
Rules of
Department of Public Safety
Division 30—Director’s Office
Chapter 1—General Organization

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**Title 11—DEPARTMENT OF
PUBLIC SAFETY
Division 30—Director's Office
Chapter 1—General Organization**

11 CSR 30-1.010 Organization and Operations

PURPOSE: This rule describes the organization and methods of operation of the Department of Public Safety.

(1) The Department of Public Safety, created by the Omnibus State Reorganization Act of 1974, is responsible for coordinating all elements of criminal investigation, law enforcement and public safety activities undertaken within the executive branch of state government. Its mission is not only to seek out those who disrupt society by violating its laws but to educate and motivate Missouri citizens to higher standards of personal and public safety.

(2) The Department of Public Safety is headed by a director, appointed by the governor, with the advice and consent of the senate. It is the responsibility of the director to provide overall coordination and unified direction in the state's public safety program.

(3) The Department of Public Safety is divided into eight (8) major units. These units include three (3) planning or support units for public safety activities, four (4) law enforcement units and the adjutant general's office.

(A) Planning and Support Units.

1. Division of staff services. This office is headed by a director of staff services employed by and directly responsible to the director of public safety. This office is responsible for overall coordination and unified budgeting within the Department of Public Safety. This office is responsible for the implementation of programs and procedures involving personnel, payrolls, accounts, purchases and contracts; for monitoring the expenditure of all budgeted funds; and for the collection and dissemination of information necessary for the efficient operation and management of the Department of Public Safety. This office enables the director to evaluate and pursue department-wide priorities and provides effective management tools for the director of public safety to ensure intradepartmental efficiency and accessibility to pertinent information for review and research purposes. It is through this office that the director is able to eliminate waste and duplication, promote coordination and cooperation in the public safety area and streamline the delivery of necessary services.

2. Missouri Council on Criminal Justice. The Missouri Council on Criminal Justice was created by the director of the department. The members of this council are appointed by the director. This council has been designated by the governor as the state planning agency required by the Omnibus Crime Control and Safe Streets Act of 1968 as amended in 1973, Public Law 93-83. This council has the power to approve or disapprove the allocation of all grants issued through the Law Enforcement Assistance Administration. The director of public safety is responsible for providing staff assistance to the Missouri Council on Criminal Justice. This staff is headed by an executive director employed by and directly responsible to the director of public safety.

3. Division of Highway Safety. The Division of Highway Safety is headed by a director employed by and directly responsible to the director of public safety. This division administers Missouri's comprehensive highway safety program which is designed to implement the National Highway Traffic Safety Act, Public Law 93-643 and is responsible for the allocation of federal funds in accordance with this comprehensive plan and applicable state and federal law.

(B) Law Enforcement Units: The law enforcement activities of the Department of Public Safety are carried out through four (4) separate divisions, the Missouri State Highway Patrol, the Division of Liquor Control, the Division of Water Safety and the State Fire Marshal.

1. The State Highway Patrol is headed by a superintendent appointed by the governor with the advice and consent of the senate. The superintendent is directly responsible to the director of public safety. This division is primarily responsible for enforcing the laws on the state's highways as specified in Chapter 43, RSMo.

2. The Division of Liquor Control is headed by a supervisor nominated by the director of the Department of Public Safety and appointed by the governor with the advice and consent of the senate. The supervisor of liquor control is directly responsible to the director of public safety. This division is primarily responsible for the enforcement of liquor laws in the state of Missouri as specified in Chapters 311 and 312, RSMo.

3. The Division of Water Safety is headed by a commissioner appointed by the governor with the advice and consent of the senate. The commissioner is directly responsible to the director of public safety. This division is primarily responsible for enforcing the laws of Missouri on the state's waterways as specified in Chapter 306, RSMo.

4. The State Fire Marshal's office is headed by a state fire marshal appointed by and directly responsible to the director of public safety. This office is responsible for the investigation of suspicious fires and explosions and the development of information which will lead to the arrest and prosecution of persons who have committed criminal arson as specified in Chapter 320, RSMo. In addition, the State Fire Marshal's office is authorized under sections 292.600–292.625, RSMo to administer the state and federal Emergency Planning and Community Right-to-Know Act.

(C) The Adjutant General.

1. The adjutant general and the state militia are assigned to the Department of Public Safety. The adjutant general is appointed by the governor with the advice and consent of the senate and is responsible to the governor who serves as commander-in-chief of the state militia.

2. The adjutant general's office and the Department of Public Safety cooperate in the development and implementation of plans to prepare against civil disturbances, natural disasters and other emergency situations and to provide assistance following these events.

(4) The director of public safety coordinates the activities of these divisions and provides a centralized source of support and a central point of contact for local and federal law enforcement agencies.

(5) Any person desiring information or assistance on any matter falling within the jurisdiction of the Department of Public Safety should contact the Director of Public Safety, 621 East Capitol Avenue, P.O. Box 749, Jefferson City, MO 65102, phone (314) 751-4905.

*AUTHORITY: section 536.023, RSMo 1986. * Original rule filed Dec. 31, 1975, effective Jan. 10, 1976. Amended: Filed Nov. 16, 1993, effective June 6, 1994.*

**Original authority: 536.023, RSMo 1975, amended 1976.*

11 CSR 30-1.050 Approval of Motor Vehicle Safety Standard for Child Restraint System

PURPOSE: This establishes a rule relating to approval of child restraint systems for use in Missouri.

PUBLISHER'S NOTE: The secretary of state has determined that the publication of the

entire text of the material which is incorporated by reference as a portion of this rule would be unduly cumbersome or expensive. Therefore, the material which is so incorporated is on file with the agency who filed this rule, and with the Office of the Secretary of State. Any interested person may view this material at either agency's headquarters or the same will be made available at the Office of the Secretary of State at a cost not to exceed actual cost of copy reproduction. The entire text of the rule is printed here. This note refers only to the incorporated by reference material.

(1) A child restraint system is any device, except seat belts, designed for use in a motor vehicle to restrain, seat or position children who weigh not more than fifty (50) pounds.

(2) Any child restraint system in this state classified as an approved car seat shall meet the minimum safety requirements set forth in Federal Motor Vehicle Safety Standard No. 213-80 and any amendments thereto. (Appendix A).

AUTHORITY: sections 210.104–210.107, RSMo Supp. 1993.* Original rule filed June 10, 1985, effective Aug. 26, 1985.

*Original authority: 210.104-210.107, see Missouri Revised Statutes.

**APPENDIX A
FEDERAL MOTOR VEHICLE SAFETY
STANDARD NO. 213-80 CHILD
RESTRAINT SYSTEMS**

S1. *Scope.* This standard specifies requirements for child restraint systems used in motor vehicles.

S2. *Purpose.* The purpose of this standard is to reduce the number of children killed or injured in motor vehicle crashes.

S3. *Application.* This standard applies to child restraint systems for use in motor vehicles.

S4. *Definitions.*

“Car bed” means a child restraint system designed to restrain or position a child in the supine or prone position on a continuous flat surface.

“Child restraint system” means any device, except Type I or Type II seat belts, designed for use in a motor vehicle to restrain, seat, or position children who weigh not more than 50 pounds.

“Contactable surface” means any child restraint system surface (other than that of a belt, belt buckle, or belt adjustment hardware) that may contact any part of the head or torso of the appropriate test dummy, specified in S7, when a child restraint system is tested in accordance with S6.1.

“Seat orientation reference line” or “SORL” means the horizontal line through Point Z as illustrated in Figure 1A.

“Torso” means the portion of the body of a seated anthropomorphic test dummy, excluding the thighs, that lies between the top of the child restraint system seating surface and the top of the shoulders of the test dummy.

S5. *Requirements.* Each child restraint system shall meet the requirements in this section when, as specified, tested in accordance with S6.1.

S5.1 *Dynamic performance.*

S5.1.1 *Child restraint system integrity.* When tested in accordance with S6.1, each child restraint system shall:

(a) Exhibit no complete separation of any load bearing structural element and no partial separation exposing either surfaces with a radius of less than 1/4 inch or surfaces with protrusions greater than 3/8 inch above the immediate adjacent surrounding contactable surface of any structural element of the system;

(b) If adjustable to different positions, remain in the same adjustment position during the testing as it was immediately before the testing; and

(c) If a front facing child restraint system, not allow the angle between the system's back support surfaces for the child and the system's seating surface to be less than 45 degrees at the completion of the test.

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 weighing more than 20 pounds, shall—

(a) Limit the resultant acceleration at the location of the accelerometer mounted in the test dummy head as specified in Part 572 such that the expression:

$$\left[\frac{1}{t_2 - t_1} S_{adt}^{t_2} \right]^{2.9} (t_2 - t_1)$$

shall not exceed 1,000, where a is the resultant acceleration expressed as a multiple of g

(the acceleration of gravity), and t₁ and t₂ are any two moments during the impacts.

(b) Limit the resultant acceleration at the location of the accelerometer mounted in the test dummy upper thorax as specified in Part 572 to not more than 60g's, except for intervals whose cumulative duration is not more than 3 milliseconds.

S5.1.3 *Occupant excursion.* When tested in accordance with S6.1 and adjusted in any position which the manufacturer has not, in accordance with S5.5.2(i), specifically warned against using in motor vehicles, each child restraint system shall meet the applicable excursion limit requirements specified in S5.1.3.1–S5.1.3.3.

S5.1.3.1 *Child restraint systems other than rear-facing ones and car beds.* In the case of each child restraint system other than a rear-facing child restraint system or a car bed, the test dummy's torso shall be retained within the system and no portion of the test dummy's head shall pass through the vertical transverse plane that is 32 inches 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 the vertical transverse plane that is 36 inches forward of point z on the standard seat assembly, measured along the center SORL.

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 no portion of the target point on either side of the dummy's head 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).

S5.1.3.3 *Car beds.* In the case of car beds, all portions of the test dummy's head and torso shall be retained within the confines of the car bed.

S5.1.4 *Back support angle.* When a rear-facing child restraint system is tested in accordance with S6.1, the angle between the system's back support surface for the child and the vertical shall not exceed 70 degrees.

S5.2 *Force distribution.*

S5.2.1 *Minimum head support surface—child restraints other than car beds.*

S5.2.1.1 Except as provided in S5.2.1.2, each child restraint system other than a car bed shall provide restraint against rearward movement of the head of the child (rearward in relation to the child) by means of a continuous seat back which is an integral part of the system and which—

(a) Has a height, measured along the system seat back surface for the child in the vertical longitudinal plane passing through the longitudinal centerline of the child restraint system for the lowest point on the system seating surface that is contacted by the buttocks of the seated dummy, as follows:

Weight ¹ (in pounds)	Height ¹ (in inches)
Less than 20 lb.	18
20 lb. or more, but not more than 40 lb.	20
More than 40 lb.	22

¹When a child restraint system is recommended under S5.5(f) for use by children of the above weights.

²The height of the portion of the system seat back providing head restraint shall not be less than the above.

(b) Has a width of not less than 8 inches, measured in the horizontal plane at the height specified in paragraph (a) of this section. Except that a child restraint system with side supports extending at least 4 inches forward from the padded surface of the portion of the restraint system provided for support of the child's head may have a width of not less than 6 inches, measured in the horizontal plane at the height specified in paragraph (a) of this section.

(c) Limits the rearward rotation of the test dummy head so that the angle between the head and torso of the dummy specified in S7 when tested in accordance with S6.1 is not more than 45 degrees greater than the angle between the head and torso after the dummy has been placed in the system in accordance with S6.1.2.3 and before the system is tested in accordance with S6.1.

S5.2.1.2 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 the standard seat assembly when the dummy is positioned in the system and the system is installed on the assembly in accordance with S6.1.2.

S5.2.2 *Torso impact protection.* Each child restraint system other than a car bed shall comply with the applicable requirements of S5.2.2.1 and S5.2.2.2.

S5.2.2.1(a) The system surface provided for the support of the child's back shall be flat or concave and have a continuous surface area of not less than 85 square inches.

(b) Each system surface provided for support of the side of the child's torso shall be flat or concave and have a continuous surface of not less than 24 square inches for systems recommended for children weighing 20 pounds or more, or 48 square inches for systems recommended for children weighing less than 20 pounds.

(c) Each horizontal cross section of each system surface designed to restrain forward movement of the child's torso shall be flat or concave and each vertical longitudinal cross section shall be flat or convex with a radius of curvature of the underlying structure of not less than 2 inches.

S5.2.2.2 Each forward facing child restraint system shall have no fixed or movable surface directly forward of the dummy and intersected by a horizontal line parallel to the SORL and passing through any portion of the dummy, except for surfaces which restrain the dummy when the system is tested in accordance with S6.1.2.1.2 so that the child restraint system shall conform to the requirements of S5.1.2 and S5.1.3.1.

S5.2.3 *Head impact protection.*

S5.2.3.1 Each child restraint system, other than a child harness, which is recommended under S5.5.2(f) for children weighing less than 20 pounds shall comply with S5.2.3.2.

S5.2.3.2 Each system surface, except for protrusions that comply with S5.2.4, which is contactable by the dummy head when the system is tested in accordance with S6.1 shall be covered with slow recovery, energy absorbing material with the following characteristics:

(a) A 25 percent compression-deflection resistance of not less than 0.5 and not more than 10 pounds per square inch when tested in accordance with S6.3.

(b) A thickness of not less than 1/2 inch for materials having a 25 percent compression-deflection resistance of not less than 1.8 and not more than 10 pounds per square inch when tested in accordance with S6.3. Materials having a 25 percent compression-deflection resistance of less than 1.8 pounds per square inch shall have a thickness of not less than 3/4 inch.

S5.2.4 *Protrusion limitation.* Any portion of a rigid structural component within or underlying a contactable surface, or any por-

tion of a child restraint system surface that is subject to the requirements of S5.2.3 shall, with any padding or other flexible overlay material removed, have a height above any immediately adjacent restraint system surface of not more than 3/8 inch and no exposed edge with a radius of less than 1/4 inch.

S5.3 *Installation.*

S5.3.1 Each child restraint system shall have no means designed for attaching the system to a vehicle seat cushion or vehicle seat back and no component (except belts) that is designed to be inserted between the vehicle seat cushion and vehicle seat back.

S5.3.2 When installed on a vehicle seat, each child restraint system, other than child harnesses, shall be capable of being restrained against forward movement solely by means of a Type I seat belt assembly (defined in S571.209) that meets Standard No. 208 (S571.208), or by means of a Type I seat belt assembly plus one additional anchorage strap that is supplied with the system and conforms to S5.4.

S5.3.3 *Car beds.* Each car bed shall be designed to be installed on a vehicle seat so that the car bed's longitudinal axis is perpendicular to a vertical longitudinal plane through the longitudinal axis of the vehicle.

S5.4 *Belts, belt buckles, and belt webbing.*

S5.4.1 *Performance requirements.* The webbing of belts provided with a child restraint system and used to attach the system to the vehicle or to restrain child within the system shall—

(a) After being subjected to abrasion as specified in † 5.1(d) or 5.3(c) of FMVSS 209 († 571.209), have a breaking strength of not less than 75 percent of the strength of the unabraded webbing when tested in accordance with S5.1(b) of FMVSS 209.

(b) Meet the requirements of S4.2 (e) through (h) of FMVSS No. 209 (S571.209); and

(c) If contactable by the test dummy torso when the system is tested in accordance with S6.1, have a width of not less than 1 1/2 inches when measured in accordance with S5.4.1.1.

S5.4.1.1 *Width test procedure.* Condition the webbing for 24 hours in an atmosphere of any relative humidity between 48 and 67 percent, and any ambient temperature between 70 and 77 F. Measure belt webbing width

under a tension of 5 pounds applied lengthwise.

S5.4.2 Belt buckles and belt adjustment hardware. Each belt buckle and item of belt adjustment hardware used in a child restraint system shall conform to the requirements of S4.3(a) and S4.3(b) of FMVSS No. 209 (S571.209).

S5.4.3 Belt Restraint.

S5.4.3.1 General. Each belt that is part of a child restraint system and that is designed to restrain a child using the system shall be adjustable to snugly fit any child whose height and weight are within the ranges recommended in accordance with S5.5.2(f) and who is positioned in the system in accordance with the instructions required by S5.6.

S5.4.3.2 Direct restraint. 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 shall, when tested in accordance with S6.1, impose no loads on the child that result from the mass of the system or the mass of the seat back of the standard seat assembly specified in S7.3.

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 S6.1.2.3 provide:

(a) upper torso restraint in the form of:

(i) belts passing over each shoulder of the child, or

(ii) a fixed or movable surface that complies with S5.2.2.1(c), and

(b) lower torso restraint in the form of:

(i) a lap belt assembly making an angle between 45° and 90° with the child restraint seating surface at the lap belt attachment points, or

(ii) a fixed or movable surface that complies with S5.2.2.1(c), and

(c) in the case of each seating system recommended for children over 20 pounds, crotch restraint in the form of:

(i) a crotch belt connectable to the lap belt or other device used to restrain the lower torso, or

(ii) a fixed or movable surface that complies with S5.2.2.1(c).

S5.4.3.4 Harnesses. Each child harness shall:

(a) Provide upper torso restraint, including belts passing over each shoulder of the child;

(b) Provide lower torso restraint by means of lap and crotch belt; and

(c) Prevent a child of any height for which the restraint is recommended for use pursuant to S5.5.2(f) from standing upright on the vehicle seat when the child is placed in the device in accordance with the instructions required by S5.6.

S5.4.3.5 Buckle Release. Any buckle in a child restraint system belt assembly designed to restrain a child using the system, when tested in accordance with S6.2, shall not release when a force of not more than 12 pounds is applied before the test specified in S6.1, and (b) release when a force of not more than 20 pounds is applied after the test specified in S6.1.

S5.5 Labeling.

S5.5.1 Each child restraint system shall be permanently labeled with the information specified in S5.5.2(a) through (k).

S5.5.2 The information specified in paragraphs (a)–(k) of this section shall be stated in the English language and lettered in letters and numbers that are not smaller than 10 point type and are on a contrasting background.

(a) The model name or number of the system.

(b) The manufacturer's name. A distributor's name may be used instead if the distributor assumes responsibility for all duties and liabilities imposed on the manufacturer with respect to the system by the National Traffic and Motor Vehicle Safety Act, as amended.

(c) The statement: "Manufactured in _____," inserting the month and year of manufacture.

(d) The place of manufacture (city and state, or foreign country). However, if the manufacturer uses the name of the distributor, then it shall state the location (city and state, or foreign country) of the principal offices of the distributor.

(e) The statement: "This child restraint system conforms to all applicable Federal motor vehicle safety standards."

(f) One of the following statements, inserting the manufacturer's recommendations for the maximum weight and height of children who can safely occupy the system:

(i) This infant restraint is designed for use by children who weigh _____ pounds or less and whose height is _____ inches or less; or

(ii) This child restraint is designed for use only by children who weigh between _____ and _____ pounds and whose height is _____ inches or less and who are capable of sitting upright alone; or

(iii) This child restraint is designed for use only by children who weigh between _____ and _____ pounds and are between _____ and _____ inches in height.

(g) The following statement, inserting the location of the manufacturer's installation instruction booklet or sheet on the restraint:

WARNING! FAILURE TO FOLLOW EACH OF THE FOLLOWING INSTRUCTIONS CAN RESULT IN YOUR CHILD STRIKING THE VEHICLE'S INTERIOR DURING A SUDDEN STOP OR CRASH.

SECURE THIS CHILD RESTRAINT WITH A VEHICLE BELT AS SPECIFIED IN THE MANUFACTURER'S INSTRUCTIONS LOCATED _____.

(h) In the case of each child restraint system that has belts designed to restrain children using them:

SNUGLY ADJUST THE BELTS PROVIDED WITH THIS CHILD RESTRAINT AROUND YOUR CHILD.

(i) In the case of each child restraint system which is not intended for use in motor vehicles at certain adjustment positions, the following statement, inserting the manufacturer's adjustment restrictions.

DO NOT USE THE _____ ADJUSTMENT POSITION(S) OF THIS CHILD RESTRAINT IN A MOTOR VEHICLE.

(j) In the case of each child restraint system equipped with an anchorage strap, the statement:

SECURE THE TOP ANCHORAGE STRAP PROVIDED WITH THIS CHILD RESTRAINT AS SPECIFIED IN THE MANUFACTURER'S INSTRUCTIONS.

(k) In the case of each child restraint system which can be used in a rear-facing position, one of the following statements:

(i) **PLACE THIS CHILD RESTRAINT IN REAR-FACING POSITION WHEN USING IT WITH AN INFANT;** or

(ii) **PLACE THIS INFANT RESTRAINT IN A REAR-FACING POSITION WHEN USING IT IN THE VEHICLE.**

(l) An installation diagram showing the child restraint system installed in the right front outboard seating position equipped with



a continuous-loop lap/shoulder belt and in the center rear seating position as specified in the manufacturer's instructions.

S5.5.3 The information specified in S5.5.2 (g)–(k) shall be located on the child restraint system so that it is visible when the system is installed as specified in S5.6.

S5.6 *Installation instructions.* Each child restraint system shall be accompanied by printed instruction in the English language that provide a step-by-step procedure, including diagrams, for installing the system in motor vehicles, securing the system in the vehicles, positioning a child in the system, and adjusting the system to fit the child.

S5.6.1 The instructions shall state that the rear center seating position is the safest seating position in most vehicles for installing a child restraint system.

S5.6.2 The instructions shall specify in general terms the types of vehicle, seating positions, and vehicle lap belts with which the system can or cannot be used.

S5.6.3 The instructions shall explain the primary consequences of not following the warnings required to be labeled on the child restraint system in accordance with S5.5.2 (g)–(k).

S5.6.4 The instructions for each car bed shall explain that the car bed should position in such a way that the child's head is near the center of the vehicle.

S5.6.5 The instructions shall state that child restraint systems should be securely belted to the vehicle, even when they are not occupied, since in a crash an unsecured child restraint system may injure other occupants.

S5.6.6 Each child restraint system shall have a location on the restraint for storing the manufacturer's instructions.

S5.7 *Flammability.* Each material used in a child restraint system shall conform to the requirements of S4 of FMVSS No. 302 (S571.302).

S6 Test Conditions and Procedures.

S6.1 Dynamic Systems Test.

S6.1.1 Test Conditions.

S6.1.1.1 The test device is the standard seat assembly specified in S7.3. It is mounted on a dynamic test platform so that the cen-

ter SORL of the seat is parallel to the direction of the test platform travel and so that movement between the base of the assembly and the platform is prevented. The platform is instrumented with an accelerometer and data processing system having a frequency response of 60 Hz channel class as specified in Society of Automotive Engineers Recommended Practice J211a "Instrumentation for Impact Tests." The accelerometer sensitive axis is parallel to the direction of the test platform travel.

S6.1.1.2 The tests are frontal barrier impact simulations and for—

(a) Test configuration I specified in S6.1.2.1.1, are at a velocity change of 30 mph with the acceleration of the test platform entirely within the curve shown in Figure 2.

(b) Test configuration II specified in S6.1.2.1.2, are at a velocity change of 20 mph with the acceleration of the test platform entirely within the curve shown in Figure 3.

S6.1.1.3 Type I seat belt assemblies meeting the requirements of Standard No. 209 (S571.209) and having webbing with a width of not more than 2 inches are attached, without the use of retractors or reels of any kind, to the seat belt anchorage points (illustrated in Figure 1B) provided on the standard seat assembly.

S6.1.1.4 Performance tests under S6.1 are conducted at any ambient temperature from 66° to 78° F and at any relative humidity from 10 percent to 70 percent.

S6.1.2 Dynamic Test Procedure.

S6.1.2.1 Test Configuration.

S6.1.2.1.1 *Test Configuration I.* In the case of each child restraint system, install a new child restraint system at the center seat position of the standard seat assembly in accordance with the manufacturer's instructions provided in accordance with S5.6 with the system.

S6.1.2.1.2 *Test Configuration II.* In the case of each child restraint system, other than a child harness, which is equipped with an anchorage belt or a fixed or movable surface described in S5.2.2.2, install a new child restraint system at the center seat position of the standard seat assembly using only the standard seat lap belt to secure the system to the standard seat.

S6.1.2.2 Tighten all belts used to attach the child restraint system to the standard seat

assembly to a tension of not less than 12 pounds and not more than 15 pounds, as measured by a load cell used on the webbing portion of the belt.

S6.1.2.3 Place in the child restraint any dummy specified in S7 for testing systems for use by children of the heights and weights for which the system is recommended in accordance with S5.6.

S6.1.2.3.1 When placing the 3-year-old test dummy in child restraint systems other than car beds, position the test dummy according to the instructions for child positioning provided by the manufacturer with the system in accordance with S5.6 while conforming to the following:

(a) Place the test dummy in the seated position within the system with the midsagittal plane of the test dummy head coincident with the center SORL of the standard seating assembly, holding the torso upright until it contacts the system design seating surface.

(b) Extend the arms of the test dummy as far as possible in the upward vertical direction. Extend the legs of the dummy as far as possible in the forward horizontal direction, with the dummy feet perpendicular to the centerline of the lower legs.

(c) Using a flat square surface with an area of 4 square inches, apply a force of 40 pounds, perpendicular to the plane of the back of the standard seat assembly, first against the dummy crotch and then at the dummy thorax in the midsagittal plane of the dummy. For a child restraint system with a fixed or movable surface described in S5.2.2.2 which is being tested under the conditions of test configuration II, do not attach any of the child restraint belts unless they are an integral part of the fixed or movable surface. For all other child restraint systems and for a child restraint system with a fixed or movable surface which is being tested under the conditions of test configuration I, attach all appropriate child restraint belts and tighten them as specified in S6.1.2.4. Attach all appropriate vehicle belts and tighten them as specified in S6.1.2.2. Position each movable surface in accordance with the manufacturer's instructions provided in accordance with S5.6.

(d) After the steps specified in paragraph (c) of this section, rotate each dummy limb downwards in the plane parallel to its midsagittal plane until the limb contacts a surface of the child restraints system or the standard seat. Position the limbs, if necessary, so that limb placement does not inhibit torso or head movement in tests conducted under S6.

S6.1.2.3.2. When placing the 6-month-old dummy in child restraint systems other than car beds, position the test dummy according to the instructions for child positioning provided with the system by the manufacturer in accordance with S5.6 while conforming to the following:

(a) With the dummy in the supine position on a horizontal surface, and while preventing movement of the dummy torso by placing a hand on the center of the torso, rotate the dummy legs upward by lifting the feet until the legs contact the upper torso and the feet touch the head, and then slowly release the legs but do not return them to the flat surface.

(b) Place the dummy in the child restraint system so that the back of the dummy torso contacts the back support surface of the system. For a child restraint system with a fixed or movable surface described in S5.2.2.2 which is being tested under the conditions of test configuration II, do not attach any of the child restraint belts unless they are an integral part of the fixed or movable surface. For all other child restraint systems and for a child restraint system with a fixed or movable surface which is being tested under the conditions of test configuration I, attach all appropriate child restraint belts and tighten them as specified in S6.1.2.4. Attach all appropriate vehicle belts and tighten them as specified in S6.1.2.2. Position each movable surface in accordance with the manufacturer's instructions provided in accordance with S5.6. If the dummy's head does not remain in the proper position, it shall be taped against the front of the seat back surface of the system by means of a single thickness of 1/4-inch-wide paper masking tape placed across the center of the dummy face.

(c) Position the dummy arms vertically upwards and then rotate each arm downward toward the dummy's lower body until it contacts a surface of the child restraint system or the standard seat assembly, ensuring that no arm is restrained from movement in other than the downward direction, by any part of the system or the belts used to anchor the system to the standard seat assembly.

S6.1.2.3.3 When placing the 6-month-old dummy or 3-year-old dummy in a car bed, place the dummy in the car bed in the supine position with its midsagittal plane perpendicular to the center SORL of the standard seat assembly and position the dummy within the car bed in accordance with instructions for child positioning provided with the car bed by its manufacturer in accordance with S5.6.

S6.1.2.4 If provided, shoulder and pelvic belts that directly restrain the dummy shall be adjusted as follows:

Tighten the belts until a 2-pound force applied (as illustrated in figure 5) to the webbing at the top of each dummy shoulder and to the pelvic webbing two inches on either side of the torso midsagittal plane pulls the webbing 1/4 inch from the dummy.

S6.1.2.5 Accelerate the test platform to simulate frontal impact in accordance with S6.1.1.2(a) or S6.1.1.2(b), as appropriate.

S6.1.2.6 Measure dummy excursion and determine conformance to the requirements specified in S5.1 as appropriate.

S6.2 Buckle release test procedure. The buckles on the belts of each child restraint system equipped with buckled belts shall be tested in accordance with S6.2.1 through S6.2.5.

S6.2.1 Install the child restraint system on a standard seat assembly and place the appropriate test dummy in the system in accordance with S6.1.2.1 through S6.1.2.4.

S6.2.2 Tie a self-adjusting sling to each ankle and wrist of the dummy in the manner illustrated in figure 4.

S6.2.3 Pull the sling horizontally in the manner illustrated in figure 4 and parallel to the center SORL of the seat assembly and apply a force of 20 pounds in the case of a system tested with a 6 month-old dummy and 45 pounds in the case of a system tested with a 3 year-old dummy.

S6.2.4 While applying the force specified in S6.2.3, operate the buckle release mechanism in the manner specified in S5.2(d) of Standard No. 209 (S571.209).

S6.2.5 Measure the force required to release the buckle.

S6.3 Head impact protection—energy absorbing material test procedure.

S6.3.1 Prepare and test specimens of the energy absorbing material used to comply with S5.2.3 in accordance with the applicable 25 percent compression-deflection test described in the American Society for Testing and Materials (ASTM) Standard D1056-73, "Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber," or D1564-71 "Standard Method of Testing

Flexible Cellular Materials—Slab Urethane Foam" or D1565-76 "Standard Specification for Flexible Cellular Materials—Vinyl Chloride Polymer and Copolymer open-cell foams."

S7 Test dummies.

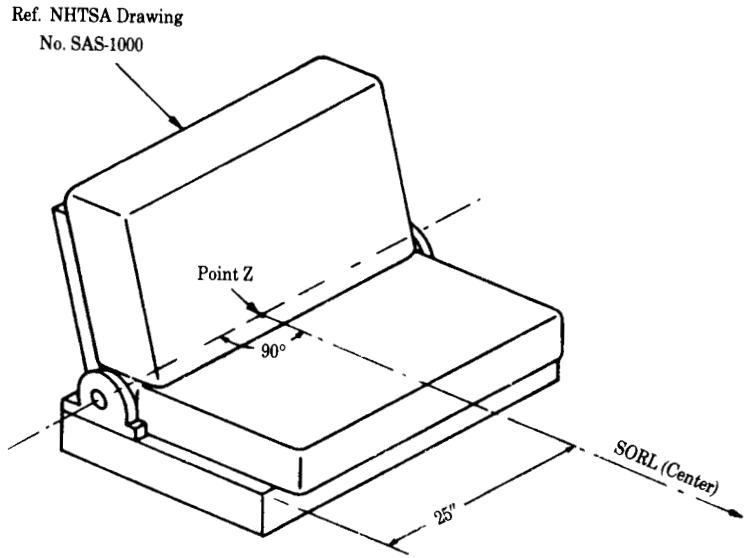
S7.1 Six-month-old dummy. An unclothed "Six-month-old Size Manikin" conforming to Subpart D of Part 572 of this chapter is used for testing a child restraint system that is recommended by its manufacturer in accordance with S5.6 for use by children in a weight range that includes children weighing not more than 20 pounds.

S7.2 Three-year-old dummy. A three-year-old dummy conforming to Subpart C of Part 572 of this chapter is used for testing a child restraint that is recommended by its manufacturer in accordance with S5.6 for use by children in a weight range that includes children weighing more than 20 pounds.

S7.2.1 Before being used in testing under this standard, the dummy is conditioned at any ambient temperature from 66° F to 78° F and at any relative humidity from 10 percent to 70 percent for at least 4 hours.

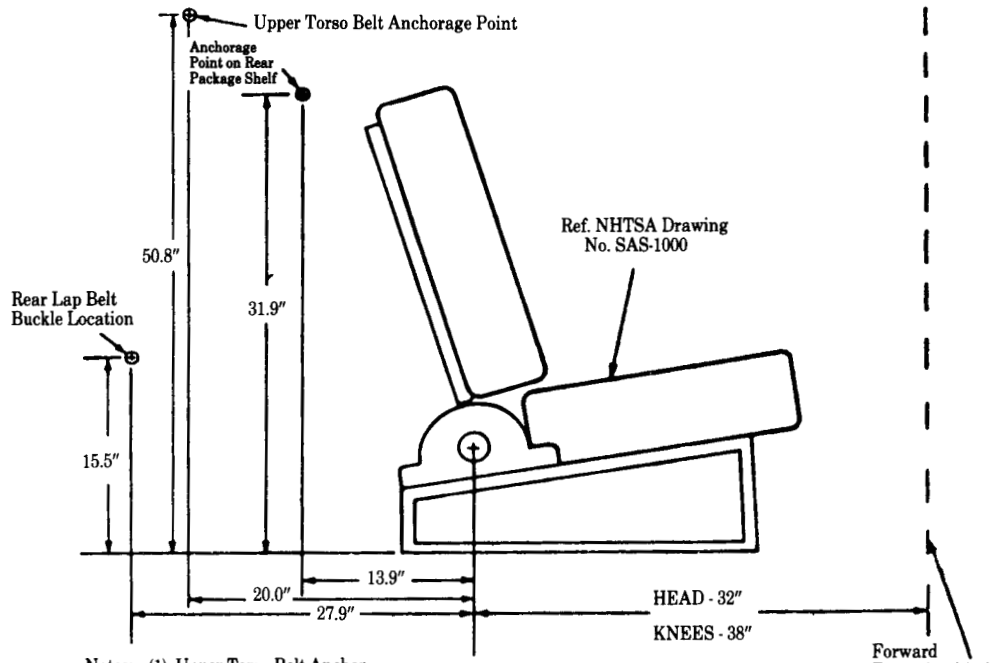
S7.2.2 When used in testing under this standard, the dummy is clothed in thermal knit waffle-weave polyester and cotton underwear, a size 4 long-sleeved shirt weighing 0.2 pounds, a size 4 pair of long pants weighing 0.2 pounds and cut off just far enough above the knee to allow the knee target to be visible, and size 7M sneakers with rubber toe caps, uppers of dacron and cotton or nylon and total weight of 1 pound. Clothing other than the shoes is machine-washed in 160° F to 180° F water and machine-dried at 120° F to 140° F for 30 minutes.

S7.3 Standard seat assembly. The standard seat assembly used in testing under this standard is a simulated vehicle bench seat, with three seating positions, which is described in Drawing Package SAD-100-1000 and consists of drawings and a bill of materials.



SORL-SEAT ORIENTATION REFERENCE LINE (HORIZONTAL)
 SORL LOCATION ON THE STANDARD SEAT
 FIGURE 1A

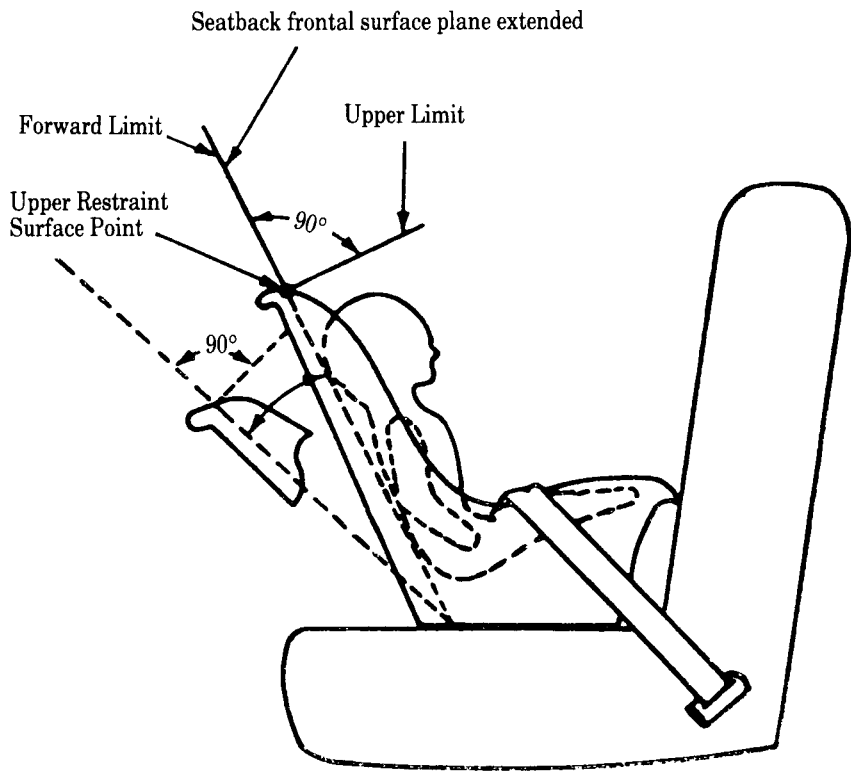
Truck Body & Equipment Association, Inc., 5530 Wisconsin Avenue, Washington, D.C. 20015—Federal Safety Standard No. 213-80—3
 Supplement 81-1 September 1981



- Notes:
- (1) Upper Torso Belt Anchorage Point Located 21.4" Right or Left of the Center SORL as shown in Fig. 1A.
 - (2) Rear Lap Belt Buckle Located 7.0" Right or Left of the Center SORL as shown in Fig. 1A.

LOCATIONS OF ADDITIONAL BELT ANCHORAGE POINTS AND FORWARD EXCURSION LIMIT
 FIGURE 1B

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Note: The limits illustrated move during dynamic testing

REAR FACING CHILD RESTRAINT
FORWARD AND UPPER HEAD EXCURSION LIMITS
FIGURE 1C

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Supplement 81-1 September 1981

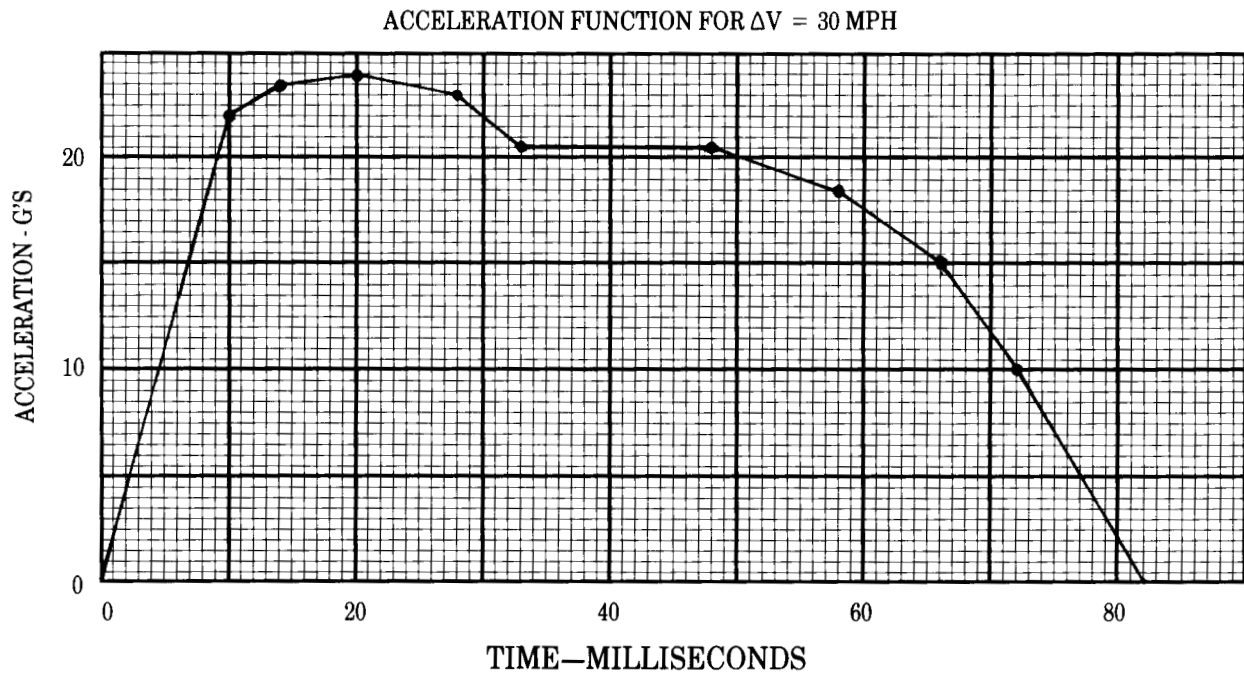


FIGURE 2

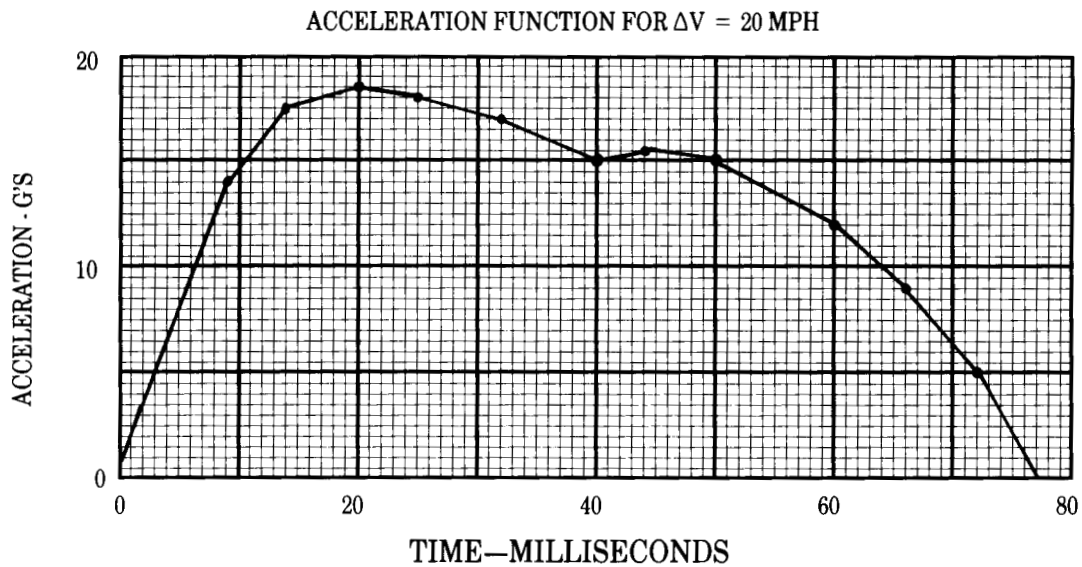
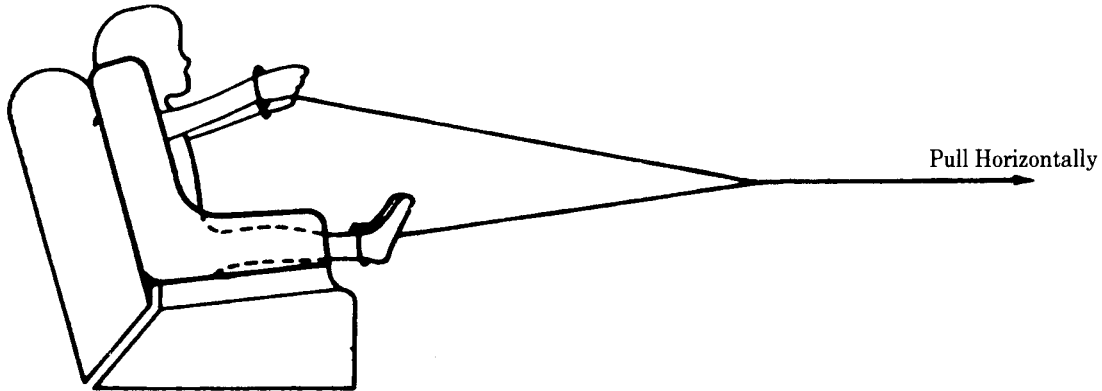
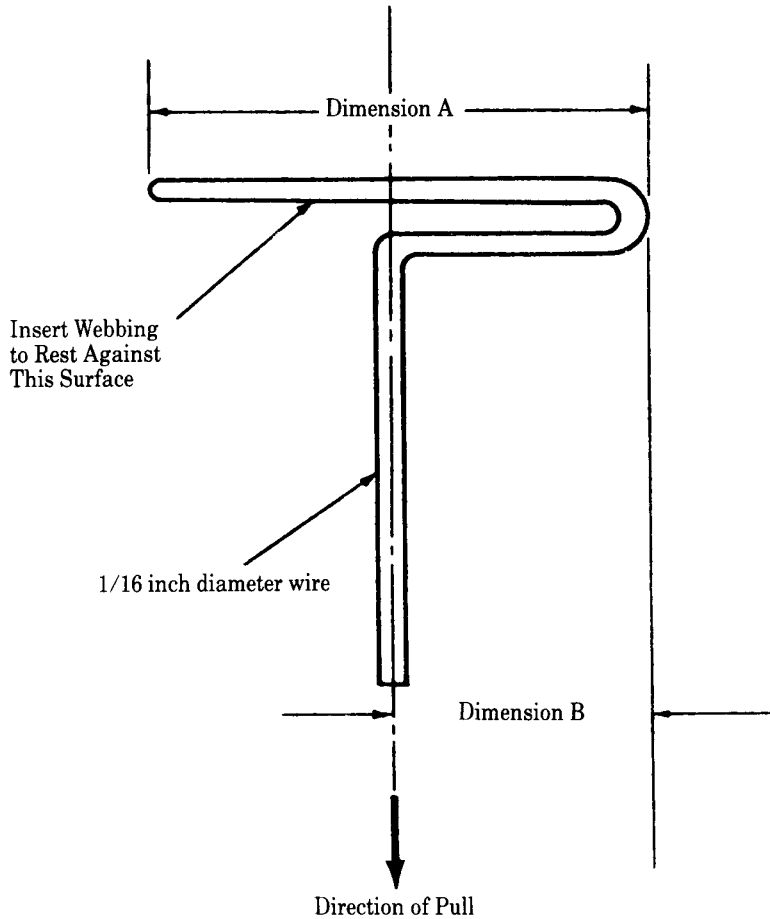


FIGURE 3

Truck Body & Equipment Association, Inc., 5530 Wisconsin Avenue, Washington, D.C. 20015—Federal Safety Standard No. 213—80—6
 Supplement 81—1 September 1981



BUCKLE RELEASE TEST
FIGURE 4



Dimension A — Width of Webbing Plus 1/8 inch

Dimension B — 1/2 of Dimension A

WEBBING TENSION PULL DEVICE
FIGURE 5

Truck Body & Equipment Association, Inc., 5530 Wisconsin Avenue, Washington, D.C. 20015—Federal Safety Standard No. 213-80-7
Supplement 81-1 September 1981

REFERENCE MATERIALS

AVAILABILITY: The materials incorporated by reference, other than acts of Congress and matter published elsewhere in the Federal Register, are available as follows:

- 1) American Association of Textile Chemists and Colorists (AATCC)
P.O. Box 12215
Research Triangle Park, NC 27709
- 2) American National Standards Institute (ANSI)
1430 Broadway
New York, NY 10018
- 3) American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103
- 4) General Services Administration (GSA)
Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
- 5) Military Specifications
Naval Publication and Forms Center
5801 Tabor Avenue
Philadelphia, PA 19120
- 6) National Health Survey Data
Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
- 7) National Highway Traffic Safety Administration (NHTSA)
Keuffle and Esser Company
15121 North Danville Street
Arlington, VA 22201
- 8) Society of Automotive Engineers (SAE)
400 Commonwealth Drive
Warrendale, PA 15096
- 9) Truck Body and Equipment Association, Inc.
Suite 1220
5530 Wisconsin Avenue
Washington, DC 20015