§ 572.200 Instrumentation and test conditions.

(a) The test probe for shoulder, lateral thorax, and pelvis-acetabulum impact tests is the same as that specified in 49 CFR 572.137(a) except that its impact face diameter is 120.70 ±0.25 mm and it has a minimum mass moment of inertia of 3646 kg-cm².

(b) The test probe for the lateral abdomen impact test is the same as that specified in 572.137(a) except that its impact face diameter is 76.20 ±0.25 mm and it has a minimum mass moment of inertia of 3646 kg-cm².

(c) The test probe for the pelvis-iliac impact tests is the same as that specified in 49 CFR 572.137(a) except that it has a rectangular flat impact surface 50.8 × 88.9 mm for a depth of at least 76 mm and a minimum mass moment of inertia of 5000 kg-cm².

(d) Accelerometers for the head, the thoracic spine, and the pelvis conform to specifications of SA572–S4.

(e) Rotary potentiometers for the neck-headform assembly conform to SA572–S51.

(f) Instrumentation and sensors conform to the Recommended Practice SAE J–211 (March 1995), Instrumentation for Impact Test, unless noted otherwise.

(g) All instrumented response signal measurements shall be treated to the following specifications:

1. Head acceleration—digitally filtered CFC 1000;
2. Neck-headform assembly translation-rotation—digitally filtered CFC 60;
3. Neck pendulum, T1 and T12 thoracic spine and pelvis accelerations—digitally filtered CFC 180;
4. Neck forces (for the purpose of occipital condyle calculation) and moments—digitally filtered at CFC 600;
5. Pelvis, shoulder, thorax and abdomen impactor accelerations—digitally filtered CFC 180;
6. Acetabulum and iliac wings forces—digitally filtered at CFC 600;
7. Shoulder, thorax, and abdomen deflection—digitally filtered CFC 600.

(h) Mountings for the head, thoracic spine and pelvis accelerometers shall have no resonant frequency within a range of 3 times the frequency range of the applicable channel class;

(i) Leg joints of the test dummy are set at the force between 1 to 2 g, which just support the limb’s weight when the limbs are extended horizontally forward. The force required to move a...
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limb segment does not exceed 2 g throughout the range of the limb motion.

(j) Performance tests are conducted, unless specified otherwise, at any temperature from 20.6 to 22.2 degrees C. (69 to 72 degrees F.) and at any relative humidity from 10% to 70% after exposure of the dummy to those conditions for a period of 4 hours.

(k) Coordinate signs for instrumentation polarity shall conform to the Sign Convention For Vehicle Crash Testing, Surface Vehicle Information Report, SAE J1733, 1994–12 (refer to §572.191(a)(5)).