helmet. The strap or cable shall be of a material having an elongation of no more than 5 mm (0.20 in.) per 300 mm (11.8 in.) when loaded with a 22-kg (48.5 lb) weight in a free hanging position.

(b) Test procedure.
(1) Orient the headform so that its face is down, and lock it in that orientation.
(2) Place the helmet on the appropriate size full chin headform in accordance with the HPI and fasten the retention system in accordance with the manufacturer’s instructions. Adjust the straps to remove any slack.
(3) Suspend the dynamic impact system from the helmet by positioning the flexible strap over the helmet along the midsagittal plane and attaching the hook over the edge of the helmet as shown in Figure 7 of this part.
(4) Raise the drop weight to a height of 0.6 m (2 ft) from the stop anvil and release it, so that it impacts the stop anvil.
(5) The test shall be repeated with the headform’s face pointing upwards, so that the helmet is pulled from front to rear.

§ 1203.16 Dynamic strength of retention system test.

(a) Test equipment. (1) ISO headforms without the lower chin portion shall be used.
(2) The retention system strength test equipment shall consist of a dynamic impact apparatus that allows a 4-kg (8.8-lb) drop weight to slide in a guided free fall to impact a rigid stop anvil (see Figure 8 of this part). Two cylindrical rollers that spin freely, with a diameter of 12.5±0.5 mm (0.49 in.±0.02 in.) and a center-to-center distance of 76.0±1 mm (3.0±0.04 in.), shall make up a stirrup that represents the bone structure of the lower jaw. The entire dynamic test apparatus hangs freely on the retention system. The entire mass of the support assembly, including the 4-kg (8.8-lb) drop weight, shall be 11 kg±0.5 kg (24.2 lb±1.1 lb).
(3) Headform and drop assembly—center of gravity. The center of gravity of the test headform shall be at the center of the mounting ball on the support assembly and within an inverted cone having its axis vertical and a 10-degree included angle with the vertex at the point of impact. The location of the center of gravity of the drop assembly (combined test headform and support assembly) must meet the specifications of Federal Motor Vehicle Safety Standard No. 218, Motorcycle Helmets, 49