

§ 571.213 Standard No. 213, Child Restraint Systems.

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S5. *Requirements.* (a) Each motor vehicle with a built-in child restraint system shall meet the requirements in this section when, as specified, tested in accordance with S6.1 and this paragraph.

(b) Each child restraint system manufactured for use in motor vehicles shall meet the requirements in this section when, as specified, tested in accordance with S6.1 and this paragraph. Each add-on system shall meet the requirements at each of the restraint's seat back angle adjustment positions and restraint belt routing positions, when the restraint is oriented in the direction recommended by the manufacturer (e.g., forward, rearward or laterally) pursuant to S5.6, and tested with the test dummy specified in S7.

(c) Each child restraint system manufactured for use in aircraft shall meet the requirements in this section and the additional requirements in S8.

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S5.1.2 *Injury criteria.* When tested in accordance with S6.1, each child restraint system that, in accordance with S5.5.2(f), is recommended for use by children whose masses are more than 10 kilograms (kg) shall—

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S5.1.3.1 * * *

(a) In the case of an add-on child restraint system, no portion of the test dummy's head shall pass through a vertical, transverse plane that is 810 mm forward of point Z on the standard seat assembly, measured along the center SORL (as illustrated in figure 1B), and neither knee pivot point shall pass through a vertical, transverse plane that is 915 mm forward of point Z on the standard seat assembly, measured along the center SORL.

(b) In the case of a built-in child restraint system, neither knee pivot point shall, at any time during the dynamic test, pass through a vertical, transverse plane that is 305 mm forward of the initial pre-test position of the respective knee pivot point, measured along a horizontal line that passes through the knee pivot point and is parallel to the vertical plane that passes through the vehicle's longitudinal centerline.

S5.1.3.2 *Rear-facing child restraint systems.* In the case of each rear-facing child restraint system, all portions of the test dummy's torso shall be retained within the system and neither of the target points on either side of the dummy's head and on the transverse axis passing through the center of mass

of the dummy's head and perpendicular to the head's midsagittal plane, shall pass through the transverse orthogonal planes whose intersection contains the forward-most and top-most points on the child restraint system surfaces (illustrated in Figure 1C).

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S5.2.1.2 The applicability of the requirements of S5.2.1.1 to a front-facing child restraint, and the conformance of any child restraint other than a car bed to those requirements is determined using the largest of the test dummies specified in S7.1 for use in testing that restraint; provided, that the 6-year-old dummy described in Subpart I of Part 572 of this title is not used to determine the applicability of or compliance with S5.2.1.1. A front-facing child restraint system is not required to comply with S5.2.1.1 if the target point on either side of the dummy's head is below a horizontal plane tangent to the top of—

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S5.2.2.2 * * *
(b) Passing through any portion of the dummy, except for surfaces which restrain the dummy when the system is tested in accordance with S6.1.2(a)(2), so that the child restraint system shall conform to the requirements of S5.1.2 and S5.1.3.1.

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S5.2.3.1 Each child restraint system, other than a child harness, which is recommended under S5.5.2(f) for children whose masses are less than 10 kg, shall comply with S5.2.3.2.

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S5.4.3.2 *Direct restraint.* Except for a child restraint system whose mass is less than 4 kg, each belt that is part of a child restraint system and that is designed to restrain a child using the system and to attach the system to the vehicle, and each Type I and lap portion of a Type II vehicle belt that is used to attach the system to the vehicle shall, when tested in accordance with S6.1, impose no loads on the child that result from the mass of the system, or

(a) In the case of an add-on child restraint system, from the mass of the seat back of the standard seat assembly specified in S6.1, or

(b) In the case of a built-in child restraint system, from the mass of any part of the vehicle into which the child restraint system is built.

S5.4.3.3 *Seating systems.* Except for child restraint systems subject to S5.4.3.4, each child restraint system that is designed for use by a child in a seated position and that has belts designed to restrain the child, shall, with the test dummy specified in S7 positioned in

the system in accordance with S10 provide:

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(c) In the case of each seating system recommended for children whose masses are more than 10 kg, crotch restraint in the form of:

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S5.4.3.5 *Buckle release.* Any buckle in a child restraint system belt assembly designed to restrain a child using the system shall:

(a) When tested in accordance with S6.2.1 prior to the dynamic test of S6.1, not release when a force of less than 40 newtons (N) is applied and shall release when a force of not more than 62 N is applied;

(b) After the dynamic test of S6.1, when tested in accordance with the appropriate sections of S6.2, release when a force of not more than 71 N is applied, provided, however, that the conformance of any child restraint to this requirement is determined using the largest of the test dummies specified in S7 for use in testing that restraint when the restraint is facing forward, rearward, and/or laterally;

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S5.5.2 * * *

(f) One of the following statements, inserting the manufacturer's recommendations for the maximum mass and height of children who can safely occupy the system, except that booster seats shall not be recommended for children whose masses are less than 13.6 kg:

(1) This infant restraint is designed for use by children who weigh _____ pounds (mass _____ kg) or less and whose height is (*insert values in English and metric units*); or

(2) This child restraint is designed for use only by children who weigh between _____ and _____ pounds (*insert metric values*) and whose height is (*insert values in English and metric units*) and who are capable of sitting upright alone; or

(3) This child restraint is designed for use only by children who weigh between _____ and _____ pounds (*insert metric values*) and whose height is (*insert values in English and metric units*).

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S5.5.5 * * *

(f) One of the following statements, inserting the manufacturer's recommendations for the maximum mass and height of children who can safely occupy the system, except that booster seats shall not be recommended for children whose masses are less than 13.6 kg: