD 2 test device, only specifies a tether attachment point somewhere near the top of the device. Mitsubishi believed that leaving the specific location of the attachment point and the shape and radius of the hole to the discretion of each vehicle manufacturer and test laboratory will lead to wide variation in the loading conditions in tether anchorage testing. Mitsubishi requested NHTSA to identify specific requirements for the location and dimensions of the SFAD 2 tether attachment point.

We have revised Figure 17 to make it clear that the tether attachment point on SFAD 2 is the same as on the SFAD 1 test device depicted in Figures 12 to 15 of FMVSS No. 225, both in location and dimension.

ii. Tether Anchorage Zone. In S6.2.1 of Standard No. 225 states: "* * * the part of each tether anchorage that attaches to a tether hook must be located within the shaded zone shown in Figures 3 to 7 of this standard * * *." Figure 3 shows the front edge of the zone as extending along the torso line reference plane under the seat and then following the contour of the vehicle seat bottom and seat back up to a point on the seat back. In a letter to the agency, American Suzuki Motor Company noted that Figures 3 to 7 of Standard No. 225 did not provide dimensions as to the location of the front edge of the shaded zone, except with regard to the "strap wrap-around area" at the top of a