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8/4/03

Dr. Jeffrey W. Runge
Room 5220
National Highway Traffic Safety Administration
400 Seventh Street SW
Washington, DC 20590

SUBJECT: Petition for Reconsideration of Final Rule
Docket No. NHTSA-03-15351; 49 CFR Part 571.213
Federal Motor Vehicle Safety Standards; Child Restraint Systems
Vol. 68, No 121; Tuesday, June 24, 2003; Section 9.1

Dear Dr. Runge,

This letter is a petition for reconsideration from Denton ATD, Inc. in regards to the clothing and shoes specified for the Hybrid III three year old and Hybrid III 6 year old on page 37656 of 49 CFR Part 571, Part II, Volume 68, Number 121 dated Tuesday, June 24, 2003 in the Rules and Regulations, Section 9.1 Type of Clothing.

GENERAL PROBLEM:

There does not seem to be a conflict with the clothing specifications of the CRABI, however, there is a conflict with shoe specifications for the Hybrid III 3-year old and Hybrid III 6-year old and the clothing specification for the Hybrid III 3-year old. The specifications listed in the Part 571.213 are based on the previous HII versions of the dummy as previously stated in Docket No. NHTSA-02-011707, 49 CFR Part 571 Proposed rules, Section 1.iii "no such specifications are in part 572. As such, we propose that S9.1(c) Standard No. 213 maintain the specification of footwear for the Hybrid III 3- and 6-year old dummies."

However, in the CFR 49, Part 572, Subpart P-Hybrid III 3-year old Child Crash Test Dummy, Alpha Version, section 572.140 incorporates both the drawing package and the PADI manual into the Rules and Regulations. Likewise, in CFR 49, Part 572, Subpart N-Six Year Old Child Test Dummy, Beta Version, Section 572.120 also incorporates the drawing package and PADI manual into the Rules and Regulations. Both the PADI manual and drawing packages for each dummy have clothing and or shoe specs for the dummies.

The clothing specs are outlined below according to the source. If the spec in the 49 CFR part 571.213 Rules and Regulations is not reconsidered there will be a conflict in the shoe specs for both the Hybrid III 3-year old and Hybrid III 6-year old dummy and the clothing weight specs for the Hybrid III 3-year old. In addition, we are also asking that the weight of the shoes for both dummies be reviewed. We have spent extensive amounts of time trying to locate shoes that meet the current weight spec, but we believe that new designs and improvements in materials and processes have lead to lighter shoe weights. Therefore, we have been unable to find shoes that meet the current weight spec as purchased.

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IIII 3 Year Old

Both the drawing package and the PADDI are incorporated in 572 by reference

Drawings

210-5920 Children's size 8 oxford style sneaker
6000210 Pants (ankle length, thermal underwear, x-small)-explanation is on drawing 9000000_6000000, individual drawing is not in the NHTSA package
6000209 Shirt (long sleeve, thermal underwear, x-small)-explanation is on drawing number 9000000_6000000, individual drawing is not in the NHTSA package

PADI

-lightweight long-sleeve shirt and ankle length pants
-children's XS, size 4-5 thermal knit, waffle weave, 50% cotton, 50% polyester and cotton underwear or equivalent
-neckline must be small enough to prevent contact between a shoulder belt and the dummy's skin
-combined weight of shirt and pants to be no more than .25 kg (.55 lbs)
-shoes-children's size 8 canvas oxford style sneakers. Each shoe must weigh $.21 \pm .05$ kg ($.47 \pm .10$ lb)

49 CFR Part 572, Section 572.144, C-1

-cotton-polyester based tight fitting shirt with long sleeve and ankle-length pants whose combined weight is not more than .25 kg (.55 lbs)

49 CFR Part 571 213 Section 9.1

"clothed in a thermal knit, waffle-weave polyester and cotton underwear or equivalent, a size 4 long sleeved shirt...having a mass of .090 kg, a size 4 pair of long pants having a mass of .090 kg, and cut off just far enough above the knee to allow the knee target to be visible, and size 7M sneakers with rubber toe caps, uppers of Dacron and cotton or nylon and a total mass of .453 kg."

IIII 6 Year Old

Both the drawing package and the PADDI are incorporated in 572 by reference

NHTSA DRAWING PACKAGE

127-6000 No print in the Beta version, from Alpha version- crew neck sweat shirt, 50% cotton-50% polyester, size 8 small, color-navy (subject to yearly change due to availability)

127-6001 No print available

127-6002 brand "Keds" or equivalent, white canvas lace-up oxford, size 13M

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PADI

- lightweight short sleeve shirt and above the knee pants
- children's XS (size 4-5) 50% cotton, 50% polyester and cotton underwear equivalent.
- neckline must be small enough to prevent contact between a shoulder belt and the dummy's skin.
- shirt and pants to weigh no more than .09 kg (.4 lb) each
- shoes (if required) are children's size 13 M canvas oxford style sneakers. Each shoe weighs $.38 \pm .05$ kg ($.83 \pm .10$ lbs).

49 CFR Part 572, Section 572.124, C-2

"...wearing tight-fitting underwear or equivalent consisting of a size 5 short-sleeved shirt having a weight less than .090 kg (0.2 lb) and an opening at the top just large enough to permit the passage of the head with a tight fit, and a size 4 pair of long pants having a weight of less than .090 kg (0.2 lb) with the legs cut off sufficiently above the knee to allow the knee target to be visible,..."

49 CFR Part 571 213 Section 9.1

Under HIII 3 year old:

"clothed in a thermal knit, waffle-weave polyester and cotton underwear or equivalent... a size 5 long sleeved shirt (6 year old dummy) having a mass of .090 kg, a size 4 pair of long pants having a mass of .090 kg, and cut off just far enough above the knee to allow the knee target to be visible..."

Under HIII 6 year old:

"clothed in a light-weight cotton stretch short sleeve shirt, and size 12 ½ M sneakers with rubber toe caps, uppers of Dacron and cotton or nylon and a total mass of .453 kg."

Summary

Hybrid III 3-Year Old Clothing

The PADI manual for the Hybrid III 3-year old specifies a combined weight for the clothing to be .25 kg (.55 lb). However 49 CFR 571.213 Section 9.1, subpart e) seems to combine the wording for the Hybrid III 3-year old and Hybrid III 6-year old weight specifications and calls for .090 kg each piece (.40 lb total). Therefore there is a discrepancy in the weight specs for the cloths. We recommend that the Hybrid III 3-year old and the Hybrid III 6-year old specifications be completely separated in the text of section 9.1, and the weight specification remain .25 kg for the three year old since it remains unmodified (sleeves and pants are not cut off).

Hybrid III 3-Year Old Shoes

The drawings and the PADI manual specify a size 8 oxford style sneaker. The PADI specifies that the shoes be canvas and that each shoe weigh $.21 \pm .05$ kg ($.47 \pm .10$ lb). The 49 CFR Part 571.213 Section 9.1 specifies a shoe size of 7M with a total mass of .453 kg (1.00 lb). We recommend that the shoe size stay as previously specified at a size 8. Also, we would like consideration for changing the weight spec of the shoe. The current spec is almost a half a pound per shoe for a 3 year old, and is higher than the allowable weight of the shoes for the adult Hybrid III 5th Female dummy. We have found it impossible to find shoes that meet this spec, especially when limited to a canvas style oxford. This may be possible if

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specified as an all leather oxford shoe but new, lighter materials have made it very difficult to find shoes within this weight range. The closest shoes we have purchased to the target weight have weighed .237 lbs per shoe, .352 lbs per shoe and .37 lbs per shoe. We hope that the size of the shoes remains the same as specified in the drawing package and PADI manual, however, that the weight of the shoes will be reconsidered.

Hybrid III 6-Year Old Clothing

The Hybrid III 6 Year old clothing is specified in 49 CFR 571.213 Section 9.1 both sections (e) and (f). The wording tends to be slightly confusing and may be better if concentrated under the Hybrid III 6-year old only (section f).

Hybrid III 6-Year Old Shoes

The drawings and the PADI manual specify canvas oxford, size 13M. The PADI specifies that each shoe weigh $.38 \pm .05$ kg ($.83 \pm .10$ lb). The 49 CFR Part 571.213 Section 9.1 specifies a size 12 ½ M canvas oxford with a total mass of .453 kg (1.00 lb). Again, it has been impossible to find shoes that meet this weight spec in this style. We have purchased shoes weighing .325 lb each shoe, .602 lbs each shoe and several pair of the same style that ranged from .540-.562 lbs per shoe. We hope that the size of the shoes remains the same as specified in the drawing package and PADI manual, however, that the weight of the shoes will be reconsidered.

Sincerely,



Mike S. Beebe
Vice President of Engineering