

## § 572.102

see § 572.100), 92041-003 (incorporated by reference; see § 572.100), 92041-004 (incorporated by reference; see § 572.100), 92041-005 (incorporated by reference; see § 572.100), 92041-006 (incorporated by reference; see § 572.100), 92041-008 (incorporated by reference; see § 572.100), 92041-009 (incorporated by reference; see § 572.100), 92041-011 (incorporated by reference; see § 572.100), 78051-148 (incorporated by reference; see § 572.100), 78051-228/78051-229 (incorporated by reference; see § 572.100), 78051-339 (incorporated by reference; see § 572.100), 78051-372 (incorporated by reference; see § 572.100), C-1797 (incorporated by reference; see § 572.100), and SA572-S4 (incorporated by reference; see § 572.100).

(b) Disassembly, inspection, and assembly procedures, and sign convention for the signal outputs of the free motion headform accelerometers, are set forth in the Free-Motion Headform User's Manual (incorporated by reference; see § 572.100).

(c) The structural properties of the headform are such that it conforms to this part in every respect both before and after being used in the test specified in Standard No. 201 of this chapter (§ 571.201).

(d) The outputs of accelerometers installed in the headform are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211, OCT 1988, "Instrumentation for Impact Tests," Class 1000 (incorporated by reference; see § 572.100).

### § 572.102 Drop test.

(a) When the headform is dropped from a height of 14.8 inches in accordance with paragraph (b) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the headform as shown in drawing 92041-001 (incorporated by reference; see § 572.100) shall not be less than 225g, and not more than 275g. The acceleration/time curve for the test shall be unimodal to the extent that oscillations occurring after the main acceleration pulse are less than ten percent (zero to peak) of the main pulse. The lateral acceleration vector shall not exceed 15g (zero to peak).

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(b) *Test procedure.* (1) Soak the headform in a test environment at any temperature between 19 degrees C. to 26 degrees C. and at a relative humidity from 10 percent to 70 percent for a period of at least four hours prior to its use in a test.

(2) Clean the headform's skin surface and the surface of the impact plate with 1,1,1 Trichloroethane or equivalent.

(3) Suspend the headform, as shown in Figure 50. Position the forehead below the chin such that the skull cap plate is at an angle of  $28.5 \pm 0.5$  degrees with the impact surface when the midsagittal plane is vertical.

(4) Drop the headform from the specified height by means that ensure instant release onto a rigidly supported flat horizontal steel plate, which is 2 inches thick and 2 feet square. The plate shall have a clean, dry surface and any microfinish of not less than 8 microinches  $203.2 \times 10^{-6}$  mm (rms) and not more than 80 microinches  $2032 \times 10^{-6}$  mm (rms).

(5) Allow at least 3 hours between successive tests on the same headform.

### § 572.103 Test conditions and instrumentation.

(a) Headform accelerometers shall have dimensions, response characteristics, and sensitive mass locations specified in drawing SA572-S4 (incorporated by reference; see § 572.100) and be mounted in the headform as shown in drawing 92041-001 (incorporated by reference; see § 572.100).

(b) The outputs of accelerometers installed in the headform are recorded in individual data channels that conform to the requirements of SAE Recommended Practice J211, OCT 1988, "Instrumentation for Impact Tests," Class 1000 (incorporated by reference; see § 572.100).

(c) Coordinate signs for instrumentation polarity conform to the sign convention shown in the Free-Motion Headform User's Manual (incorporated by reference; see § 572.100).

(d) The mountings for accelerometers shall have no resonant frequency within a range of 3 times the frequency range of the applicable channel class.