§ 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
§ 572.200  

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)).

FIGURE V1
NECK ATTACHED TO HEADFORM ASSEMBLY

- Neck Mounting Plate (Part #180-9058)
- Use (4) #10-24 x 5/8 SHCS
- Neck Assembly (Part #180-2000)
- (4) 1/4-28 x 1/2 SHCS
- 6 Axis Upper Neck Load Cell (SA572-S11)
- Headform Front Disk (Part #180-9061)
- Headform Angle Pot Assembly

APPENDIX A TO SUBPART V OF PART 572—FIGURES
FIGURE V2-A
NECK/HEADFORM ATTACHED TO PENDULUM FOR LEFT-SIDE IMPACT

DIRECTION OF MOTION

PENDULUM
(REF. FIG. 22
CFR 49 § 572-33)

NECK MOUNTING PLATE
(PART #180-9058)

FORE/OUTER ANGLE POT ASSEMBLY
(CONNECT TO HEADFORM ANGLE POT)

AFT/INNER ANGLE POT ASSEMBLY

BIB SIMULATOR
(PART #180-3006)

NECK ASSEMBLY
(PART #180-2000)

HEADFORM ASSEMBLY
(PART #180-9000)
FIGURE V2-B
NECK/HEADFORM ATTACHED TO PENDULUM
FOR RIGHT-SIDE IMPACT

PENDULUM
REF. FIG. 22
CFR 49 § 572.33

NECK MOUNTING
PLATE
(PART #180-9058)

FORE/OUTER ANGLE
POT ASSEMBLY
(CONNECT TO
HEADFORM
ANGLE POT)

AFT/INNER ANGLE
POT ASSEMBLY

BIB SIMULATOR
(PART #180-3006)

NECK
ASSEMBLY
(PART #180-2000)

HEADFORM
ASSEMBLY
(PART #180-9000)
**FIGURE V2-C**

**ANGLE MEASUREMENT WITH HEADFORM SET-UP**

HEAD FORM LATERAL TRANSITION-ROTATION (β)

**CALCULATION:**

β = Δθ_{outer} + Δθ_{head}

WHERE β IS THE TOTAL ROTATION OF THE HEADFORM,

Δθ_{outer} IS THE CHANGE IN ANGLE MEASURED BY THE OUTER POTENTIOMETER, AND

Δθ_{head} IS THE CHANGE IN ANGLE MEASURED BY THE HEADFORM POTENTIOMETER.

(THE ROD OF THE OUTER POTENTIOMETER ASSEMBLY IS FIXED VIA SET SCREWS TO THE HEADFORM POTENTIOMETER.)

**DIAGRAM:**

- **Fore/Outer Angle Pot Assembly**
- **Aft/Inner Angle Pot Assembly**
- **Head Form Angle Pot Assembly**
- **Head Form Assembly (Part #186-9000)**
FIGURE V3
CERTIFICATION BENCH

FIGURE V4-A
SHOULDER IMPACT

* 1/3 OF CABLE WEIGHT NOT TO EXCEED 5% OF THE TOTAL IMPACTOR PROBE WEIGHT
FIGURE V8-B
ACETABULUM IMPACT
(NON-IMPACT SIDE VIEW)

ALIGN UPPER AND LOWER NECK BRACKETS SO TOP EDGES ARE FLUSH
LOWER NECK BRACKET (PART #180-3515)
SHOULDER RIB MOUNT (PART #180-352)

UPPER NECK BRACKET
(PART #180-2006)

TOP OF SHOULDER RIB MOUNT 24.6° 42' RELATIVE TO HORIZONTAL
NO JACKET OR PANTS INSTALLED

FIGURE V9-A
ILIAC IMPACT

LOWER NECK BRACKET HORIZONTAL 41°
EYES AS CLOSE TOGETHER AS POSSIBLE
MASKING TAPE** AS REQUIRED TO HOLD DUMMY IN POSITION
ILIAC IMPACT PROBE FACE (PART #180-9500)
SHOULDER YOKE ASSEMBLY (PART #180-9327)
IMPACTOR WEIGHT INCLUDING ALL INSTRUMENTATION AND 1/3 OF CABLE WEIGHT = 13.97 ± 0.226 kg
E. OF PROBE ALIGNED WITH E. OF ILIAC LOAD CELL ACCESS HOLE
IMPACTOR HORIZONTAL AT IMPACT 41°

ILIAC LOAD CELL ACCESS HOLE
PELVIS PLUG (PART #180-4459) MUST BE INSTALLED

FEET IN FULL DORSIPLEDION
SUPPORT SURFACE
2 SHEETS OF 7mm THICK TEFLON &

*1/3 OF CABLE WEIGHT NOT TO EXCEED 5% OF THE TOTAL IMPACTOR WEIGHT
** ALTERNATIVELY, A MATERIAL WITH A MAXIMUM STATIC BREAKING STRENGTH OF 311 N (70 LBS) MAY BE USED TO SUPPORT THE DUMMY IN POSITION
§ 573.1 Scope.

This part:

(a) Sets forth the responsibilities under 49 U.S.C. 30116–30121 of manufacturers of motor vehicles and motor vehicle equipment with respect to safety-related defects and noncompliances with Federal motor vehicle safety standards in motor vehicles and items of motor vehicle equipment; and

(b) Specifies requirements for—

(1) Manufacturers to maintain lists of owners, purchasers, dealers, and distributors notified of defective and noncompliant motor vehicles and original equipment.

(2) Reporting to the National Highway Traffic Safety Administration (NHTSA) defects in motor vehicles and motor vehicle equipment and noncompliances with motor vehicle safety standards prescribed under part 571 of this chapter, and