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of Transportation

National Highway
Traffic Safety
Administration

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1200 New Jersey Avenue, SE
Washington, DC 20590

DEPARTMENT OF
TRANSPORTATION

2019 AUG 13 P 12: 14

DOCKET OPERATIONS

Mr. David Klopp, Director
Quality, Testing & Compliance
Freedman Seating Company
4545 W. Augusta Blvd.
Chicago, IL 60651

Dear Mr. Klopp:

This responds to your request for an interpretation concerning the attachment hardware requirements in Federal Motor Vehicle Safety Standard (FMVSS) No. 209, *Seat belt assemblies*. You ask whether it is acceptable to use attachment hardware smaller than that specified in the standard if the seating system complies with the strength requirements of FMVSS No. 210, *Seat belt assembly anchorages*. As we explain below, under FMVSS No. 209 it is acceptable to provide attachment hardware other than the 7/16-20 UNF-2A or 1/2-13 UNC-2A attachment bolts specified in the standard if it meets 209's S4.3(c) strength requirements when tested under the demonstration procedures of FMVSS No. 209's S5.2(c). The agency will not use the FMVSS No. 210 demonstration procedures in place of those of S5.2(c).

Background

FMVSS No. 209 specifies a variety of requirements for seat belt assemblies, including S4.3(c), which specifies strength requirements for attachment hardware that must be met when tested to a procedure in S5.2(c). Section S4.1(f) generally requires, among other things, that a seat belt assembly include all hardware necessary for installation in a motor vehicle. However, S4.1(f) goes on to exempt certain seat belt assemblies from this requirement:

[S4.1](f) *Attachment hardware*. * * * However, seat belt assemblies designed for installation in motor vehicles equipped with seat belt assembly anchorages that do not require anchorage nuts, plates, or washers, need not have such hardware, but shall have 7/16-20 UNF-2A or 1/2-13 UNC-2A attachment bolts or equivalent metric hardware.¹

Your question concerns the meaning of the phrase "equivalent metric hardware." You ask whether it is acceptable to use smaller (3/8" or M10 diameter) attachment hardware if the seating system (seat belts anchored to the seat structure) complies with the strength requirements of FMVSS No. 210.

¹ (Emphasis and footnote added.)

Discussion

After examining the history of S4.1(f) regarding the phrase in question, we conclude that “equivalent” is referring to the alternate bolts’ meeting the strength requirements of S4.3(c) of FMVSS No. 209. When the initial FMVSS No. 209 was promulgated in 1967 it incorporated by reference existing seat belt requirements codified at 15 CFR § 9.² Section 9 required 7/16-20 UNF-2A or 1/2-13 UNC-2A fasteners; there was no provision for equivalent hardware. The “equivalency” language was added later to FMVSS No. 209:

S3. Requirements. Seat belt assemblies shall meet the requirements of [15 CFR §9] using the attachment hardware specified in paragraph (f) of 15 CFR 9.3 or approved equivalent hardware.³

NHTSA explained in the preamble to the final rule adding the equivalency language that the agency had “determined that other fasteners that meet or exceed the strength requirements of paragraph (c) of 15 CFR 9.5 may be suitable for use. Therefore Standard No. 209 is being amended to provide for the use of an approved equivalent of equal or superior performance as an alternative to the fasteners specified.”⁴ The strength requirements in 15 CFR § 9.5(c) for attachment hardware were later re-codified at S4.3(c) of FMVSS No. 209.⁵ In sum, this history shows that the equivalency language was intended to allow the use of hardware other than 7/16-20 UNF-2A or 1/2-13 UNC-2A attachment bolts as long as the hardware meets or exceeds the strength requirements specified in S4.3(c).⁶

These S4.3(c) strength requirements remain the same today. They specify that attachment hardware must withstand specified forces when subjected to the test procedures in S5.2(c) of FMVSS No. 209. This test involves applying a load to the bolt through attachment hardware from the seat belt assembly, or through a special fixture which simulates the loading applied by the attachment hardware.

Note that S4.1(f) and S4.3 do not contemplate an FMVSS No. 210 strength test to assess the equivalency of alternate hardware. Thus, to answer your question, NHTSA will not assess compliance with S4.3(c)’s strength requirements using the FMVSS No. 210 demonstration procedures.

² 32 FR 2408 (Feb. 3, 1967).

³ 32 FR 3390-91 (Mar. 1, 1967) (emphasis and footnote added).

⁴ *Id.* (emphasis added).

⁵ 34 FR 115, 117 (Jan. 4, 1969) (recodification). Also, NHTSA amended FMVSS No. 209 to remove the word “approved” from “approved equivalent hardware.”

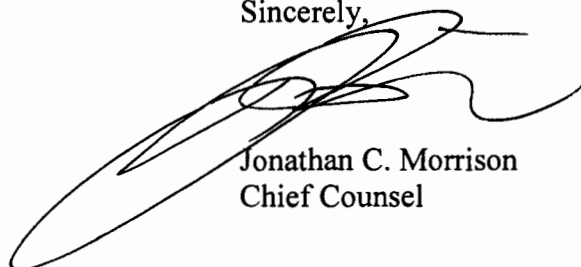
⁶ *See also* NHTSA’s letter to Takata Kojyo Co, Ltd. (Apr. 9, 1973) (stating that “[u]nder the provisions of S4.1(f), ‘equivalent hardware’ is permissible in lieu of the 7/16” bolts. In such a case, the tests required under S4.3(c), as prescribed under S5.2(c), would be performed on the entire equivalent hardware, rather than on the individual components (bolts).”).

“Equivalent Metric Hardware”

We recognize that the agency’s intent to state in FMVSS No. 209 that a manufacturer may provide equivalent hardware was somewhat obscured by a subsequent amendment. The “equivalent hardware” language remained until 1998, when the standard was amended as part of a rulemaking that converted English system measurements in selected FMVSSs to the metric system.⁸ Section S4.1(f) of FMVSS No. 209 was amended by changing the phrase “equivalent hardware” to “equivalent metric hardware.”⁹ It was not the intent of the 1998 metric conversion rulemaking to make a substantive change to FMVSS No. 209.¹⁰ Instead, the intent was that “equivalent hardware” was still the rule. Therefore, the agency interprets the S4.1(f) requirements to permit, as they have since 1967, fasteners other than 7/16-20 UNF-2A or 1/2-13 UNC-2A that meet or exceed the strength requirements in S4.3(c) when tested according to S5.2(c).

If you have any further questions, please contact John Piazza of my staff at (202) 366-2992.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan C. Morrison", is written over the typed name and title.

Jonathan C. Morrison
Chief Counsel

⁸ 62 FR 19253 (Apr. 21, 1997).

⁹ 63 FR 28922, 28936 (May 27, 1998) (final rule). *See also* letter from Paul Jackson Rice, Chief Counsel, to J.W. Lawrence, Volvo GM Heavy Truck Corporation (May 8, 1992) (stating that equivalent metric hardware is permitted).

¹⁰ 63 FR 28922 (“The [metric] conversions are not intended to make any changes in the stringency of the affected FMVSS”).

From: Dave Klopp [mailto:Dave.Klopp@freedmanseating.com]
Sent: Thursday, October 06, 2016 4:03 PM
To: Office of Chief Counsel, NHTSA (NHTSA)
Cc: Piazza, John (NHTSA); Covell, Claudia (NHTSA); Chern, Jack (NHTSA)
Subject: formal interpretation requested - seat belt attachment hardware size

We would like a formal interpretation on the required seat belt attachment hardware specified in FMVSS 209 S4.1(f) attachment hardware where it states - *shall have 7/16-20 UNF-2A or 1/2-13 UNC-2A attachment bolts or equivalent metric hardware*. Is it acceptable to use smaller (3/8" or M10 diameter) attachment hardware if the seating system (seat belts anchored to the seat structure) complies with FMVSS 210 strength requirements?

Thanks.

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Thank you for your cooperation.