

§ 581.6

that exceeds 2000 pounds on the combined surfaces of Planes A and B of the test device.

(8) The exterior surfaces shall have no separations of surface materials, paint, polymeric coatings, or other covering materials from the surface to which they are bonded, and no permanent deviations from their original contours 30 minutes after completion of each pendulum and barrier impact, except where such damage occurs to the bumper face bar and the components and associated fasteners that directly attach the bumper face bar to the chassis frame.

(9) Except as provided in § 581.5(c)(8), there shall be no breakage or release of fasteners or joints.

[42 FR 24059, May 12, 1977, as amended at 42 FR 38909, Aug. 1, 1977; 43 FR 40231, Sept. 11, 1978; 47 FR 21837, May 20, 1982; 64 FR 16360, Apr. 5, 1999; 64 FR 49092, Sept. 10, 1999]

§ 581.6 Conditions.

The vehicle shall meet the requirements of § 581.5 under the following conditions.

(a) *General.* (1) The vehicle is at unloaded vehicle weight.

(2) The front wheels are in the straight ahead position.

(3) Tires are inflated to the vehicle manufacturer's recommended pressure for the specified loading condition.

(4) Brakes are disengaged and the transmission is in neutral.

(5) Trailer hitches, license plate brackets, and headlamp washers are removed from the vehicle. Running lights, fog lamps, and equipment mounted on the bumper face bar are removed from the vehicle if they are optional equipment.

(b) *Pendulum test conditions.* The following conditions apply to the pendulum test procedures of § 581.7 (a) and (b).

(1) The test device consists of a block with one side contoured as specified in Figure 1 and Figure 2 with the impact ridge made of AISI 4130 steel hardened to 34 Rockwell "C." The impact ridge and the surfaces in Planes A and B of the test device are finished with a surface roughness of 32 as specified by SAE Recommended Practice J449A, June 1963. From the point of release of the device until the onset of rebound,

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the pendulum suspension system holds Plane A vertical, with the arc described by any point on the impact line lying in a vertical plane (for § 581.7(a), longitudinal; for § 581.7(b), at an angle of 30° to a vertical longitudinal plane) and having a constant radius of not less than 11 feet.

(2) With Plane A vertical, the impact line shown in Figures 1 and 2 is horizontal at the same height as the test device's center of percussion.

(3) The effective impacting mass of the test device is equal to the mass of the tested vehicle.

(4) When impacted by the test device, the vehicle is at rest on a level rigid concrete surface.

(c) *Barrier test condition.* At the onset of a barrier impact, the vehicle's engine is operating at idling speed in accordance with the manufacturer's specifications. Vehicle systems that are not necessary to the movement of the vehicle are not operating during impact.

(Authority: Sec. 102, Pub. L. 92-513, 86 Stat. 947 (15 U.S.C. 1912); secs. 103, 119, Pub. L. 89-563, 80 Stat. 718 (15 U.S.C. 1392, 1407); delegation of authority at 49 CFR 1.50 and 501.7)

[42 FR 24059, May 12, 1977, as amended at 42 FR 38909, Aug. 1, 1977; 48 FR 43331, Sept. 23, 1983]

§ 581.7 Test procedures.

(a) *Longitudinal impact test procedures.* (1) Impact the vehicle's front surface and its rear surface two times each with the impact line at any height from 16 to 20 inches, inclusive, in accordance with the following procedure.

(2) For impacts at a height of 20 inches, place the test device shown in Figure 1 so that Plane A is vertical and the impact line is horizontal at the specified height.

(3) For impacts at a height between 20 inches and 16 inches, place the test device shown in Figure 2 so that Plane A is vertical and the impact line is horizontal at a height within the range.

(4) For each impact, position the test device so that the impact line is at least 2 inches apart in vertical direction from its position in any prior impact, unless the midpoint of the impact line with respect to the vehicle is to be more than 12 inches apart laterally from its position in any prior impact.