DOREL JUVENILE
Care for Precious Life

Dorel Juvenile Inc
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November 11, 2020

Docket Management Facility, M-30
U.S. Department of Transportation
West Building, Ground Floor, Room W12-140
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

RE: Docket NHTSA-2020-0093 FMVSS 213 NPRM Comments

Dear Sir/Madam:

Please accept this letter as the response of Dorel Juvenile Group, Inc. ("Dorel), to your request for comments regarding the proposed rulemaking to amend Federal Motor Vehicle Safety Standards (FMVSS) No. 213.

Basis for changing the minimum child weight for booster usage from 30 to 40 pounds

At the outset, Dorel believes that NHTSA is making the correct decision with respect to the minimum weight for booster seat usage. We agree the minimum weight should be 40 pounds. We disagree strongly, however, with the study NHTSA relied upon to support its weight recommendation. The NPRM refers to a study entitled "Booster Seat Effectiveness Estimates Based on CDS and State Data" performed in 2010 and authored by Robert Sivinski ("Sivinski study"), 85 Fed. Reg. 69388, 69390 fn 9. Dorel has retained JP Research, Inc. of Mountain View, CA to analyze the Sivinski Study. The report prepared by JP Research ("JP Report"), has discredited the booster seat portion of the Sivinski Study. As stated in the JP Report,

> *The Sivinski study is an internal, preliminary NHTSA study examining injury risk to children in booster seats compared to children in restraint seats. The study combined a census of crashes from motor vehicle accident databases from 3 states with a sample of crashes from NASS/CDS data to derive a preliminary conclusion on the injury risk to children in booster seats and child restraint seats.*
>
> *The evaluation by the author reveals a number of problems with the Sivinski analysis:*
>
> 1. *In this study, the author combined unweighted NASS/CDS data with crash data from States to draw conclusions (see Table 1, Tables 7-9). NASS/CDS is a stratified sampling system, which includes in-depth investigations of a sample of crashes, which are used to obtain nationally extrapolated estimates. The crash data from States are a census of police-reported crashes resulting in a fatality, injury or property damage of some amount. It is statistically questionable to simply combine raw, unweighted data from a sampling system (NASS/CDS) with census data from a different data system (e.g., State data), as the sampled data are often biased without the correction of weights. In addition, it is possible that there will be overlap between the States data and the NASS/CDS samples. The study does not mention any attempts being made to remove duplicates.*

2. *This study is based on small sample sizes, especially for the analyses comparing booster seats with child restraint seats in children ages 3-4. Out of the nine reported effectiveness rates (Tables 7-9) only one rate (KAB, Table 7) appears to be statistically significant with wide confidence bounds (3-57%). The "KAB" injury classification[1] includes non-incapacitating ("B") injuries. The other eight rates all have wide confidence bounds, with the lower limits being negative, which indicates there can be an injury reduction with booster seats.*
3. *The study used matched-pair analysis and drivers as a "control" to account for crash severity and other confounding factors. In fact, drivers may differ in many ways (including seat position, age and gender) from subjects, which are the kids in the back rows. Age and gender can affect likelihood of injuries of the occupant while seat position is sensitive to direction of crash. For example, a rear impact is more likely to injure the kids in the back than the drivers in the front, causing the crash severity to be misleading. The paper fails to address these confounding factors, and the matched-pair methodology is flawed.*
4. *The study used police-reported crash data from three states for this analysis, claiming that these are the three states that have reported booster seat use and have accumulated enough data to conduct the statistical analysis. However, reviewing state data manuals show that Texas, Utah, Oklahoma and Wyoming are also states with reported booster seat use information in the data.*
5. *The author also identified some of the limitations of this study;*
    a. *"Due to sampling methods and data sources the results cannot be considered nationally representative or randomly sampled."*
    b. *There are some inconsistencies on coding of the injured child's restraint type among the data sources.*
    c. *In addition, the author of this study admits (on page 11 of his paper) that "the analysis comparing booster seats to child restraint seats in children 3 and 4 years old needs more data before drawing any firm statistical conclusions."*

The JP Report makes clear that the Sivinski Study is flawed and, as such, should not be the basis for the NHTSA recommendation on changing the age recommendation for the use of booster seats. Although some may wonder why it matters, if Dorel agrees with the proposed 40 pound weight limit, what the basis is for that weight limit? It matters greatly. The Sivinski Study states that some children who weigh more than 40 pounds are "better protected" in a conventional car seat than in a booster seat. NHTSA repeats this assertion in the last bullet point of section I.3 of the Executive Summary of the NPRM wherein it states "where they are better protected at that young age," if in a car seat other than a booster seat 85 Fed. Reg. at 69390. Dorel knows of no reliable data that support these statements.

Again, at 85 Fed. Reg. 69427-69428 and at 85 Fed.Reg. 69458-69459 at footnote 147, NHTSA relies upon the Sivinski Study and extrapolates this study further by estimating the number of potential lives saved to be between 1.2 to 4 and potentially prevent 1.6 to 5.2 serious injuries. This extrapolation is not supported by reliable data. NHTSA will be on record stating, in essence, some children who weigh over 40 pounds should <u>not</u> use a booster seat, as they would be "safer" in a more conventional car seat. This statement will be seized upon by those filing civil actions against Dorel, and others, in the event a child over 40 pounds is injured while in a booster seat. Moreover, if NHTSA is of the belief some children over 40 pounds are safer in a conventional car seat as opposed to a booster seat, then why stop at 40 pounds? Raise the minimum weight limit to whatever weight NHTSA believes all children are as safe in a booster seat as any other car seat.

[1]KABCO is the observational scale used in police reporting of crash injuries, where: K=killed, A=incapacitating injury, B=non-incapacitating injury, C=possible injury, O=no injury, U=injury, severity unknown

We wholeheartedly agree with the rationale stated in the NPRM (85 Fed. Reg. at 69390) where NHTSA observes that the 40 pound threshold corresponds generally to the weight of a 97th percentile 3-year-old and an 85th percentile 4 year old. We believe that these correspondences are sufficient to support the proposed 40 pound threshold. We also commend NHTSA's statements about booster seats remaining an integral part of child passenger safety, and part of the evolution in occupant protection from infancy to adulthood.

Dorel recommends that NHTSA should justify the proposed change to a 40 pound minimum for these reasons:

1. Matching child weight and height better;
2. Alignment with the forthcoming potential side impact requirements; and
3. Alignment with Canadian regulations which are already at 40 pounds.

Seat and Back foam references are not consistent with 2015 memo and docket

There is a difference between the NPRM and a NHTSA 2015 memo[2] related to bench foam specifications. The NPRM shows in section III.c.5.i a reference to ASTM D-3574-03 ("Standard test methods for flexible cellular materials-slab, bonded, and molded urethane foam")(85 Fed Reg. at 69397). The memo from NHTSA in 2015 indicates ASTM D-3574-11 is used to create the CFD specifications. We ask that NHTSA clarify which version of the test standard is to be referenced.

Conversations with the foam supplier referenced in the NPRM, Woodbridge, indicate there may be challenges to meet the foam specifications in the NPRM. Dorel urges NHTSA to confirm that the specifications are practicable and capable of being met by suppliers to avoid market disruption for inability to certify compliance.

Drawings

Drawings for foam and components are not available per the writing of this document.

Side Impact Bench

Section IIIb., Consistency with the Side Impact Bench, implies consideration for adoption of the new bench proposed in this NPRM to also be used for tests under potential future Side Impact Rules. We believe strongly that this issue should be separated from the rest of the proposal, and that the bench adoption proposal for Side Impact be limited only to the Side Impact Proposals. There have been many data points created by manufacturers using the bench from the 2014 Side Impact NPRM. To Dorel's knowledge, there have been no data created with the new bench related to side impact. There is no basis right now to suggest one side impact bench is better than another. Although the statement of the foam being an improvement is made, the location of tether, shoulder belts and lap anchors in relation to the side door barrier are of concern also. The approach we are suggesting could allow for an faster and easier adoption of the other issues proposed in the FMVSS 213 NPRM by keeping the two issues separated. NHTSA even states on page 69393-69394 and with footnote 31 that further adjustments to the side impact bench NPRM would be required. The request is to leave all side impact bench adoption proposals out of further consideration of this NPRM.

Suggestion of Final Rule on Non Controversial Sections (Final Rules in 2 Stages)

[2] NHTSA Docket No NHTSA-2013-055 Memorandum Jul 29 2015, subject-ACTION; Docket Submission of "Modifications of the Preliminary Drawings of an Upgraded Standard Seat Assembly to Evaluate Child Restraint Systems." By Lori K. Summers

Dorel believes that labeling, registration and ATD compliance testing in this NPRM could be brought to a final rule quickly as those items are not controversial in our opinion. These changes could yield safety benefits quickly. We suggest the remaining items be finalized as quickly as possible afterwards.

This concludes part 1 of our comments. There will likely be supplemental submissions as we learn more through testing, and as final drawings and our new bench become available.

Sincerely,

Darrin K. Keiser

Darrin K. Keiser
Sr. Director Operational Quality