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percent for at least four hours prior to a test.

(2) Assemble the complete dummy (with or without the legs below the femurs) and attach to the fixture in a seated posture as shown in Figure O4.

(3) Secure the pelvis to the fixture at the pelvis instrument cavity rear face by threading four ¼ inch cap screws into the available threaded attachment holes. Tighten the mountings so that the test material is rigidly affixed to the test fixture and the pelvic-lumbar joining surface is horizontal.

(4) Attach the loading adapter bracket to the spine of the dummy as shown in Figure O4.

(5) Inspect and adjust, if necessary, the seating of the abdominal insert within the pelvis cavity and with respect to the torso flesh, assuring that the torso flesh provides uniform fit and overlap with respect to the outside surface of the pelvis flesh.

(6) Flex the dummy's upper torso three times between the vertical and until the torso reference plane, as shown in Figure O4, reaches 30 degrees from the vertical transverse plane. Bring the torso to vertical orientation and wait for 30 minutes before conducting the test. During the 30 minute waiting period, the dummy's upper torso shall be externally supported at or near its vertical orientation to prevent it from drooping.

(7) Remove all external support and wait two minutes. Measure the initial orientation angle of the torso reference plane of the seated, unsupported dummy as shown in Figure O4. The initial orientation angle may not exceed 20 degrees.

(8) Attach the pull cable and the load cell as shown in Figure O4.

(9) Apply a tension force in the midsagittal plane to the pull cable as shown in Figure O4 at any upper torso deflection rate between 0.5 and 1.5 degrees per second, until the angle reference plane is at 45 ± 0.5 degrees of flexion relative to the vertical transverse plane.

(9) Continue to apply a force sufficient to maintain 45 ± 0.5 degrees of flexion for 10 seconds, and record the highest applied force during the 10-second period.

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(10) Release all force at the attachment bracket as rapidly as possible, and measure the return angle with respect to the initial angle reference plane as defined in paragraph (6) 3 minutes after the release.

§572.136 Knees and knee impact test procedure.

(a) *Knee assembly.* The knee assembly (refer to §§572.130(a)(1)(v) and (vi)) for the purpose of this test is the part of the leg assembly shown in drawing 880105-560.

(b)(1) When the knee assembly, consisting of sliding knee assembly (drawing 880105-528R or -528L), lower leg structural replacement (drawing 880105-603), lower leg flesh (drawing 880105-601), ankle assembly (drawing 880105-660), foot assembly (drawing 880105-651 or 650), and femur load transducer (drawing SA572-S14) or its structural replacement (drawing 78051-319) is tested according to the test procedure in subsection (c), the peak resistance force as measured with the test probe-mounted accelerometer must be not less than 3450 N (776 lbf) and not more than 4060 N (913 lbf).

(2) The force shall be calculated by the product of the impactor mass and its deceleration.

(c) *Test procedure.* The test procedure for the knee assembly is as follows:

(1) Soak the knee assembly in a controlled environment at any temperature between 18.9 and 25.6 °C (66 and 78 °F) and a relative humidity from 10 to 70 percent for at least four hours prior to a test.

(2) Mount the test material and secure it to a rigid test fixture as shown in Figure O5. No part of the foot or tibia may contact any exterior surface.

(3) Align the test probe so that throughout its stroke and at contact with the knee it is within 2 degrees of horizontal and collinear with the longitudinal centerline of the femur.

(4) Guide the pendulum so that there is no significant lateral vertical or rotational movement at the time of initial contact between the impactor and the knee.

(5) The test probe velocity at the time of contact shall be 2.1 ± 0.03 m/s (6.9 ± 0.1 ft/s).