Consumers Union

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Comments Submission
of
CONSUMERS UNION OF UNITED STATES, Inc.
to
National Highway Traffic Safety Administration
49 CFR Part 571
Docket No. NHTSA-02-11707
RIN 2127-AI34
on
Federal Motor Vehicle Safety Standards;
Child Restraint System

Introduction

The National Highway Traffic Safety Administration has proposed a number of revisions to the Federal safety standard for child restraint systems (Notice of Proposed Rulemaking or NPRM) in response to the Transportation Recall Enhancement, Accountability and Documentation Act of 2000 (TREAD), which directed NHTSA to initiate a rulemaking proceeding for the purpose of improving the safety of child restraints. Consumers Union's (CU) comments on this NPRM are below.

FMVSS 213 Child Restraint –

1) Test Bench Seat Modifications:

- CU agrees that the current 1974 Impala front bench seat specification requires revision to a seat that more closely reflects current vehicle contours, angles and backrest configurations.

- With regard to the Bottom Seat Cushion Length (V a.4 i.) discussed as a feature that needs not be changed, CU disagrees. We recommend instead a shorter seat length that better represents present vehicle seats. Since the seat assembly is being revised in other respects, we feel that a shorter seat length is also necessary to reflect some "worst case" seat dimensions, rather than be guided by the average seat pan length.

- The NPRM also requests comments relative to cushion stiffness and quotes data from measurements and testing conducted in 1987 and 1988, comparing then current seats with the test bench seat. Based on our

experience, CU believes that the cushion stiffness (whether harder or softer) plays a major role in child seat installation and at the very least, new data should be generated to replace the now nearly 15 yr. old data for vehicle seat stiffness. We agree that this characteristic requires further tests and analysis, and we welcome NHTSA's efforts.

- Crash Pulse Modification –The crash pulse modification appears to be directionally correct. We caution however, that the modification should not result in a reduction in the severity of the test; i.e., the safety of the restraint.

2) Improved Child Test Dummies:

- CU has long supported an expansion in the sizes and ages of dummies NHTSA requires be used to test child restraints. We note that the variety of child seats has expanded to accommodate children of varying sizes and weights.

- It is important to stress that CU has also pressed NHTSA continuously since 1995 to require that all car seats be tested to the limits of the weight ranges recommended for that restraint. Though the addition of the new dummies does alleviate some of these concerns, the current proposal still includes criteria for testing some seats below their claimed weight allowances. For example, seats said to be certified to 40 lbs. will be tested with the HIII 3-yr. old dummy weighing only 33 lbs. as a maximum, and booster seats certified to 65 lbs. will be tested with a weighted HIII 6-yr. old dummy weighing 62 lbs.

- CU finds this disparity unacceptable. Again, we urge NHTSA to use the opportunity afforded by this rulemaking to find some means of testing all child restraints to the claimed upper limit of their weight range as the only means of truly evaluating the structural integrity of the restraint. Otherwise, the consumer is led to believe that the restraint will perform adequately at the claimed maximum weight when in fact the restraint has not been cash-tested for that weight infant. In our opinion, this borders on false advertising.

- The options are to develop dummies that reach the maximum weight advertised for a seat, or in the alternative, requiring the addition of ballast weights to existing test dummies to meet current required weight limit. We recommend guidelines for weighting the 33-lb. HIII 3-yr. old dummy to both 35 lbs. and 40 lbs. to match current claims of the seats upper weight limits.

- Along these same lines, and in response to NHTSA's question, testing infant seats rated to 20 lbs. using the 22-lbs. CRABI dummy is an acceptable alternative as the tested weight will exceed claimed the upper weight limits for car seats.

- CU also supports the long-term development of an instrumented 10 yr. old dummy to further represent the size and weight of older children.

- If NHTSA is feels it cannot require testing at the highest level of recommended weight limits of the restraint, then NHTSA should limit

manufacturers' ability to advertise car restraint weight maximums to only the weight of the largest dummy used for its certification testing.

3) Revised Injury Criteria:

   - CU supports the proposed addition and modification of injury criteria to the FMVSS 213 specification.

FMVSS 213 Advanced Notice of Proposed Rulemaking – Side Impact:

1) 20″ Excursion limit:

   - Relative to the 20" excursion limit based on the distance between the most inboard LATCH anchors and the door in a Grand Am, CU's Automotive Test Department measured a number of 2002 and 2003 vehicles. Measurements were made in 13 small and large vehicles from the centerline of the most inboard LATCH anchor to the door trim in the left rear outboard seat position. CU found the distances to range between 17"-21" for the 13 vehicles measured and averaging 18.8". CU would caution, based on this limited analysis, that the 20" excursion limit based on the Grand Am may be slightly larger than what exists in many newer vehicles. As such, CU would encourage NHTSA to make similar and more extensive formal measurements on newer vehicles or to solicit the information from vehicle manufacturers prior to finalizing excursion limits in the rulemaking.

2) 15 mph rigid wall vs. 20 mph excursion test:

   - CU does not have direct experience with either type of side impact test. While it is clear that head injuries are the focus in side impact tests, NHTSA's comments suggest that it is unclear whether injuries in side impacts are a reflection of head impact or loading injuries relative to the excursion. We suggest that perhaps a rigid wall test would provide the best assessment of actual crash mechanics by providing both evaluations. With a rigid wall set at the excursion limit (20" or final distance), contact with the wall would mean that excursions exceeded the 20" distance but would still allow for neck injury data to be collected as the dummy moved toward the barrier.

   - Appropriate test dummies would need to be developed to correctly evaluate the side impact injury testing criteria we are recommending.

   - CU is not in a position to evaluate the appropriateness of the proposed side crash pulses.

3) Countermeasures:

   - Rather than the standard specifying countermeasures, CU supports leaving their determination to the child restraint manufacturers. Instead, NHTSA should specify broad performance criteria for which child restraints must comply.

4) Rigid LATCH:

- The NPRM notes the improved lateral side impact results achieved by child restraints equipped with rigid LATCH configurations. CU believes this provides strong guidance to NHTSA to push for standards leading to use of the rigid as opposed to the flexible LATCH system.

5) Use of NCAP vehicles to further side impact knowledge:

- As CU has suggested in previous comments to NHTSA[1], the use of NCAP test vehicles would be an excellent opportunity for NHTSA to gather data for side-impact test development. Though conducted at lower speeds, by installing dummies in appropriate child restraints in vehicles during side impact testing, information on the following may be achieved:

    a. A better understanding of potential strike locations (for possible FMVSS 201 Occupant Protection in Interior Impact revisions).

    b. Additional data accumulated on excursion distances.

    c. As mentioned previously, additional data on the distances between LATCH anchors and door trim on tested NCAP vehicles.

    d. Data could be accumulated related to injury type (impact vs. excursion injury).

    e. Evaluation of the type of potential countermeasures needed to achieve improved side impact protection.

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Respectfully submitted,

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[1] Docket No. NHTSA-2001-10053-Notice 1, Comments Submission of CONSUMERS UNION OF UNITED STATES, Inc. to National Highway Traffic Safety Administration on Safety Rating Program for Child Restraint Systems, January 10, 2002.