

**Subpart P—3-year-Old Child  
Crash Test Dummy, Alpha Version**

SOURCE: 65 FR 15262, Mar. 22, 2000, unless otherwise noted.

**§572.140 Incorporation by reference.**

(a) The following materials are hereby incorporated in this subpart P by reference:

(1) A drawings and specifications package entitled, "Parts List and Drawings, Subpart P Hybrid III 3-year-old child crash test dummy, (H-III3C, Alpha version) September 2001," incorporated by reference in §572.141 and consisting of:

(i) Drawing No. 210-1000, Head Assembly, incorporated by reference in §§572.141, 572.142, 572.144, 572.145, and 572.146;

(ii) Drawing No. 210-2001, Neck Assembly, incorporated by reference in §§572.141, 572.143, 572.144, 572.145, and 572.146;

(iii) Drawing No. TE-208-000, Headform, incorporated by reference in §§572.141, and 572.143;

(iv) Drawing No. 210-3000, Upper/Lower Torso Assembly, incorporated by reference in §§572.141, 572.144, 572.145, and 572.146;

(v) Drawing No. 210-5000-1(L), -2(R), Leg Assembly, incorporated by reference in §§572.141, 572.144, 572.145 as part of a complete dummy assembly;

(vi) Drawing No. 210-6000-1(L), -2(R), Arm Assembly, incorporated by reference in §§572.141, 572.144, and 572.145 as part of the complete dummy assembly;

(2) A procedures manual entitled "Procedures for Assembly, Disassembly and Inspection (PADI), Subpart P, Hybrid III 3-year-old Child Crash Test Dummy, (H-III3C, Alpha Version) September 2001," incorporated by reference in §572.141;

(3) SAE Recommended Practice J211/1, Rev. Mar 95 "Instrumentation for Impact Tests—Part 1-Electronic Instrumentation", incorporated by reference in §572.146;

(4) SAE J1733 1994-12 "Sign Convention for Vehicle Crash Testing" incorporated by reference in §572.146.

(5) The Director of the Federal Register approved those materials incorporated by reference in accordance

with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of the materials may be inspected at NHTSA's Docket Section, 400 Seventh Street SW, room 5109, Washington, DC, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(b) The incorporated materials are available as follows:

(1) The drawings and specifications package referred to in paragraph (a)(1) of this section and the PADI document referred to in paragraph (a)(2) of this section are accessible for viewing and copying at the Department of Transportation's Docket public area, Plaza 401, 400 Seventh St., SW., Washington, DC 20590, and downloadable at [dms.dot.gov](http://dms.dot.gov). They are also available from Reprographic Technologies, 9107 Gaither Rd., Gaithersburg, MD 20877, (301) 419-5070.

(2) The SAE materials referred to in paragraphs (a)(3) and (a)(4) of this section are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

[65 FR 15262, Mar. 22, 2000, as amended at 66 FR 64376, Dec. 13, 2001]

**§572.141 General description.**

(a) The Hybrid III 3-year-old child dummy is described by the following materials:

(1) Technical drawings and specifications package 210-0000 (refer to §572.140(a)(1)), the titles of which are listed in Table A of this section;

(2) Procedures for Assembly, Disassembly and Inspection document (PADI) (refer to §572.140(a)(2)).

(b) The dummy is made up of the component assemblies set out in the following Table A of this section:

TABLE A

Component assembly	Drawing No.
Head Assembly .....	210-1000
Neck Assembly (complete) .....	210-2001
Upper/Lower Torso Assembly .....	210-3000
Leg Assembly .....	210-5000-1(L), -2(R)

TABLE A—Continued

Component assembly	Drawing No.
Arm Assembly .....	210–6000–1(L), –2(R)

(c) Adjacent segments are joined in a manner such that except for contacts existing under static conditions, there is no contact between metallic elements throughout the range of motion or under simulated crash impact conditions.

(d) The structural properties of the dummy are such that the dummy conforms to this part in every respect only before use in any test similar to those specified in Standard 208, *Occupant Crash Protection*, and Standard 213, *Child Restraint Systems*.

#### § 572.142 Head assembly and test procedure.

(a) The head assembly (refer to § 572.140(a)(1)(i)) for this test consists of the head (drawing 210–1000), adapter plate (drawing ATD 6259), accelerometer mounting block (drawing SA 572–S80), structural replacement of  $\frac{1}{2}$  mass of the neck load transducer (drawing TE–107–001), head mounting washer (drawing ATD 6262), one  $\frac{1}{2}$ –20×1" flat head cap screw (FHCS) (drawing 9000150), and 3 accelerometers (drawing SA–572–S4).

(b) When the head assembly in paragraph (a) of this section is dropped from a height of 376.0±1.0 mm (14.8±0.04 in) in accordance with paragraph (c) of this section, the peak resultant acceleration at the location of the accelerometers at the head CG shall not be less than 250 g or more than 280 g. The resultant acceleration versus time history curve shall be unimodal, and the oscillations occurring after the main pulse shall be less than 10 percent of the peak resultant acceleration. The lateral acceleration shall not exceed ±15 G (zero to peak).

(c) *Head test procedure.* The test procedure for the head is as follows:

(1) Soak the head assembly in a controlled environment at any temperature between 18.9 and 25.6 °C (66 and 78 °F) and at any relative humidity between 10 and 70 percent for at least four hours prior to a test.

(2) Prior to the test, clean the impact surface of the head skin and the steel impact plate surface with isopropyl alcohol, trichlorethane, or an equivalent. Both impact surfaces must be clean and dry for testing.

(3) Suspend the head assembly with its midsagittal plane in vertical orientation as shown in Figure P1 of this subpart. The lowest point on the forehead is 376.0 ±1.0 mm (14.76 ±0.04 in) from the steel impact surface. The 3.3 mm (0.13 in) diameter holes, located on either side of the dummy's head in transverse alignment with the CG, shall be used to ensure that the head transverse plane is level with respect to the impact surface.

(4) Drop the head assembly from the specified height by a means that ensures a smooth, instant release onto a rigidly supported flat horizontal steel plate which is 50.8 mm (2 in) thick and 610 mm (24 in) square. The impact surface shall be clean, dry and have a finish of not less than  $203.2 \times 10^{-6}$  mm (8 micro inches) (RMS) and not more than  $2032.0 \times 10^{-6}$  mm (80 micro inches) (RMS).

(5) Allow at least 2 hours between successive tests on the same head.

#### § 572.143 Neck-headform assembly and test procedure.

(a) The neck and headform assembly (refer to §§ 572.140(a)(1)(ii) and 572.140(a)(1)(iii)) for the purposes of this test, as shown in Figures P2 and P3 of this subpart, consists of the neck molded assembly (drawing 210–2015), neck cable (drawing 210–2040), nylon shoulder bushing (drawing 9001373), upper mount plate insert (drawing 910420–048), bib simulator (drawing TE–208–050), urethane washer (drawing 210–2050), neck mounting plate (drawing TE–250–021), two jam nuts (drawing 9001336), load-moment transducer (drawing SA 572–S19), and headform (drawing TE–208–000).

(b) When the neck and headform assembly, as defined in § 572.143(a), is tested according to the test procedure in paragraph (c) of this section, it shall have the following characteristics:

(1) Flexion.