

**Subpart O—Hybrid III 5th Percentile Female Test Dummy, Alpha Version**

SOURCE: 65 FR 10968, Mar. 1, 2000, unless otherwise noted.

**§ 572.130 Incorporation by reference.**

(a) The following materials are hereby incorporated into this Subpart by reference:

(1) A drawings and specification package entitled “Parts List and Drawings, Part 572 Subpart O Hybrid III Fifth Percentile Small Adult Female Crash Test Dummy (H-III5F, Alpha Version)” (January 2000), incorporated by reference in § 572.131, and consisting of:

(i) Drawing No. 880105–100X, Head Assembly, incorporated by reference in §§ 572.131, 572.132, 572.133, 572.134, 572.135, and 572.137;

(ii) Drawing No. 880105–250, Neck Assembly, incorporated by reference in §§ 572.131, 572.133, 572.134, 572.135, and 572.137;

(iii) Drawing No. 880105–300, Upper Torso Assembly, incorporated by reference in §§ 572.131, 572.134, 572.135, and 572.137;

(iv) Drawing No. 880105–450, Lower Torso Assembly, incorporated by reference in §§ 572.131, 572.134, 572.135, and 572.137;

(v) Drawing No. 880105–560–1, Complete Leg Assembly—left, incorporated by reference in §§ 572.131, 572.135, 572.136, and 572.137;

(vi) Drawing No. 880105–560–2, Complete Leg Assembly—right incorporated by reference in §§ 572.131, 572.135, 572.136, and 572.137;

(vii) Drawing No. 880105–728–1, Complete Arm Assembly—left, incorporated by reference in §§ 572.131, 572.134, and 572.135 as part of the complete dummy assembly;

(viii) Drawing No. 880105–728–2, Complete Arm Assembly—right, incorporated by reference in §§ 572.131, 572.134, and 572.135 as part of the complete dummy assembly;

(ix) The Hybrid III 5th percentile small adult female crash test dummy parts list, incorporated by reference in § 572.131;

(2) A procedures manual entitled “Procedures for Assembly, Dis-

assembly, and Inspection (PADI) of the Hybrid III 5th Percentile Small Adult Female Crash Test Dummy, Alpha Version” (January 2000), incorporated by reference in § 572.132;

(3) SAE Recommended Practice J211/1, Rev. Mar 95 “Instrumentation for Impact Tests—Part 1—Electronic Instrumentation”, incorporated by reference in § 572.137;

(4) SAE Recommended Practice J211/2, Rev. Mar 95 “Instrumentation for Impact Tests—Part 2—Photographic Instrumentation” incorporated by reference in § 572.137; and

(5) SAE J1733 of 1994–12 “Sign Convention for Vehicle Crash Testing”, incorporated by reference in § 572.137.

(b) The Director of the Federal Register approved the 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 Technical Reference Library, 400 Seventh Street S.W., room 5109, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC.

(c) The incorporated materials are available as follows:

(1) The Parts List and Drawings, Part 572 Subpart O Hybrid III Fifth Percentile Small Adult Female Crash Test Dummy, (H-III5F, Alpha Version) (January 2000) referred to in paragraph (a)(1) of this section and the Procedures for Assembly, Disassembly, and Inspection (PADI) of the Hybrid III 5th Percentile Small Adult Female Crash Test Dummy, Alpha Version referred to in paragraph (a)(2) of this section, are available from Reprographic Technologies, 9000 Virginia Manor Road, Beltsville, MD 20705 (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.

**§ 572.131 General description.**

(a) The Hybrid III fifth percentile adult female crash test dummy is defined by drawings and specifications containing the following materials:

(1) Technical drawings and specifications package P/N 880105–000 (refer to

§572.130(a)(1)), the titles of which are listed in Table A;

(2) Parts List and Drawings, Part 572 Subpart O Hybrid III Fifth Percentile Small Adult Female Crash Test Dummy (H-III5F, Alpha Version) (January 2000) (refer to §572.130(a)(1)(ix)).

TABLE A

Component assembly	Drawing No.
Head Assembly .....	880105-100X
Neck Assembly .....	880105-250
Upper Torso Assembly .....	880105-300
Lower Torso Assembly .....	880105-450
Complete Leg Assembly—left .....	880105-560-1
Complete Leg Assembly—right .....	880105-560-2
Complete Arm Assembly—left .....	880105-728-1
Complete Arm Assembly—right .....	880105-728-2

(b) 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.

(c) The structural properties of the dummy are such that the dummy conforms to this Subpart in every respect before use in any test similar to those specified in Standard 208, Occupant Crash Protection.

**§572.132 Head assembly and test procedure.**

(a) The head assembly (refer to §572.130(a)(1)(i)) for this test consists of the complete head (drawing 880105-100X), a six-axis neck transducer (drawing SA572-S11) or its structural replacement (drawing 78051-383X), and 3 accelerometers (drawing SA572-S4).

(b) When the head assembly is dropped from a height of 376.0±1.0 mm (14.8±0.04 in) in accordance with subsection (c) of this section, the peak resultant acceleration at the location of the accelerometers at the head CG may not be less than 250 G or more than 300 G. The resultant acceleration vs. time history curve shall be unimodal; oscillations occurring after the main pulse must 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 tempera-

ture between 18.9 and 25.6 °C (66 and 78 °F) and a relative humidity from 10 to 70 percent for at least four hours prior to a test.

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

(3) Suspend and orient the head assembly as shown in Figure 19 of 49 CFR 572. The lowest point on the forehead must be 376.0±1.0 mm (14.8±0.04 in) from the impact surface. The 1.57 mm (0.062 in) diameter holes located on either side of the dummy's head shall be used to ensure that the head is level with respect to the impact surface.

(4) Drop the head assembly from the specified height by means that ensure a smooth, instant release onto a rigidly supported flat horizontal steel plate which is 50.8 mm (2.0 in) thick and 610 mm (24.0 in) square. The impact surface shall be clean, dry and have a micro finish of not less than 203.2×10<sup>-6</sup> mm (8 micro inches) (RMS) and not more than 2032.0×10<sup>-6</sup> mm (80 micro inches) (RMS).

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

**§572.133 Neck assembly and test procedure.**

(a) The neck assembly (refer to §572.130(a)(1)(ii)) for the purposes of this test consists of the assembly of components shown in drawing 880105-250.

(b) When the head-neck assembly consisting of the head (drawing 880105-100X), neck (drawing 880105-250), bib simulator (drawing 880105-371), upper neck adjusting bracket (drawing 880105-207), lower neck adjusting bracket (drawing 880105-208), six-axis neck transducer (drawing SA572-S11), and either three accelerometers (drawing SA572-S4) or their mass equivalent installed in the head assembly as specified in drawing 880105-100X, is tested according to the test procedure in subsection (c) of this section, it shall have the following characteristics:

(1) *Flexion.* (i) Plane D, referenced in Figure O1, shall rotate in the direction of preimpact flight with respect to the