



April 5, 2021

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

Re: Docket NHTSA–2020–0093 FMVSS 213 NPRM Comments

Dear Sir/Madam:

Please accept this letter as the second response of Dorel Juvenile Group, Inc. (“Dorel”), to your request for comments regarding the proposed rulemaking to amend Federal Motor Vehicle Safety Standard (FMVSS) No. 213. Dorel is a leading child restraint manufacturer who imports, domestically manufactures, and distributes all types of child restraints in the United States. Dorel has an internal dynamic crash test lab in Columbus, Indiana and have acquired one of the new standard seat assemblies described in the NPRM drawing packet. Between December 2020 and March 2021 Dorel completed over 320 research tests on our current child restraint lineup using the new standard seat assembly.

Based on this research data, Dorel would like to comment regarding NHTSA’s proposal stating: *“For CRSs for children in the 18.2 kg to 29.5 kg (40 to 65 lb) weight range, NHTSA proposes to amend FMVSS No. 213 to specify testing solely with the state-of-the-art HIII–6YO child ATD. Due in part to issues relating to the HIII–6YO’s performance in tests on the current (outdated) standard seat assembly, FMVSS No. 213 has provided manufacturers the option of NHTSA conducting compliance tests using the HIII–6YO or an older Hybrid II (H2) version of the test dummy (H2–6YO) (S7.1.2(d), S7.1.3). With the move to the updated seat assembly, the Agency believes the unrealistic chin-to-chest and head-to-knee contact problems seen in tests of the HIII–6YO on the current seat assembly would be eliminated.”* Based on Dorel’s research, our data does not support NHTSA’s belief that the unrealistic chin-to-chest contact problems of the HIII-6YO ATD are eliminated on the new standard seat assembly.

Dorel completed 80 internal research tests using the HIII-6YO ATD in combination with the new standard seat assembly on our existing child restraint lineup. 30 tests were completed using internal harness mode which showed no concerning performance issues. The remaining 50 tests were completed in belt-positioning-booster mode on 13 existing child restraint platforms (including 3-in-1 convertibles, combination boosters and backed/backless boosters). Of those 50 internal research tests completed in belt-positioning-booster mode there were 28 instances of chin-to-chest contact observed in the videos and head resultant data which contributed to elevated HIC36 scores. All 28 of these instances occurred during testing of certain 3-in-1 convertible or combination booster child restraints, which were groups of child restraints not well represented in NHTSA’s NPRM belt-positioning-booster test data. These 3-in-1 convertible and combination booster child restraints currently represent nearly 40% of Dorel’s best-selling child restraints yet none of these models were present in NHTSA’s NPRM data.

To assess whether these elevated HIC36 scores were related to the new standard seat assembly or the HIII-6YO ATD, or the combination, Dorel also completed 28 follow-up tests

using the same 3-in-1 convertibles and combination boosters with the H2-6YO ATD and the new standard seat assembly.

Dorel's research data shows that on average the HIC36 score of the HIII-6YO ATD is 575 points higher than the H2-6YO for belt-positioning-booster mode in certain 3-in-1 convertible child restraints. In certain combination booster child restraint testing the HIC36 score was 728 points higher using the HIII-6YO ATD. Upon NHTSA request, Dorel can provide detailed test results submitted to NHTSA with confidentiality.

Based on these performance differences, Dorel requests that updated FMVSS No. 213 should continue to allow manufacturers the option of specifying the use of either the H2-6YO or the HIII-6YO ATD to test their child restraints for compliance. A decision to allow ongoing use of the H2-6YO ATD is consistent with a public statement by the Agency in the SNPRM published November 24, 2010 (NHTSA-2010-0158; RIN 2127-AJ44):

“While the HIII-6C is being used to an extent today, NHTSA believes it would be prudent to undertake efforts to improve the HIII-6C dummy to make it more useful as an FMVSS No. 213 test device before testing child restraints solely with this ATD. The Hybrid III 6-year-old dummy has a softer neck than the H2-6C, which results in slightly greater head excursion results and larger HIC values (chin-to-chest contact) than the H2-6C. This, coupled with the stiff thorax of the HIII-6C dummy, accentuates the HIC values recorded by the dummy. Several measures are underway to improve the Hybrid III dummy (see discussion later in this preamble). Until such time the HIII-6C is improved, we believe that FMVSS No. 213 should permit NHTSA to allow manufacturers the option of specifying that NHTSA use either the H2-6C or the HIII-6C dummy to test their child restraints.”

At this time, there have been no improvements implemented on the HIII-6YO ATD therefore the H2-6YO ATD should not be excluded as optional for manufacturers to choose for compliance testing to updated FMVSS No. 213. Before the HIII-6YO becomes exclusive, the known issues with the ATD must be corrected. NHTSA could then verify any improvements through new research testing on the updated standard seat assembly using all types of child restraints with a belt-positioning-booster use mode available in the market today including popular 3-in-1 convertibles and combination boosters.

Dorel would also like to request NHTSA to provide clarification in the NPRM and Draft TP213 Section 3.3 for set up of the HIII-6YO ATD in Forward-Facing Installation (Section 3.3.1) and Belt Position Booster Installation (Section 3.3.2). Is this section meant to apply not only to the HIII-6YO ATD but also to the weighted HIII-6YO ATD? Currently, there is nothing in CFR or TP213-10 that describes the installation of the lap shield onto the weighted HIII-6YO ATD when used in belt-positioning-booster mode.

This concludes part 2 of our comments.

Sincerely,



Tim Edwards
Senior Manager, Lab and Regulatory Compliance