DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 572

[Docket No. NHTSA-2011-0175]

RIN 2127-AJ49

Hybrid III 10-Year-Old Child Test Dummy; Corrections; Incorporation by Reference

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Technical amendments.

SUMMARY: NHTSA published a document in the Federal Register on February 27, 2012 (77 FR 11651), establishing specifications and qualification requirements for a Hybrid III 10-year-old child size test dummy. The regulatory text adopted by that document contained errors, as did some of the drawings of the test dummy and other materials incorporated by reference pertaining to the test dummy. This document corrects those errors by revising regulatory text and incorporating by reference a corrected drawing package. We have also made conforming changes to the parts list and users' manual for the dummy, which this document also incorporates by reference.

DATES: Effective date: [**insert date of publication in the FEDERAL REGISTER**]. The incorporation by reference of the publications listed in this document has been

approved by the Director of the Federal Register as of [**insert date of publication in the FEDERAL REGISTER**].

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SUPPLEMENTARY INFORMATION:

This document corrects 49 CFR Part 572, "Anthropomorphic Test Devices," Subpart T, "Hybrid III 10-Year-Old Child Test Dummy (HIII-10C)." NHTSA published a final rule on February 27, 2012 (77 FR 11651), establishing Subpart T, which contains specifications and qualification requirements for the HIII-10C. The regulatory text adopted by that document contains errors, as do some of the drawings and other materials incorporated by reference pertaining to the test dummy. This document corrects those errors by revising regulatory text and incorporating by reference a corrected drawing package, parts list and users' manual.

Need for Correction

Corrected Regulatory Text

The following corrections are made to the regulatory text.

a. Sections 572.170 and 572.171 of subpart T incorporate by reference a drawings and inspection package, a parts/drawing list, and a users' manual ("Procedures for Assembly, Disassembly and Inspection" ("PADI")) for the HIII-10C by name and by date. NHTSA is correcting several drawings in the package, and is making conforming

changes to the parts list and to several figures in the PADI. For ease of use, rather than switch out individual drawings from the previous drawings package and individual pages from the original PADI and risk confusion by users in the future about which drawings and pages were replaced, NHTSA is incorporating by reference a new set of materials. We are referencing a new drawings and inspection package that has the corrected drawings, a new parts/drawing list, and a new PADI. All these new materials are dated March 2015. We are amending § 572.170 and § 572.171 to reference the new versions of the materials.

b. The February 2012 final rule incorrectly specifies in 49 CFR 572.177(a)(1) that the thorax impact probe mass is 6.89 ± 0.012 kilograms (kg) (15.2 ± 0.05 pounds (lb)). Figure T4 of subpart T correctly lists the thorax impact probe mass as "6.89 ± 0.05 kg (15.2 ± 0.1 lb)." We are correcting the second sentence of 49 CFR 572.177(a)(1) so that it refers to "6.89 ± 0.05 kg (15.2 ± 0.1 lb)."

Likewise, the February 2012 final rule incorrectly specifies in § 572.177(a)(2) that the knee impact probe mass is 1.91 ± 0.01 kg (4.21 ± 0.02 lb). Figure T6 of subpart T correctly lists the knee impact probe mass as "1.91 ± 0.05 kg (4.2 ± 0.1 lb)." We are correcting the second sentence of 49 CFR 572.177(a)(2) to reference a mass of 1.91 ± 0.05 kg (4.21 ± 0.1 lb).

c. The February 2012 final rule inadvertently excluded a specification for the filter class used for the knee probe acceleration and for the thorax probe acceleration. The filter class used for the knee probe acceleration is SAE International (SAE) Channel Frequency Class (CFC) 600. CFC 600 has historically been applied to other dummy knee probe accelerations and NHTSA used CFC 600 in developmental testing of the

HIII-10C. The filter class used for the thorax probe acceleration is CFC 180. NHTSA specifies the CFC 180 filter class with other test dummies and used it in developing the HIII-10C. Accordingly, NHTSA corrects 49 CFR 572.177(c) by adding the filter classes for the knee and thorax probe accelerations.

Corrected Drawings

Drawing 420-5120, Upper Leg Flesh

In the revisions table for this drawing, in Rev F, the overall Upper Leg Flesh height dimension is correctly specified as "4.50 +.06/-.18 (was 4.5 +.16/-.13)." Elsewhere on the drawing, the height dimension next to the part does not match this value in the table. We have corrected the height dimension next to the part to match that of the table.

In Drawing 420-5120, the dimension for the overall Upper Leg Flesh width is correctly listed, next to the part, as "4.92 +.05/-.20." In the revisions table, Rev F, the width dimension is different and incorrect. We have corrected the revisions table to match the dimension listed next to the part.

Drawing 420-4300, Abdomen

In the revision history table, Rev F, the width of the abdomen pocket is correctly stated as (3.77) and the depth is correctly stated as (2.14). Elsewhere on the drawing, the dimensions listed for those parts do not match those correct dimensions in the revision history table. We have corrected the drawing to match the correct dimensions in the table.

In the revision history table, Rev E, Note #2 had read: "All Dimensional Tolerances Are ±0.12 inch." The note was incorrectly removed, and in Rev F, a ±0.06

inch tolerance was incorrectly added to two dimensions (0.75 ±0.06 and 0.62 ±0.06). The ±0.06 inch tolerance is in error; it is an unrealistic dimensional requirement for a molded part. We have revised the drawing to reestablished the ±0.12 inch tolerance for this part.

Drawing 420-1001, Skull, Machining, 6-Axis

The drawing package incorporated by the February 2012 final rule had drawing 880105-102, which had an error with respect to the dimensions called out for the center of gravity (CG) location of the skull. The correct CG dimensions for the head assembly are in drawing 420-0000, Sheet 4 of 5, as follows: CGx = 2.330 ± 0.100 inch and CGz = 1.200 ± 0.100 inch. We have removed drawing 880105-102 and have revised drawing 420-1001 (Rev D) to add information on the CG location.

Revisions Relating to Shoulder Assembly Drawings

Some of the drawings of the HIII-10C's shoulder area are incorrect because they depict the design of the dummy at the time of our publication of the notice of proposed rulemaking (NPRM)[1] preceding the February 2012 final rule, and not the design of the HIII-10C as it was adopted by the final rule. As adopted by the final rule, the HIII-10C has a shoulder assembly design that can be modified by switching a part of the shoulder assembly (the shoulder yoke), to enable the dummy shoulder to accommodate either a load cell or a structural replacement (SR) in place of a load cell. The drawings adopted by the final rule show the shoulder yoke that accommodates an SR, but we inadvertently did not include drawings showing the HIII-10C with the shoulder yoke assembly that accommodates a load cell. We have corrected this oversight by including in the new

[1] 70 FR 40281, July 13, 2005, Docket No. NHTSA-2004-21247.

drawing package drawings of the alternate shoulder yoke assembly that accommodates a load cell, and drawings of the load cell and assorted hardware.

Corrected PADI

We have revised various figures in the PADI to conform the manual to the changes discussed above. Most of the revisions relate to using the shoulder yoke assembly when using the HIII-10C with a shoulder load cell. The revised figures are: 12, 21, 22, 24, 29, 82 and 83.

List of Subjects in 49 CFR Part 572

Motor vehicle safety, Incorporation by reference.

Accordingly, 49 CFR part 572 is corrected by making the following correcting amendments:

PART 572-ANTHROPOMORPHIC TEST DUMMIES

1. The authority citation for Part 572 is revised to read as follows:

Authority: 49 U.S.C. 322, 30111, 30115, 30117 and 30166; delegation of authority at 49 CFR 1.95

Subpart T - Hybrid III 10-Year-Old Child Test Dummy (HIII-10C)

2. Section 572.170 is amended by revising paragraph (b)(1), the introductory text of paragraph (b)(2), and paragraph (b)(3), to read as follows:

§ 572.170 Incorporation by reference.

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(b) * * *

(1) A parts/drawing list entitled, “Parts/Drawing List, Part 572 Subpart T, Hybrid III 10 Year Old Child Test Dummy (HIII-10C), March, 2015,” IBR approved for §572.171.

(2) A drawings and inspection package entitled, “Parts List and Drawings, Part 572 Subpart T, Hybrid III 10 Year Old Child Crash Dummy (HIII-10C), March 2015,” IBR approved for §572.171, including:

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(3) A procedures manual entitled “Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 10 Year Old Child Test Dummy (HIII-10C), March 2015”; IBR approved for §§ 572.171 and 572.177.

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3. Section 572.171 is amended by revising paragraphs (a)(1) and (a)(2), and the introductory text of paragraph (a)(3), to read as follows:

§ 572.171 General description.

(a) * * *

(1) The parts enlisted in “Parts/Drawing List, Part 572 Subpart T, Hybrid III 10 Year Old Child Test Dummy (HIII-10C), March, 2015” (incorporated by reference, see §572.170),

(2) The engineering drawings and specifications contained in “Parts List and Drawings, Part 572 Subpart T, Hybrid III 10 Year Old Child Crash Dummy (HIII-10C), March 2015,” which includes the engineering drawings and specifications described in Drawing 420-0000, the titles of the assemblies of which are listed in Table A, and,

(3) A manual entitled "Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 10 Year Old Child Test Dummy (HIII-10C), March 2015."

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4. Section 572.177 is amended by revising the second sentence in paragraph (a)(1) and the second sentence in paragraph (a)(2), and by adding paragraphs (c)(18) and (c)(19), to read as follows:

§ 572.177 Test conditions and instrumentation.

(a) * * *

(1) * * * It has a mass of 6.89 ± 0.05 kg (15.2 ± 0.1 lb) and a minimum mass moment of inertia of 2040 kg-cm^2 (1.81 lbf-in-sec^2) in yaw and pitch about the CG. * * *

(2) * * * It has a mass of 1.91 ± 0.05 kg (4.21 ± 0.1 lb) and a minimum mass moment of inertia of 140 kg-cm^2 (0.124 lbf-in-sec^2) in yaw and pitch about the CG. * * *

(c) * * *

(18) Thorax probe acceleration, CFC 180,

(19) Knee probe acceleration, CFC 600.

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Issued May 22, 2015

Raymond R. Posten
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For Rulemaking

Billing Code 4910-59P

[FR Doc. 2015-15279 Filed: 6/22/2015 08:45 am; Publication Date: 6/23/2015]