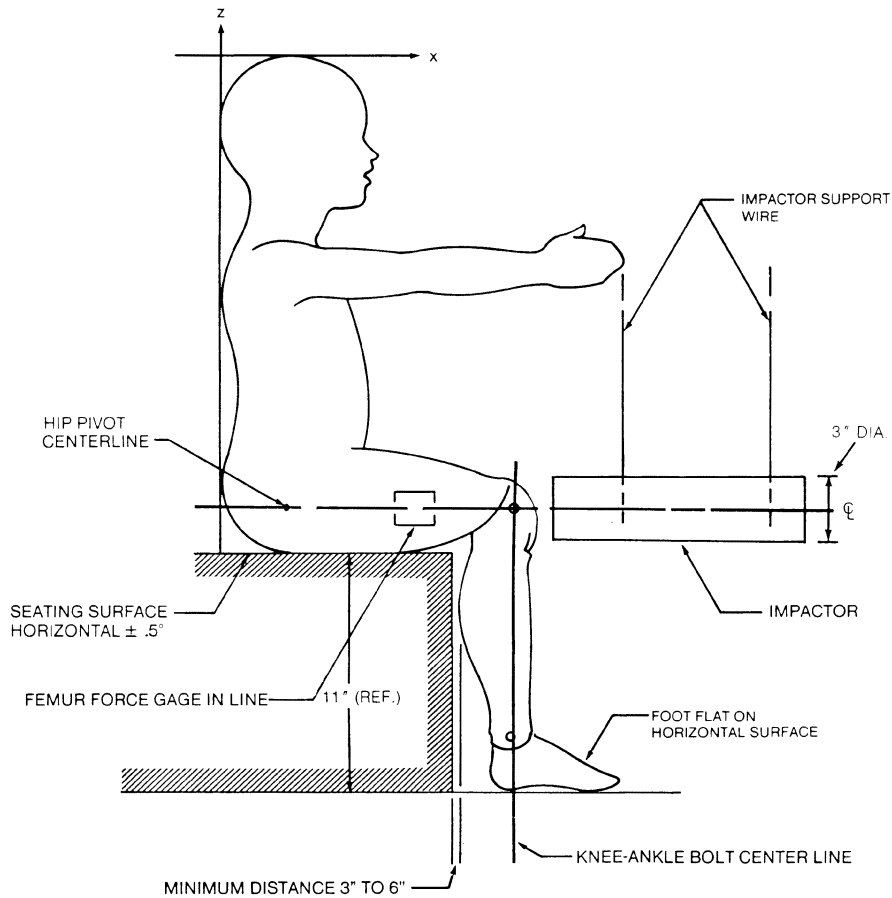


FIGURE 43  
KNEE IMPACT TEST SET-UP

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- NOTES: 1. DUMMY IMPACT SENSORS NOT USED IN THIS TEST MAY BE REPLACED BY EQUIVALENT DEAD WEIGHTS.
2. NO EXTERNAL SUPPORTS ARE REQUIRED ON THE DUMMY TO MEET SET-UP SPECIFICATIONS.
3. THE MIDSAGITTAL PLANE OF THE DUMMY IS VERTICAL WITHIN  $\pm 1$  DEG.
4. CENTERLINE OF THE IMPACTED FEMUR IS ALIGNED WITH THE CENTERLINE OF THE IMPACTOR AND THE PLANE OF THE IMPACTOR MOTION WITHIN  $\pm 1$  DEG.

**Subpart J—9-Month Old Child**

**§ 572.80 Incorporated materials.**

SOURCE: 56 FR 41080, Aug. 19, 1991, unless otherwise noted.

The drawings and specifications referred to in § 572.81(a) that are not set forth in full are hereby incorporated in

this part by reference. These materials are thereby made part of this regulation. The Director of the Federal Register approved the materials incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the materials may be obtained from Rowley-Scher Reprographics, Inc., 1216 K Street, NW., Washington, DC 20002, telephone (202) 628-6667. Copies are available for inspection in the general reference section of Docket 89-11, Docket Section, National Highway Traffic Safety Administration, room 5109, 400 Seventh Street, SW., Washington, DC, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

#### § 572.81 General description.

(a) The dummy consists of: (1) The assembly specified in drawing LP 1049/A, March 1979, which is described in its entirety by means of approximately 54 separate drawings and specifications, 1049/1 through 1049/54; and (2) a parts list LP 1049/0 (5 sheets); and (3) a report entitled, "The TNO P3/4 Child Dummy Users Manual," January 1979, published by Instituut voor Wegtransportmiddelen TNO.

(b) Adjacent dummy segments are joined in a manner such that throughout the range of motion and also under simulated crash-impact conditions there is no contact between metallic elements except for contacts that exist under static conditions.

(c) The structural properties of the dummy are such that the dummy conforms to this part in every respect both before and after being used in dynamic tests such as that specified in Standard No. 213 of this chapter (§ 571.213).

#### § 572.82 Head.

The head consists of the assembly shown in drawing LP 1049/A and conforms to each of the applicable drawings listed under LP 1049/0 through 54.

#### § 572.83 Head-neck.

The head-neck assembly shown in drawing 1049/A consists of parts speci-

fied as items 1 through 16 and in item 56.

#### § 572.84 Thorax.

The thorax consists of the part of the torso shown in assembly drawing LP 1049/A and conforms to each of the applicable drawings listed under LP 1049/0 through 54.

#### § 572.85 Lumbar spine flexure.

(a) When subjected to continuously applied force in accordance with paragraph (b) of this section, the lumbar spine assembly shall flex by an amount that permits the thoracic spine to rotate from its initial position in accordance with Figure No. 18 of § 572.21 (49 CFR part 572) by 40 degrees at a force level of not less than 18 pounds and not more than 22 pounds, and straighten upon removal of the force to within 5 degrees of its initial position.

(b) *Test procedure.* (1) The lumbar spine flexure test is conducted on a dummy assembly as shown in drawing LP 1049/A, but with the arms (which consist of parts identified as items 17 through 30) and all head-neck parts (identified as items 1 through 13 and 59 through 63), removed.

(2) With the torso assembled in an upright position, adjust the lumbar cable by tightening the adjustment nut for the lumbar vertebrae until the spring is compressed to  $\frac{3}{8}$  of its unloaded length.

(3) Position the dummy in an upright seated position on a seat as indicated in Figure No. 18 of § 572.21 (lower legs do not need to be removed, but must be clamped firmly to the seating surface), ensuring that all dummy component surfaces are clean, dry and untreated unless otherwise specified.

(4) Firmly affix the dummy to the seating surface through the pelvis at the hip joints by suitable clamps that also prevent any relative motion with respect to the upper legs during the test in § 572.65(c)(3) of this part. Install a pull attachment at the neck to torso juncture as shown in Figure 18 of § 572.21.

(5) Flex the thorax forward 50 degrees and then rearward as necessary to return it to its initial position.

(6) Apply a forward pull force in the midsagittal plane at the top of the