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MOTOR VEHICLE SAFETY ACT

Motor Vehicle Restraint Systems and Booster Seats Safety Regulations

P.C. 2010-545 April 29, 2010

Whereas, pursuant to subsection 11(3) of the *Motor Vehicle Safety Act* ([see footnote a](#)), a copy of the proposed *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations*, substantially in the annexed form, was published in the *Canada Gazette*, Part I, on October 10, 2009, and a reasonable opportunity was afforded to interested persons to make representations to the Minister of Transport with respect to the proposed Regulations;

Therefore, Her Excellency the Governor General in Council, on the recommendation of the Minister of Transport pursuant to subsection 11(1) of the *Motor Vehicle Safety Act* ([see footnote b](#)), hereby makes the annexed *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations*.

MOTOR VEHICLE RESTRAINT SYSTEMS AND BOOSTER SEATS SAFETY REGULATIONS

PART 1

GENERAL

INTERPRETATION

Definitions

100. (1) The following definitions apply in these Regulations.

“Act”

« Loi »

“Act” means the *Motor Vehicle Safety Act*.

“booster seat”
« *siège d’appoint* »

“booster seat” means a removable device for use in a vehicle for seating a person whose mass is at least 18 kg in order to improve the fit of a vehicle seat belt.

“car bed”
« *lit d’auto* »

“car bed” means a restraint system for an infant with special needs that is designed to restrain the infant in a supine or prone position on a continuous flat surface.

“child”
« *enfant* »

“child” means a person whose mass is more than 10 kg and not more than 30 kg.

“CMVSS”
« *NSVAC* »

“CMVSS” means Canada Motor Vehicle Safety Standard.

“custom restraint system for a disabled person”
« *ensemble de retenue sur mesure pour personne handicapée* »

“custom restraint system for a disabled person” means a restraint system, other than a mass-produced restraint system, designed for a specific disabled person.

“disabled person”
« *personne handicapée* »

“disabled person” means a person, other than an infant with special needs, who, for orthopaedic reasons or because of the person’s build or other physical characteristics, is unable to use an infant restraint system, a child restraint system, a booster seat, a built-in device referred to in item 213.4 of Schedule III to the *Motor Vehicle Safety Regulations*, or a vehicle seat belt.

“infant”
« *bébé* »

“infant” means a person who is unable to walk unassisted and whose mass is not more than 10 kg.

“infant with special needs”
« *bébé qui a des besoins spéciaux* »

“infant with special needs” means an infant who is unable to use an infant restraint system and

- (a) who was born at less than 37 weeks’ gestation;
- (b) whose mass at birth was less than 2.2 kg; or
- (c) who has special breathing needs.

“lower connector system”
« *système d’attaches inférieures* »

“lower connector system” means a system consisting of two connectors that each fit inside a checking device having the envelope dimensions shown in Figure 9 of Schedule 7, that are attached to the lower part of a restraint system or booster seat in a manner that does not allow for their removal without the use of tools, and that allow the restraint system or booster seat to be securely attached to a lower universal anchorage system of a vehicle.

“lower universal anchorage system”
« *dispositif universel d’ancrages d’attaches inférieurs* »

“lower universal anchorage system” means a device, other than a vehicle seat belt, that is designed to secure the lower portion of a restraint system or booster seat to a vehicle, and that transfers the load from the restraint system or booster seat and its occupant to the vehicle structure or a vehicle seat structure.

“mass-produced”
« *fabriqué en série* »

“mass-produced” means manufactured, in whatever quantity, using only standard or uniform parts.

“restraint system”
« *ensemble de retenue* »

“restraint system” means a removable device designed to be used together with the seat of a vehicle in order to restrain an infant, an infant with special needs, a child or a disabled person, but does not include a booster seat or a vehicle seat belt.

“seat orientation reference line” or “SORL”
« *ligne repère d’orientation du siège ou LROS* »

“seat orientation reference line” or “SORL” means the horizontal line passing through the plane of symmetry of the standard seat assembly and passing through the Z point as shown in Figures 3 and 4 of Schedule 7.

“standard seat assembly”
« *siège normalisé* »

“standard seat assembly” means the seat that is specified in the drawing package entitled *Standard Seat Assembly Specifications for Motor Vehicle Restraint Systems and Booster Seats Safety Regulations Compliance Testing* (January 1, 2010), published by the Department of Transport, and that has seat belt anchorage points and a lower universal anchorage system located as indicated in Figures 3 and 4 of Schedule 7, respectively.

“tether strap”
« *courroie d’attache* »

“tether strap” means a device that is fitted with a tether strap hook and secured to the rigid structure of a restraint system or booster seat, and that transfers the load from the restraint system or booster seat and its occupant to the user-ready tether anchorage.

“tether strap hook”

« *crochet de la courroie d’attache* »

“tether strap hook” means a device that is used to attach a tether strap to a user-ready tether anchorage and that has an interface profile shown in Figure 1 of Schedule 7 or, in the case of a device with integrated adjustment hardware, Figure 2 of Schedule 7.

“torso”

« *torse* »

“torso” means the portion of the body of an anthropomorphic test device or an occupant, excluding the thighs, that

(a) when the device or occupant is seated in a restraint system other than a car bed or in a booster seat, lies between the top of the restraint system seating surface or booster seat seating surface and the top of the shoulders; or

(b) when the device or occupant is seated in a car bed, lies between the top of the continuous flat surface of the car bed and the top of the shoulders.

“TSD 209”

« *DNT 209* »

“TSD 209” means *Technical Standards Document No. 209, Seat Belt Assemblies*, published by the Department of Transport, as amended from time to time.

“user-ready tether anchorage”

« *ancrage d’attache prêt à utiliser* »

“user-ready tether anchorage” means a device that transfers the tether strap load from a restraint system or booster seat and its occupant to the vehicle structure or a vehicle seat structure, and that is designed to accept a tether strap hook directly, without requiring the installation of any other device.

Expiry date

(2) Unless otherwise indicated in these Regulations, any section that incorporates TSD 209 expires five years after the day on which it comes into force.

Classes of vehicles

(3) In these Regulations, “classes of vehicles” refers to those classes of vehicles prescribed by section 4 of the *Motor Vehicle Safety Regulations* and set out in Schedule III to those Regulations.

NATIONAL SAFETY MARK

Authorization by Minister

101. (1) For the purposes of subsection 3(2) of the Act, the Minister may, in the form set out in Schedule 1, authorize a company to apply the national safety mark to a restraint system or booster seat and to any accompanying documentation or any packaging.

Application for authorization

(2) A company that intends to apply the national safety mark to a restraint system or booster seat must apply to the Minister to obtain the authorization referred to in subsection (1).

National safety mark

(3) A company that applies the national safety mark to a restraint system or booster seat must reproduce the national safety mark as shown in Schedule 2, including the following information, in the locations indicated in that schedule:

(a) the authorization number assigned to the company by the Minister; and

(b) the number or numbers of the CMVSS to which the restraint system or booster seat conforms, namely,

(i) 213, in the case of a child restraint system,

(ii) 213.1, in the case of an infant restraint system,

(iii) 213.2, in the case of a booster seat,

(iv) 213.3, in the case of a mass-produced restraint system for disabled persons,

(v) 213.3, in the case of a custom restraint system for a disabled person that is designed to be used only in school buses, and

(vi) 213.5, in the case of a restraint system for infants with special needs.

Idem

(4) The national safety mark must be at least 50 mm in diameter and be stitched onto the restraint system or booster seat, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner.

Visibility of national safety mark

(5) The national safety mark must, when applied to a restraint system or booster seat, be fully visible.

Location of national safety mark — removable base

(6) If a restraint system is manufactured with a removable base and the seating component of the restraint system is designed to be used in a vehicle with or without the base, the national safety mark must be applied to the seating component.

PRESCRIBED CLASSES OF EQUIPMENT

Prescribed classes of equipment

102. Child restraint systems, infant restraint systems, booster seats, restraint systems for disabled persons and restraint systems for infants with special needs are prescribed classes of equipment for the purposes of section 5 of the Act.

PRESCRIBED STANDARDS

CVMSS 213

103. (1) Every child restraint system must conform to the applicable standards set out in Part 2, CMVSS 213 — Child Restraint Systems.

CVMSS 213.1

(2) Every infant restraint system must conform to the applicable standards set out in Part 3, CMVSS 213.1 — Infant Restraint Systems.

CVMSS 213.2

(3) Every booster seat must conform to the applicable standards set out in Part 4, CMVSS 213.2 — Booster Seats.

CVMSS 213.3

(4) Every restraint system for disabled persons must conform to the applicable standards set out in Part 5, CMVSS 213.3 — Restraint Systems for Disabled Persons.

CVMSS 213.5

(5) Every restraint system for infants with special needs must conform to the applicable standards set out in Part 6, CMVSS 213.5 — Restraint Systems for Infants with Special Needs.

Applicable CVMSS

(6) Every restraint system that is designed to be used as more than one type of restraint system or as a restraint system and booster seat must conform to the standards set out in Parts 2 to 6 that are applicable to each type of restraint system or booster seat for which it is designed to be used.

RESTRAINT SYSTEM AND BOOSTER SEAT INFORMATION

National Safety Mark

No importation without national safety mark

104. A company must not import into Canada a restraint system other than a custom restraint system for a disabled person that is not designed to be used only in school buses, or a booster seat, unless the company has applied the national safety mark to the restraint system or booster seat.

Lower Universal Anchorage System Symbol

Lower universal anchorage system symbol

105. Every restraint system or booster seat that is equipped with a lower connector system must bear the lower universal anchorage system symbol shown in Schedule 3, on a background of contrasting colour, on or near the lower connector system, and the symbol must be fully visible to a person installing the restraint system or booster seat when the restraint system or booster seat is positioned in the vehicle.

RECORDS

Compliance

106. (1) For each restraint system or booster seat to which the national safety mark is applied or that is imported into Canada, a company must maintain in writing or in readily readable electronic form the records referred to in paragraph 5(1)(g) of the Act that show that the restraint system or booster seat conforms to all prescribed standards applicable to it, and retain those records for at least five years after the day on which the restraint system or booster seat is manufactured or imported.

Idem

(2) If the records referred to in subsection (1) are maintained by a person on behalf of the company, the company must keep the name and address of the person.

Request by inspector

(3) At the request in writing of an inspector, a company must send to the inspector a copy of the records referred to in subsection (1), in either official language, within 30 working days after the day on which the request is mailed.

REGISTRATION SYSTEMS

Information card

107. (1) For the purpose of maintaining the registration system referred to in paragraph 5(1)(h) of the Act, a company must provide to each person who purchases a restraint system or booster seat an information card, in both official languages, that

(a) permits the purchaser to provide to the company or to a duly authorized representative of the company, at no cost, the purchaser's name, mailing address and email address, the model name and number of the restraint system or booster seat, the date of purchase and the date of manufacture; and

(b) includes a safety message concerning the importance of providing the information.

Information to be included in registration system

(2) The registration system maintained by a company in accordance with paragraph 5(1)(h) of the Act must consist of the information provided to the company under paragraph (1)(a), and that information must be used only for the purposes of paragraph 5(1)(h) of the Act.

Minimum retention period

(3) The information in the registration system maintained by a company in relation to a restraint system or booster seat must be kept for at least five years after the day on which the restraint system or booster seat is purchased.

IMPORTATION

General

Declaration

108. For the purposes of paragraph 5(1)(b) of the Act, a company that imports into Canada a restraint system or booster seat must make, at the nearest customs office that is open for business, a declaration signed by the company's duly authorized representative that contains the following information:

- (a) the name of the manufacturer of the restraint system or booster seat;
- (b) the name and address of the company importing the restraint system or booster seat;
- (c) a statement that the restraint system or booster seat conformed to the requirements of these Regulations on the date of its importation;
- (d) a statement from the manufacturer or its duly authorized representative that the restraint system or booster seat conforms to the prescribed standards applicable on the date of manufacture;
- (e) the model name and number of the restraint system or booster seat;
- (f) the number of restraint systems and the number of booster seats imported at the same time; and
- (g) the date on which the restraint system or booster seat was imported.

Temporary Importation

Declaration before importation

109. For the purposes of paragraph 7(1)(a) of the Act, a person who imports into Canada a restraint system or booster seat, or the person's duly authorized representative, must file with the Minister, before importation, a duly completed declaration in the form prescribed in Schedule 4.

DEFECT INFORMATION

Content of notice of defect

110. (1) The notice of defect referred to in subsections 10(1) and (3) of the Act must be given in writing and must contain the following information:

- (a) the name and address of the company giving the notice;
- (b) the name of the manufacturer of the restraint system or booster seat;
- (c) the model name and number of each restraint system or booster seat in respect of which the notice is given and the prescribed class of equipment to which it belongs, the period during which the restraint system or booster seat was manufactured, and any other information necessary to permit the identification of the restraint system or booster seat;
- (d) the estimated percentage of restraint systems or booster seats that potentially contain the defect;
- (e) a description of the defect;
- (f) an evaluation of the risk to the safety of persons arising from the defect;
- (g) a statement of the measures to be taken to correct the defect;
- (h) any conditions affecting the correction of the defect; and
- (i) the number, title or other identification assigned by the company to the notice of defect.

Content of report

(2) A company must, within 30 days after the day on which it gives a notice of defect, submit to the Minister the report referred to in subsection 10(6) of the Act, which must contain, in addition to the information required by subsection (1), the following information:

(a) the number of restraint systems and the number of booster seats affected by the notice of defect and the number of those restraint systems and booster seats in each prescribed class of equipment;

(b) a chronology of the principal events that led to the determination of the existence of the defect;

(c) copies of all notices, bulletins and other circulars issued by the company in respect of the defect; and

(d) a detailed description of the nature of the defect and its location on the restraint system or booster seat, with any related diagrams or illustrations.

Content of quarterly reports

(3) For the purposes of subsection 10(6) of the Act, the quarterly reports to be submitted following the report referred to in subsection (2) must contain the following information:

(a) the number, title or other identification assigned by the company to the notice of defect;

(b) the revised number of restraint systems and the revised number of booster seats affected by the notice of defect, if applicable;

(c) the dates on which notices of defect were given to the current owners of the restraint systems or booster seats;

(d) the number of restraint systems and the number of booster seats inspected by or at the direction of the company;

(e) the number of restraint systems and the number of booster seats found on inspection to contain the defect; and

(f) a statement outlining the manner in which the company disposed of the defective parts, restraint systems or booster seats.

[111 to 199 reserved]

PART 2

CMVSS 213 — CHILD RESTRAINT SYSTEMS

GENERAL

Interpretation

200. In this Part, “Test Method 213” means *Test Method 213 — Child Restraint Systems* (January 2010), published by the Department of Transport.

Restraint of torso and crotch

201. Every child restraint system must, when the anthropomorphic test device is positioned in the restraint system in accordance with subsection 4.4.2 or 4.5.2 of Test Method 213,

(a) restrain the upper torso by means of

(i) in the case of a forward-facing restraint system,

(A) belts passing over each shoulder, or

(B) a fixed or movable surface that conforms to the requirements of section 211, or

(ii) in the case of a rear-facing restraint system, belts passing over each shoulder;

(b) restrain the lower torso by means of

(i) a pelvic restraint making an angle of at least 45° but not more than 90° with the seating surface of the restraint system at the pelvic restraint attachment points, or

(ii) a fixed or movable surface that conforms to the requirements of section 211; and

(c) in the case of a forward-facing restraint system, restrain the crotch by means of

(i) a crotch belt that is connectable to the pelvic restraint or to any other device used to restrain the lower torso, or

(ii) a fixed or movable surface that conforms to the requirements of section 211.

Means of securing forward-facing child restraint system

202. (1) Every forward-facing child restraint system must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt together with the tether strap provided with the restraint system, without using any other means of attachment; and

(b) by means of a lower connector system together with the tether strap provided with the restraint system, without using any other means of attachment.

Rear-facing child restraint system

(2) Subject to subsection (3), every rear-facing child restraint system must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt, without using any other means of attachment; and

(b) by means of a lower connector system, without using any other means of attachment.

Rear-facing child restraint system with tether strap

(3) If a rear-facing child restraint system is equipped with a tether strap and the manufacturer recommends its use, the restraint system must be designed to be secured to a vehicle

(a) by means of the tether strap together with a vehicle seat belt, without using any other means of attachment; and

(b) by means of the tether strap together with a lower connector system, without using any other means of attachment.

Belts and movable surfaces designed to restrain a child

203. Every belt or movable surface that is part of a child restraint system and that is designed to restrain a child must be adjustable to snugly fit a child whose mass and height are within the ranges indicated in the statement referred to in paragraph 218(1)(d), when the child is positioned in the restraint system in accordance with the instructions referred to in paragraph 220(1)(c) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 220(1)(d).

Audible or visible indication

204. Every child restraint system must provide a clear, audible indication when each connector in a lower connector system is securely attached to the lower universal anchorage system or a clear, visual indication that each connector is securely attached to the lower universal anchorage system.

Flammability

205. Every child restraint system must be constructed only of materials that conform to the requirements of section 302 of Schedule IV to the *Motor Vehicle Safety Regulations*.

BELT BUCKLES AND WEBBING

Conformity with TSD 209

206. Every belt buckle and related piece of adjustment hardware and every tether strap attachment and related piece of adjustment hardware that are part of a child restraint system must conform to the requirements of S4.3(a)(2) and (b) of TSD 209.

Belt buckles

207. Every belt buckle that is fitted on a belt designed to restrain a child in a child restraint system must

(a) under the conditions set out in section 3 of Test Method 213,

(i) not release when a force of less than 40 N is applied, and

(ii) release when a force of at least 40 N but not more than 62 N is applied;

(b) under the conditions set out in section 5 of Test Method 213, release when a force of not more than 71 N is applied;

(c) conform to the requirements of S4.3(d)(2) of TSD 209, except that the surface area of a belt buckle designed for push-button application must be at least 385 mm²;

(d) conform to the requirements of S4.3(g) of TSD 209; and

(e) not release during the dynamic tests specified in section 4 of Test Method 213.

Webbing

208. Any webbing that is designed to secure a child restraint system to a user-ready tether anchorage or to a lower universal anchorage system, or to restrain a child within the restraint system, must

(a) when tested in accordance with S5.1(b) of TSD 209, before being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, for resistance to light as specified in S5.1(e) of TSD 209 or for resistance to micro-organisms as specified in S5.1(f) of TSD 209, have a breaking strength of

(i) at least 15 000 N, in the case of webbing designed to secure the restraint system to the user-ready tether anchorage or to the lower universal anchorage system, or

(ii) at least 11 000 N, in the case of webbing designed to restrain a child within the restraint system;

(b) when tested in accordance with S5.1(b) of TSD 209, after being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, have a breaking strength of at least 75% of its initial breaking strength;

(c) conform to the requirements of S4.2(e) and (f) of TSD 209 and subsections 209(3) to (6) of Schedule IV to the *Motor Vehicle Safety Regulations*; and

(d) if contactable by the torso when the restraint system is tested in accordance with section 4 of Test Method 213, have a width of not less than 38 mm, measured as specified in S5.1(a) of TSD 209.

CONTACTABLE SURFACES

Contactable surfaces

209. Every child restraint system must provide

(a) for the support of the child's back, a continuous surface that is flat or concave and has an area of not less than 54 800 mm²; and

(b) for the support of the sides of the child's torso, continuous surfaces that are flat or concave and have an area of not less than 30 500 mm² each.

Prohibition

210. A child restraint system must not have any surface directly in front of the child, unless the surface is designed to limit the forward movement of the child.

Cross-sections of surface

211. Every horizontal cross-section of a surface of a child restraint system that is designed to limit the forward movement of a child must be flat or concave, and every vertical longitudinal cross-section of that surface must be flat or convex with a radius of curvature of the underlying structure of not less than 50 mm.

Rigid structural elements

212. Any rigid structural element underlying a contactable surface of a child restraint system must not have

(a) a protrusion, with any padding or flexible overlay material removed, of more than 9.5 mm; or

(b) an exposed edge with a radius of less than 6.4 mm.

Surface contactable by head

213. Every surface of a child restraint system that is contactable by the head of an anthropomorphic test device positioned in the restraint system in accordance with subsection 4.4.2 or 4.5.2 of Test Method 213 must be covered with slow-recovery, energy-absorbing material that, when tested in accordance with section 6 of Test Method 213, has

- (a) a resistance of not less than 4 kPa but not more than 70 kPa at 25% of compression-deflection resistance;
- (b) a thickness of not less than 12 mm, if the material has a resistance of not less than 12 kPa but not more than 70 kPa at 25% of compression-deflection resistance; and
- (c) a thickness of not less than 19 mm, if the material has a resistance of not less than 4 kPa but less than 12 kPa at 25% of compression-deflection resistance.

TESTING

Inversion testing

214. A child restraint system that is subjected to an inversion test in accordance with section 7 of Test Method 213 must not fall out of the aircraft passenger seat belt, and the anthropomorphic test device must not fall out of the restraint system, at any time during the rotation or three-second immobilisation period referred to in that section.

Dynamic testing

215. (1) A child restraint system that is subjected to a dynamic test in accordance with section 4 of Test Method 213 must, when in any adjustment position for which there is no warning under subparagraph 218(1)(e)(iii),

- (a) exhibit no complete separation of any load-bearing structural element, and no partial separation exposing a surface with
 - (i) a protrusion of more than 9.5 mm, or
 - (ii) a radius of less than 6.4 mm;
- (b) remain in the same adjustment position during the test as it was in immediately before the test began;
- (c) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration at the location of the accelerometer mounted in the upper thorax of the anthropomorphic test device to not more than 60 g, except for intervals of not more than 3 ms;
- (d) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration of the centre of gravity of the head of the anthropomorphic test device during the movement of the head towards the front of the vehicle to not more than 80 g, except for intervals of not more than 3 ms, unless it is established that any resultant acceleration above 80 g is caused by another part of the anthropomorphic test device striking its head;

(e) subject to subsection 216(2), limit the movement of the head of the anthropomorphic test device towards the rear of the restraint system by means of a continuous seat back that is an integral part of the restraint system; and

(f) subject to subsection 216(2), limit the rotation of the head of the anthropomorphic test device towards the rear of the restraint system, in its midsagittal plane, by means of a continuous seat back that is an integral part of the restraint system, so that the angle between the head and the torso is at no time during the test more than 45° as compared to the angle between the head and the torso prior to the test.

Continuous seat back

(2) The continuous seat back referred to in paragraphs (1)(e) and (f) must have

(a) a height

(i) of at least 500 mm, in the case of a child restraint system recommended by the manufacturer for use by a child whose mass is 18 kg or less, or

(ii) of at least 560 mm, in the case of a child restraint system recommended by the manufacturer for use by a child whose mass is more than 18 kg; and

(b) a width of at least 200 mm, measured in the horizontal plane at the height specified in paragraph (a).

Measurement of height — paragraph (2)(a)

(3) The height referred to in paragraph (2)(a) must be measured in a plane parallel to the surface of the seat back of the child restraint system and orthogonal to the vertical longitudinal plane passing through the longitudinal centreline of the restraint system, from the lowest point of the restraint system's seating surface that is contacted by the buttocks of the seated anthropomorphic test device.

Exception

(4) Despite paragraph (2)(b), if the child restraint system provides surfaces for the support of the sides of the torso, and those surfaces extend at least 100 mm forward from the padded surface of the portion of the restraint system provided for the support of the head of the anthropomorphic test device, the restraint system may have a continuous seat back width of not less than 150 mm, measured in the horizontal plane at the height referred to in paragraph (2)(a).

Belt

(5) Every belt that is part of a child restraint system and that is designed to restrain a child in the restraint system must not, when subjected to a dynamic test in accordance with section 4 of Test Method 213, impose on the anthropomorphic test device any loads that result from the mass of the restraint system or the mass of the seat back of the standard seat assembly.

Forward-facing child restraint system

216. (1) A forward-facing child restraint system that is subjected to a dynamic test in accordance with section 4 of Test Method 213 must not, when in any adjustment position for which there is no warning under subparagraph 218(1)(e)(iii),

(a) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), allow any portion of the head of the anthropomorphic test device to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that is 720 mm forward of the Z point on the standard seat assembly, measured along the SORL;

(b) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), allow either knee pivot point to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that is 915 mm forward of the Z point on the standard seat assembly, measured along the SORL; and

(c) allow the angle between the restraint system's back support surface and seating surface to be less than 45° at the completion of the test.

Exception

(2) A forward-facing child restraint system is not required to conform to the requirements of paragraphs 215(1)(e) and (f) if the target point located on either side of the head of the heaviest of the anthropomorphic test devices used in the dynamic test — other than an anthropomorphic test device specified in subpart I, N or S, part 572, chapter V, title 49 of the *Code of Federal Regulations of the United States* (revised as of October 1, 2009) — and located on the transverse axis passing through the centre of mass of the device's head and perpendicular to the head's midsagittal plane is below a horizontal plane tangent to the top of the standard seat assembly when the anthropomorphic test device is positioned in the restraint system in accordance with subsection 4.4.2 or 4.5.2 of Test Method 213 and the restraint system is installed on the standard seat assembly in accordance with subsection 4.4.1 or 4.5.1 of Test Method 213.

Rear-facing child restraint system

217. A rear-facing child restraint system that is subjected to a dynamic test in accordance with section 4 of Test Method 213 must, when in any adjustment position for which there is no warning under subparagraph 218(1)(e)(iii),

(a) retain the torso of the anthropomorphic test device within the restraint system, and not allow any portion of the target points on either side of the device's head, located on the transverse axis passing through the centre of mass of the device's head and perpendicular to the head's midsagittal plane, to pass at any time, during or immediately after the test, either through the transverse orthogonal planes formed by the extension of the seat back frontal surface plane of the restraint system and by the plane that passes through the uppermost point of the restraint system, as shown in Figure 7 of Schedule 7, or through the vertical transverse plane passing through point X on the standard seat assembly, as shown in Figure 8 of Schedule 7; and

(b) not allow the angle between the vertical and the back and head support surface, measured 240 mm above the seating surface, to be more than 70° at any time during the test.

INFORMATION

Information

218. (1) Every child restraint system must have stitched onto it, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner, the following information:

(a) the name of the company that manufactured, imported or sold the restraint system and the address of its principal place of business;

(b) the model name and number of the restraint system;

(c) the date of manufacture of the restraint system, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;

(d) a statement indicating — in units based on the International System of Units followed by the corresponding imperial units in parentheses — the mass and height range of the children for whom the manufacturer recommends the restraint system when it is used in a forward-facing and, where applicable, a rear-facing position;

(e) a warning indicating

(i) if the restraint system can be used in a forward-facing position, that it must be secured to the vehicle as shown in the installation instructions by means of the tether strap provided with the restraint system and by either of the following means:

(A) a lower connector system, if the restraint system is installed in a seating position that is equipped with a lower universal anchorage system, or

(B) a vehicle seat belt, if the restraint system is installed in a seating position that is not equipped with a lower universal anchorage system,

(ii) if the restraint system can be used in a rear-facing position, that it must be secured to the vehicle as shown in the installation instructions by either of the following means and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap:

(A) a lower connector system, if the restraint system is installed in a seating position that is equipped with a lower universal anchorage system, or

(B) a vehicle seat belt, if the restraint system is installed in a seating position that is not equipped with a lower universal anchorage system,

(iii) if the restraint system is not designed to be used at certain adjustment positions, that those adjustment positions must not be used,

(iv) if the restraint system is equipped with belts for restraining a child, that the belts must be snugly adjusted around the child, and

(v) if the restraint system is equipped with a fixed or movable surface for restraining the child and also requires the use of belts to restrain the child, that the surface alone is not sufficient to restrain the child;

(f) if the restraint system can be used in a forward-facing position, an installation diagram that shows the restraint system

(i) installed in a forward-facing position as recommended by the manufacturer in a seating position that is equipped only with a lap belt, and secured to the vehicle by means of the belt and by means of the tether strap,

(ii) installed in a forward-facing position as recommended by the manufacturer in a seating position that is equipped only with a continuous-loop lap and shoulder belt, and secured to the vehicle by means of the belt and by means of the tether strap, and

(iii) installed in a forward-facing position as recommended by the manufacturer in a seating position that is equipped with a lower universal anchorage system, and secured to the vehicle by means of a lower connector system and by means of the tether strap; and

(g) if the restraint system can be used in a rear-facing position, an installation diagram that shows the restraint system

(i) installed in a rear-facing position as recommended by the manufacturer in a seating position that is equipped only with a lap belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap,

(ii) installed in a rear-facing position as recommended by the manufacturer in a seating position that is equipped only with a continuous-loop lap and shoulder belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap, and

(iii) installed in a rear-facing position as recommended by the manufacturer in a seating position that is equipped with a lower universal anchorage system, and secured to the vehicle by means of a lower connector system and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap.

Official languages and print size

(2) The information referred to in subsection (1) must be in both official languages and in characters of at least 10 points, except for the words “year/année”, “month/mois” and “day/jour” under the date of manufacture, which may be in characters of at least 8 points.

Visibility of information

(3) The information referred to in paragraphs (1)(d) to (g) must be fully visible at all times, even when the restraint system is occupied.

Warning — air bag

219. (1) Every child restraint system that can be used in a rear-facing position must bear the air bag warning label shown in Schedule 6, and the label must conform to the requirements of that schedule.

Idem

(2) The label referred to in subsection (1) must be affixed in a permanent manner at either of the following locations and be fully visible to a person installing the restraint system:

(a) on the side of the restraint system that will face the right front passenger door when the restraint system is facing rearward; or

(b) at the location where the child's head would rest or adjacent to that location.

Installation instructions

220. (1) Every child restraint system must be accompanied by printed instructions, in both official languages, that set out a step-by-step procedure, including diagrams, for

- (a) installing and securing the restraint system in a vehicle;
- (b) installing the restraint system in an aircraft passenger seat referred to in subsection 2.1.2 of Test Method 213;
- (c) positioning a child in the restraint system; and
- (d) adjusting every part of the restraint system that is designed to restrain the child.

Idem

(2) The instructions referred to in paragraph (1)(a) must state that the restraint system, even when unoccupied, must be firmly secured to the vehicle.

Idem

(3) The instructions must

- (a) specify the classes of vehicles, the seating positions and the types of vehicle seat belts with which the restraint system may or may not be used;
- (b) specify that the restraint system may be used with a lower universal anchorage system; and
- (c) explain the primary consequences of not following the warnings appearing on the restraint system.

Storage of instructions

(4) Every child restraint system must have a place for the storage of instructions.

[221 to 299 reserved]

PART 3

CMVSS 213.1 — INFANT RESTRAINT SYSTEMS

GENERAL

Interpretation

300. In this Part, “Test Method 213.1” means *Test Method 213.1 — Infant Restraint Systems* (January 2010), published by the Department of Transport.

Restraint system designed to face the rear

301. Every infant restraint system must be designed to face the rear of the vehicle.

Restraint of torso

302. Every infant restraint system must, when the anthropomorphic test device is positioned in the restraint system in accordance with subsection 4.5.2 or 4.6.2 of Test Method 213.1,

(a) restrain the upper torso by means of belts passing over each shoulder; and

(b) restrain the lower torso.

Means of securing restraint system

303. (1) Subject to subsection (2), every infant restraint system must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt in such a manner that the belt will not impose directly on the infant any loads that result from the mass of the restraint system, and without using any other means of attachment; and

(b) by means of a lower connector system, without using any other means of attachment.

Restraint system with tether strap

(2) If an infant restraint system is equipped with a tether strap and the manufacturer recommends its use, the restraint system must be designed to be secured to a vehicle

(a) by means of the tether strap together with a vehicle seat belt in such a manner that the belt will not impose directly on the infant any loads that result from the mass of the restraint system, and without using any other means of attachment; and

(b) by means of the tether strap together with a lower connector system, without using any other means of attachment.

Restraint system with removable base

304. If an infant restraint system is manufactured with a removable base and the seating component of the restraint system is designed to be used in a vehicle with or without the base, the restraint system must be equipped with a lower connector system on the base.

Part designed to restrain an infant

305. Every part of an infant restraint system that is designed to restrain an infant must be adjustable to snugly fit an infant whose mass and height are within the ranges indicated in the statement referred to in paragraph 316(1)(d), when the infant is positioned in the restraint system in accordance with the instructions referred to in paragraph 318(1)(c) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 318(1)(d).

Audible or visible indication

306. Every infant restraint system must provide a clear, audible indication when each connector in a lower connector system is securely attached to the lower universal anchorage system or a clear, visual indication that each connector is securely attached to the lower universal anchorage system.

Flammability

307. Every infant restraint system must be constructed only of materials that conform to the requirements of section 302 of Schedule IV to the *Motor Vehicle Safety Regulations*.

BELT BUCKLES AND WEBBING

Conformity with TSD 209

308. Every belt buckle and related piece of adjustment hardware and every tether strap attachment and related piece of adjustment hardware that are part of an infant restraint system must conform to the requirements of S4.3(a)(2) and (b) of TSD 209.

Belt buckles

309. Every belt buckle that is fitted on a belt designed to restrain an infant in an infant restraint system must

(a) under the conditions set out in section 3 of Test Method 213.1,

(i) not release when a force of less than 40 N is applied, and

(ii) release when a force of at least 40 N but not more than 62 N is applied;

(b) under the conditions set out in section 5 of Test Method 213.1, release when a force of not more than 71 N is applied;

(c) conform to the requirements of S4.3(d)(2) of TSD 209, except that the surface area of a belt buckle designed for push-button application must be at least 385 mm²;

(d) conform to the requirements of S4.3(g) of TSD 209; and

(e) not release during the dynamic tests specified in section 4 of Test Method 213.1.

Webbing

310. Any webbing that is designed to secure an infant restraint system to a user-ready tether anchorage or to a lower universal anchorage system, or to restrain an infant within the restraint system, must

(a) when tested in accordance with S5.1(b) of TSD 209, before being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, for resistance to light as specified in S5.1(e) of TSD 209 or for resistance to micro-organisms as specified in S5.1(f) of TSD 209, have a breaking strength of

(i) at least 15 000 N in the case of webbing designed to secure the restraint system to the user-ready tether anchorage or to the lower universal anchorage system, or

(ii) at least 11 000 N in the case of webbing designed to restrain an infant within the restraint system;

(b) when tested in accordance with S5.1(b) of TSD 209, after being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, have a breaking strength of at least 75% of its initial breaking strength;

(c) conform to the requirements of S4.2(e) and (f) of TSD 209 and subsections 209(3) to (6) of Schedule IV to the *Motor Vehicle Safety Regulations*; and

(d) if contactable by the torso when the restraint system is tested in accordance with section 4 of Test Method 213.1, have a width of not less than 38 mm, measured as specified in S5.1(a) of TSD 209.

CONTACTABLE SURFACES

Contactable surfaces

311. Every infant restraint system must provide

(a) for the support of the infant's back, a continuous surface that is flat or concave and has an area of not less than 54 800 mm²; and

(b) for the support of the sides of the infant's torso, continuous surfaces that are flat or concave and have an area of not less than 30 500 mm² each.

Rigid structural elements

312. Any rigid structural element underlying a contactable surface of an infant restraint system must not have

(a) a protrusion, with any padding or flexible overlay material removed, of more than 9.5 mm; or

(b) an exposed edge with a radius of less than 6.4 mm.

Surface contactable by head

313. Every surface of an infant restraint system that is contactable by the head of an anthropomorphic test device positioned in the restraint system in accordance with subsection 4.5.2 or 4.6.2 of Test Method 213.1 must be covered with slow-recovery, energy-absorbing material that, when tested in accordance with section 6 of Test Method 213.1, has

(a) a resistance of not less than 4 kPa but not more than 70 kPa at 25% of compression-deflection resistance;

(b) a thickness of not less than 12 mm, if the material has a resistance of not less than 12 kPa but not more than 70 kPa at 25% of compression-deflection resistance; and

(c) a thickness of not less than 19 mm, if the material has a resistance of not less than 4 kPa but less than 12 kPa at 25% of compression-deflection resistance.

TESTING

Inversion testing

314. An infant restraint system that is subjected to an inversion test in accordance with section 7 of Test Method 213.1 must not fall out of the aircraft passenger seat belt, and the anthropomorphic test device must not fall out of the restraint system, at any time during the rotation or three-second immobilization period referred to in that section.

Dynamic testing

315. (1) An infant restraint system that is subjected to a dynamic test in accordance with section 4 of Test Method 213.1 must, if the adjustment position of each component of the restraint system is in accordance with the manufacturer's instructions,

(a) exhibit no complete separation of any load-bearing structural element, and no partial separation exposing a surface with

(i) a protrusion of more than 9.5 mm, or

(ii) a radius of less than 6.4 mm;

(b) remain in the same adjustment position during the test as it was in immediately before the test began, except that, if the restraint system has a means of automatically repositioning the seating surface to allow the anthropomorphic test device to move from a reclined position to a more upright position and back to a reclined position during the test, the seating surface does not have to remain in the same adjustment position during the test as it was in immediately before the test began;

(c) limit the resultant acceleration at the location of the accelerometer mounted in the upper thorax of the anthropomorphic test device to not more than 60 g, except for intervals of not more than 3 ms;

(d) limit the resultant acceleration of the centre of gravity of the head of the anthropomorphic test device during the movement of the head towards the front of the vehicle to not more than 80 g, except for intervals of not more than 3 ms, unless it is established that any resultant acceleration above 80 g is caused by another part of the anthropomorphic test device striking its head;

(e) retain the torso of the anthropomorphic test device within the restraint system, and not allow any portion of the target points on either side of the device's head, located on the transverse axis passing through the centre of mass of the device's head and perpendicular to the head's midsagittal plane, to pass at any time, during or immediately after the test, either through the transverse orthogonal planes formed by the extension of the seat back frontal surface plane of the restraint system and by the plane that passes through the uppermost point of the restraint system, as shown in Figure 7 of Schedule 7, or through the vertical transverse plane passing through point X on the standard seat assembly, as shown in Figure 8 of Schedule 7;(f) not allow the angle between the vertical and the back and head support surface, measured 240 mm above the seating surface, to be more than 70° at any time during the test;

(g) limit the movement of the head of the anthropomorphic test device towards the rear of the restraint system by means of a continuous seat back that is an integral part of the restraint system; and

(h) limit the rotation of the head of the anthropomorphic test device towards the rear of the restraint system, in its midsagittal plane, by means of a continuous seat back that is an integral part of the restraint system, so that the angle between the head and the torso is at no time during the test more than 45° as compared to the angle between the head and the torso prior to the test.

Dynamic testing — levelling device

(2) An infant restraint system that is subjected to a dynamic test in accordance with section 4 of Test Method 213.1 must conform to the requirements of paragraphs (1)(a) and (b) if the

restraint system is equipped with a levelling device and the adjustment position of each component of the restraint system, except the levelling device, is in accordance with the manufacturer's instructions.

Continuous seat back

(3) The continuous seat back referred to in paragraphs (1)(g) and (h) must

(a) have a height of at least 500 mm;

(b) have a width of at least 200 mm, measured in the horizontal plane at the height specified in paragraph (a); and

(c) not impose any loads on the top of the head of the anthropomorphic test device during the dynamic test referred to in subsection (1).

Measurement of height — paragraph (3)(a)

(4) The height referred to in paragraph (3)(a) must be measured in a plane parallel to the surface of the seat back of the infant restraint system and orthogonal to the vertical longitudinal plane passing through the longitudinal centreline of the restraint system, from the lowest point of the restraint system's seating surface that is contacted by the buttocks of the seated anthropomorphic test device.

Exception

(5) Despite paragraph (3)(b), if the infant restraint system provides surfaces for the support of the sides of the torso, and those surfaces extend at least 100 mm forward from the padded surface of the portion of the restraint system provided for the support of the head of the anthropomorphic test device, the restraint system may have a continuous seat back width of not less than 150 mm, measured in the horizontal plane at the height specified in paragraph (3)(a).

Restraint system with means of automatic repositioning

(6) If an infant restraint system that has a means of automatically repositioning the seating surface is subjected, in any adjustment position, to a dynamic test in accordance with section 4 of Test Method 213.1, an opening that is exposed and larger than 6.4 mm before the test must not become smaller during the test as a result of the movement of the seating surface relative to the other parts of the restraint system.

INFORMATION

Information

316. (1) Every infant restraint system must have stitched onto it, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner, the following information:

(a) the name and principal place of business of the company that manufactured, imported or sold the restraint system;

(b) the model name and number of the restraint system;

- (c) the date of manufacture of the restraint system, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;
- (d) a statement indicating — in units based on the International System of Units followed by the corresponding imperial units in parentheses — the mass and height range of the infants for whom the manufacturer recommends the restraint system;
- (e) a warning indicating
- (i) that the restraint system must be used only in a forward-facing seating position equipped with a vehicle seat belt or a lower universal anchorage system,
- (ii) that the restraint system must be in a rear-facing position when it is used for an infant,
- (iii) that the restraint system must be secured to the vehicle as shown in the installation instructions by either of the following means and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap:
- (A) a lower connector system, if the restraint system is installed in a seating position that is equipped with a lower universal anchorage system, or
- (B) a vehicle seat belt, if the restraint system is installed in a seating position that is not equipped with a lower universal anchorage system, and
- (iv) if the restraint system is equipped with belts for restraining an infant, that the belts must be snugly adjusted around the infant; and
- (f) an installation diagram that shows the restraint system
- (i) installed as recommended by the manufacturer in a seating position that is equipped only with a lap belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap,
- (ii) installed as recommended by the manufacturer in a seating position that is equipped only with a continuous-loop lap and shoulder belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap, and
- (iii) installed as recommended by the manufacturer in a seating position that is equipped with a lower universal anchorage system, and secured to the vehicle by means of a lower connector system and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap.

Official languages and print size

- (2) The information referred to in subsection (1) must be in both official languages and in characters of at least 10 points, except for the words “year/ année”, “month/mois” and “day/jour” under the date of manufacture, which may be in characters of at least 8 points.

Visibility of information

- (3) The information referred to in paragraphs (1)(d) to (f) must be fully visible at all times, even when the restraint system is occupied, whether the restraint system is installed with or without a removable base.

Warning — air bag

317. (1) Every infant restraint system must bear the air bag warning label shown in Schedule 6, and the label must conform to the requirements of that schedule.

Idem

(2) The label referred to in subsection (1) must be affixed in a permanent manner at either of the following locations and be fully visible to a person installing the restraint system:

(a) on the side of the restraint system that will face the right front passenger door when the restraint system is facing rearward; or

(b) at the location where the infant's head would rest or adjacent to that location.

Installation instructions

318. (1) Every infant restraint system must be accompanied by printed instructions, in both official languages, that set out a step-by-step procedure, including diagrams, for

(a) installing and securing the restraint system in a vehicle;

(b) installing the restraint system in an aircraft passenger seat referred to in subsection 2.1.2 of Test Method 213.1;

(c) positioning an infant in the restraint system; and

(d) adjusting every part of the restraint system that is designed to restrain the infant.

Idem

(2) The instructions referred to in paragraph (1)(a) must state that the restraint system, even when unoccupied, must be firmly secured to the vehicle.

Idem

(3) The instructions must

(a) specify the classes of vehicles, the seating positions and the types of vehicle seat belts with which the restraint system may or may not be used;

(b) specify that the restraint system may be used with a lower universal anchorage system;

(c) if the restraint system has a means of automatically repositioning the seating surface, specify that the ability of the restraint system to change position must not be impeded;

(d) explain the primary consequences of not following the warnings appearing on the restraint system; and

(e) if the restraint system is manufactured with a removable base and the seating component of the restraint system is designed to be used in a vehicle with or without the base, specify whether the restraint system must be used with or without the base when the restraint system is installed in an aircraft passenger seat.

Storage of instructions

(4) Every infant restraint system must have a place for the storage of instructions.

[319 to 399 reserved]

PART 4

CMVSS 213.2 — BOOSTER SEATS

GENERAL

Interpretation

400. In this Part, “Test Method 213.2” means *Test Method 213.2 — Booster Seats* (January 2010), published by the Department of Transport.

Means of securing booster seat

401. (1) Subject to subsection (2), every booster seat must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt, without using any other means of attachment; and

(b) if the booster seat is equipped with a lower connector system and the manufacturer recommends its use, by means of the lower connector system, without using any other means of attachment.

Booster seat with tether strap

(2) If the booster seat is equipped with a tether strap and the manufacturer recommends its use, the booster seat must be designed to be secured to a vehicle

(a) by means of the tether strap together with a vehicle seat belt, without using any other means of attachment; and

(b) if the booster seat is equipped with a lower connector system and the manufacturer recommends its use, by means of the tether strap together with the lower connector system, without using any other means of attachment.

Forward movement of torso

(3) A booster seat must not have any part that limits the forward movement of the torso during frontal impact.

Audible or visible indication

402. Every booster seat that is equipped with a lower connector system must provide a clear, audible indication when each connector in a lower connector system is securely attached to the lower universal anchorage system or a clear, visual indication that each connector is securely attached to the lower universal anchorage system.

Flammability

403. Every booster seat must be constructed only of materials that conform to the requirements of section 302 of Schedule IV to the *Motor Vehicle Safety Regulations*.

TETHER STRAP ATTACHMENTS AND WEBBING

Conformity with TSD 209

404. Every tether strap attachment and related piece of adjustment hardware that is part of a booster seat must conform to the requirements of S4.3(a)(2) and (b) of TSD 209.

Webbing

405. Any webbing that is designed to secure a booster seat to a user-ready tether anchorage or to a lower universal anchorage system must

(a) when tested in accordance with S5.1(b) of TSD 209, before being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, for resistance to light as specified in S5.1(e) of TSD 209 or for resistance to micro-organisms as specified in S5.1(f) of TSD 209, have a breaking strength of at least 15 000 N;

(b) when tested in accordance with S5.1(b) of TSD 209, after being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, have a breaking strength of at least 75% of its initial breaking strength; and

(c) conform to the requirements of S4.2(e) and (f) of TSD 209 and subsections 209(3) to (6) of Schedule IV to the *Motor Vehicle Safety Regulations*.

CONTACTABLE SURFACES

Rigid structural elements

406. Any rigid structural element underlying a contactable surface of a booster seat must not have

(a) a protrusion, with any padding or flexible overlay material removed, of more than 9.5 mm; or

(b) an exposed edge with a radius of less than 6.4 mm.

TESTING

Dynamic testing

407. A booster seat that is subjected to a dynamic test in accordance with section 3 of Test Method 213.2 must, when in any adjustment position,

(a) exhibit no complete separation of any load-bearing structural element, and no partial separation exposing a surface with

(i) a protrusion of more than 9.5 mm, or

(ii) a radius of less than 6.4 mm;

(b) remain in the same adjustment position during the test as it was in immediately before the test began, except a component of the booster seat used to ensure that the vehicle seat belt is adjusted as recommended by the manufacturer;

(c) except in the case of a booster seat tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration at the location of the

accelerometer mounted in the upper thorax of the anthropomorphic test device to not more than 60 g, except for intervals of not more than 3 ms;

(d) except in the case of a booster seat tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration of the centre of gravity of the head of the anthropomorphic test device during the movement of the head towards the front of the vehicle to not more than 80 g, except for intervals of not more than 3 ms, unless it is established that any resultant acceleration above 80 g is caused by another part of the anthropomorphic test device striking its head;

(e) except in the case of a booster seat tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), not allow any portion of the head of the anthropomorphic test device to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that is 813 mm forward of the Z point on the standard seat assembly, measured along the SORL; and

(f) except in the case of a booster seat tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), not allow either knee pivot point to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that is 915 mm forward of the Z point on the standard seat assembly, measured along the SORL.

ASTM D3574-08

408. After the application of a preload of 175 N to the booster seat, the booster seat, including any padding or covering, must not deflect more than 25 mm under the application of a vertical force of 2 250 N applied anywhere on the upper seating surface of the booster seat through the apparatus described in section 17 of ASTM D3574-08, *Standard Test Methods for Flexible Cellular Materials — Slab, Bonded, and Molded Urethane Foams*, published by ASTM International.

INFORMATION

Information

409. (1) Every booster seat must have stitched onto it, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner, the following information:

(a) the name and principal place of business of the company that manufactured, imported or sold the booster seat;

(b) the model name and number of the booster seat;

(c) the date of manufacture of the booster seat, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;

(d) a statement indicating that the booster seat must be used only by persons whose mass is at least 18 kg;

(e) a statement indicating — in units based on the International System of Units followed by the corresponding imperial units in parentheses — the mass and height range of the persons for whom the manufacturer recommends the booster seat; and

(f) an installation diagram that shows the booster seat occupant restrained to the vehicle by means of a continuous-loop lap and shoulder belt and the booster seat installed as recommended by the manufacturer, and

(i) if the booster seat is equipped with a tether strap and the manufacturer recommends its use, the booster seat secured to the vehicle by means of the tether strap, and

(ii) if the booster seat is equipped with a lower connector system and the manufacturer recommends its use, the booster seat secured to the vehicle by means of the lower connector system.

Official languages and print size

(2) The information referred to in subsection (1) must be in both official languages and in characters of at least 10 points, except for the words “year/ année”, “month/mois” and “day/jour” under the date of manufacture, which may be in characters of at least 8 points.

Visibility of information

(3) The information referred to in paragraphs (1)(d) to (f) must be fully visible at all times, even when the booster seat is occupied.

Installation instructions

410. (1) Every booster seat must be accompanied by printed instructions, in both official languages, that set out a step-by-step procedure, including diagrams, for

(a) installing and securing the booster seat in a vehicle;

(b) positioning a person in the booster seat; and

(c) adjusting every part of the booster seat.

Idem

(2) The instructions referred to in paragraph (1)(a) must state that the booster seat, even when unoccupied, must be firmly secured to the vehicle.

Idem

(3) The instructions must

(a) specify the classes of vehicles, the seating positions and the types of vehicle seat belts with which the booster seat may or may not be used;

(b) specify whether the booster seat may be used with a lower universal anchorage system; and

(c) explain the primary consequences of not following the warnings appearing on the booster seat.

Storage of instructions

(4) Every booster seat must have a place for the storage of instructions.

[411 to 499 reserved]

PART 5

CMVSS 213.3 — RESTRAINT SYSTEMS FOR DISABLED PERSONS

GENERAL

Interpretation

500. In this Part, “Test Method 213.3” means *Test Method 213.3 — Restraint Systems for Disabled Persons* (January 2010), published by the Department of Transport.

Restraint of torso and crotch

501. Every restraint system for disabled persons must

(a) restrain the upper torso by means of

(i) in the case of a forward-facing restraint system,

(A) belts passing over each shoulder, or

(B) a fixed or movable surface that conforms to the requirements of section 514, or

(ii) in the case of a rear-facing restraint system, belts passing over each shoulder;

(b) restrain the lower torso by means of

(i) a pelvic restraint making an angle of at least 45° but not more than 90° with the seating surface of the restraint system at the pelvic restraint attachment points, or

(ii) a fixed or movable surface that conforms to the requirements of section 514; and

(c) in the case of a forward-facing restraint system, restrain the crotch by means of

(i) a crotch belt that is connectable to the pelvic restraint or to any other device used to restrain the lower torso, or

(ii) a fixed or movable surface that conforms to the requirements of section 514.

Means of securing restraint system

502. (1) Subject to subsection (2), every mass-produced restraint system for disabled persons must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt, without using any other means of attachment; and

(b) if the restraint system is equipped with a lower connector system and the manufacturer recommends its use, by means of the lower connector system, without using any other means of attachment.

Restraint system with tether strap

(2) If the mass-produced restraint system for disabled persons is equipped with a tether strap and the manufacturer recommends its use, the restraint system must be designed to be secured to a vehicle

(a) by means of the tether strap together with a vehicle seat belt, without using any other means of attachment; and

(b) if the restraint system is equipped with a lower connector system and the manufacturer recommends its use, by means of the tether strap together with the lower connector system, without using any other means of attachment.

Audible or visible indication

503. Every mass-produced restraint system for disabled persons that is equipped with a lower connector system must provide a clear, audible indication when each connector in a lower connector system is securely attached to the lower universal anchorage system or a clear, visual indication that each connector is securely attached to the lower universal anchorage system.

Custom restraint system

504. (1) Every custom restraint system for a disabled person, other than a custom restraint system for a disabled person that is designed to be used only in school buses, must be designed to be secured to a vehicle by means of a vehicle seat belt together with the tether strap provided with the restraint system, without using any other means of attachment.

Custom restraint system — school buses

(2) Every custom restraint system for a disabled person that is designed to be used only in school buses must be designed to be secured to a school bus by either or both of the following means:

(a) a vehicle seat belt together with the tether strap provided with the restraint system, without using any other means of attachment; and

(b) belts that wrap around a school bus seat or seat back, without using any other means of attachment.

Flammability

505. Every restraint system for disabled persons must be constructed only of materials that conform to the requirements of section 302 of Schedule IV to the *Motor Vehicle Safety Regulations*.

BELTS, BUCKLES AND WEBBING

Belts

506. Every belt that is part of a restraint system for disabled persons and that is designed to restrain a disabled person must not impose on the person any loads that result from the mass of the restraint system.

Release mechanism of a belt

507. Every release mechanism of a belt used in a restraint system for disabled persons must

- (a) be easy to locate and to operate and be readily accessible to a person assisting the disabled person;
- (b) be designed to minimize the possibility of accidental release; and
- (c) not be of the hook and loop fastener type (for example, a Velcro-type fastener).

Conformity with TSD 209

508. Every belt buckle and related piece of adjustment hardware and every tether strap attachment and related piece of adjustment hardware that are part of a restraint system for disabled persons must conform to the requirements of S4.3(a)(2) and (b) of TSD 209.

Belts or movable surfaces designed to restrain a person — mass-produced restraint systems

509. Every belt or movable surface that is part of a mass-produced restraint system for disabled persons and that is designed to restrain a disabled person must be adjustable to snugly fit a person whose mass and height are within the ranges indicated in the statement referred to in paragraph 521(1)(d), when the person is positioned in the restraint system in accordance with the instructions referred to in paragraph 524(1)(b) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 524(1)(c).

Belt buckles — mass-produced restraint systems

510. Every belt buckle that is fitted on a belt designed to restrain a disabled person in a mass-produced restraint system for disabled persons must

- (a) under the conditions set out in section 3 of Test Method 213.3,
 - (i) not release when a force of less than 40 N is applied, and
 - (ii) release when a force of at least 40 N but not more than 62 N is applied;
- (b) under the conditions set out in section 5 of Test Method 213.3, release when a force of not more than 71 N is applied;
- (c) conform to the requirements of S4.3(d)(2) of TSD 209, except that the surface area of a belt buckle designed for push-button application must be at least 385 mm²;
- (d) conform to the requirements of S4.3(g) of TSD 209; and
- (e) not release during the dynamic tests specified in section 4 of Test Method 213.3.

Belt buckles — custom restraint systems

511. Every belt buckle that is fitted on a belt designed to restrain a disabled person in a custom restraint system for a disabled person must

- (a) under the conditions set out in section 6 of Test Method 213.3,
 - (i) not release when a force of less than 40 N is applied, and
 - (ii) release when a force of at least 40 N but not more than 71 N is applied;
- (b) conform to the requirements of S4.3(d)(2) of TSD 209, except that the surface area of a belt buckle designed for push-button application must be at least 385 mm²; and

(c) conform to the requirements of S4.3(g) of TSD 209.

Webbing

512. Any webbing that is designed to secure a restraint system for disabled persons to a user-ready tether anchorage or to a lower universal anchorage system, or to restrain a disabled person within the restraint system, must

(a) when tested in accordance with S5.1(b) of TSD 209, before being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, for resistance to light as specified in S5.1(e) of TSD 209 or for resistance to micro-organisms as specified in S5.1(f) of TSD 209, have a breaking strength of

(i) at least 15 000 N, in the case of webbing designed to secure the restraint system to the user-ready tether anchorage or to the lower universal anchorage system, or

(ii) at least 11 000 N, in the case of webbing designed to restrain a disabled person within the restraint system;

(b) when tested in accordance with S5.1(b) of TSD 209, after being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, have a breaking strength of at least 75% of its initial breaking strength;

(c) conform to the requirements of S4.2(e) and (f) of TSD 209 and subsections 209(3) to (6) of Schedule IV to the *Motor Vehicle Safety Regulations*;

(d) in the case of a custom restraint system for a disabled person, have a width of not less than 38 mm, measured as specified in S5.1(a) of TSD 209, if contactable by the torso of a disabled person when the person is positioned in the restraint system; and

(e) in the case of a mass-produced restraint system for disabled persons, have a width of not less than 38 mm, measured as specified in S5.1(a) of TSD 209, if contactable by the torso of a disabled person when the person is positioned in the restraint system in accordance with the instructions referred to in paragraph 524(1)(b) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 524(1)(c).

CONTACTABLE SURFACES

Removable surfaces

513. A surface of a restraint system for disabled persons that is placed in front of the disabled person must be removable when the restraint system is installed in a vehicle, unless the surface is designed to restrain the person.

Cross-sections of surface

514. Every horizontal cross-section of a surface of a restraint system for disabled persons that is designed to limit the forward movement of a disabled person must be flat or concave, and every vertical longitudinal cross-section of that surface must be flat or convex with a radius of curvature of the underlying structure of not less than 50 mm.

Rigid structural elements

515. Any rigid structural element underlying a contactable surface of a restraint system for disabled persons must not have

(a) a protrusion, with any padding or flexible overlay material removed, of more than 9.5 mm;
or

(b) an exposed edge with a radius of less than 6.4 mm.

Surface contactable by head — custom restraint system for a disabled person

516. (1) Every surface of a custom restraint system for a disabled person that is contactable by the head of a disabled person when the person is positioned in the restraint system must be covered with slow-recovery, energy-absorbing material that, when tested in accordance with section 7 of Test Method 213.3, has

(a) a resistance of not less than 4 kPa but not more than 70 kPa at 25% of compression-deflection resistance;

(b) a thickness of not less than 12 mm, if the material has a resistance of not less than 12 kPa but not more than 70 kPa at 25% of compression-deflection resistance; and

(c) a thickness of not less than 19 mm, if the material has a resistance of not less than 4 kPa but less than 12 kPa at 25% of compression-deflection resistance.

Surface contactable by head — mass-produced restraint system for disabled persons

(2) Every surface of a mass-produced restraint system for disabled persons that is contactable by the head of a disabled person when the person is positioned in the restraint system in accordance with the instructions referred to in paragraph 524(1)(b) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 524(1)(c) must be covered with slow-recovery, energy-absorbing material that, when tested in accordance with section 7 of Test Method 213.3, has

(a) a resistance of not less than 4 kPa but not more than 70 kPa at 25% of compression-deflection resistance;

(b) a thickness of not less than 12 mm, if the material has a resistance of not less than 12 kPa but not more than 70 kPa at 25% of compression-deflection resistance; and

(c) a thickness of not less than 19 mm, if the material has a resistance of not less than 4 kPa but less than 12 kPa at 25% of compression-deflection resistance.

TESTING

Inversion testing

517. If a restraint system for disabled persons is designed to be used in an aircraft, it must, when subjected to an inversion test in accordance with section 8 of Test Method 213.3, conform to the following requirements:

(a) the restraint system must not fall out of the aircraft passenger seat belt at any time during the rotation or three-second immobilization period referred to in that section; and

(b) the anthropomorphic test device must not fall out of the restraint system at any time during the rotation or three-second immobilization period referred to in that section.

Dynamic testing

518. (1) A mass-produced restraint system for disabled persons that is subjected to a dynamic test in accordance with section 4 of Test Method 213.3 must, when in any adjustment position for which there is no warning under subparagraph 521(1)(f)(ii),

(a) exhibit no complete separation of any load-bearing structural element, and no partial separation exposing a surface with

(i) a protrusion of more than 9.5 mm, or

(ii) a radius of less than 6.4 mm;

(b) remain in the same adjustment position during the test as it was in immediately before the test;

(c) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration at the location of the accelerometer mounted in the upper thorax of the anthropomorphic test device to not more than 60 g, except for intervals of not more than 3 ms; and

(d) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), limit the resultant acceleration of the centre of gravity of the head of the anthropomorphic test device during the movement of the head towards the front of the vehicle to not more than 80 g, except for intervals of not more than 3 ms, unless it is established that any resultant acceleration above 80 g is caused by another part of the anthropomorphic test device striking its head.

Dynamic testing — levelling device

(2) A rear-facing mass-produced restraint system for disabled persons that is subjected to a dynamic test in accordance with section 4 of Test Method 213.3 must conform to the requirements of paragraphs (1)(a) and (b) if the restraint system is equipped with a levelling device and

(a) the adjustment position of the levelling device is not in accordance with the manufacturer's instructions; and

(b) the other components of the restraint system are in any adjustment position for which there is no warning under subparagraph 521(1)(f)(ii).

Forward-facing mass-produced restraint system

519. A forward-facing mass-produced restraint system for disabled persons that is subjected to a dynamic test in accordance with section 4 of Test Method 213.3 must not, when in any adjustment position for which there is no warning under subparagraph 521(1)(f)(ii),

(a) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), allow any portion of the head of the anthropomorphic test device to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that, measured along the SORL, is

(i) 720 mm forward of the Z point on the standard seat assembly in the case of a restraint system designed to be used by a person whose mass is not more than 30 kg, and

(ii) 813 mm forward of the Z point on the standard seat assembly for a restraint system designed to be used by a person whose mass is more than 30 kg;

(b) except in the case of a restraint system tested with the anthropomorphic test device specified in subpart S, part 572, chapter V, title 49 of the *Code of Federal Regulations* of the United States (revised as of October 1, 2009), allow either knee pivot point to pass through the vertical transverse plane — shown as the forward excursion limit in Figures 5 and 6 of Schedule 7 — that is 915 mm forward of the Z point on the standard seat assembly, measured along the SORL; and

(c) allow the angle between the restraint system's back support surface and seating surface to be less than 45° at the completion of the test.

Rear-facing mass-produced restraint system

520. A rear-facing mass-produced restraint system for disabled persons that is subjected to a dynamic test in accordance with section 4 of Test Method 213.3 must, when in any adjustment position for which there is no warning under subparagraph 521(1)(f)(ii),

(a) retain the torso of the anthropomorphic test device within the restraint system, and not allow any portion of the target points on either side of the device's head, located on the transverse axis passing through the centre of mass of the device's head and perpendicular to the head's midsagittal plane, to pass at any time, during or immediately after the test, either through the transverse orthogonal planes formed by the extension of the seat back frontal surface plane of the restraint system and by the plane that passes through the uppermost point of the restraint system, as shown in Figure 7 of Schedule 7, or through the vertical transverse plane passing through point X on the standard seat assembly, as shown in Figure 8 of Schedule 7; and

(b) not allow the angle between the vertical and the back and head support surface, measured 240 mm above the seating surface, to be more than 70° at any time during the test.

INFORMATION

Information — mass-produced restraint systems

521. (1) Every mass-produced restraint system for disabled persons must have stitched onto it, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner, the following information:

(a) the name and principal place of business of the company that manufactured, imported or sold the restraint system;

(b) the model name and number of the restraint system;

(c) the date of manufacture of the restraint system, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;

(d) a statement indicating — in units based on the International System of Units followed by the corresponding imperial units in parentheses — the mass and height range of the persons

for whom the manufacturer recommends the restraint system when it is used in a forward-facing and, where applicable, a rear-facing position;

(e) a statement indicating whether the restraint system conforms to the inversion test requirements referred to in section 517;

(f) a warning indicating

(i) that the restraint system is designed for use by a disabled person,

(ii) if the restraint system is not designed to be used at certain adjustment positions or with trays or tables or certain webbing assemblies, that those adjustment positions, trays, tables or webbing assemblies must not be used,

(iii) if the restraint system is equipped with a lower connector system and is to be used by a disabled person with a mass of 30 kg or less, that the restraint system must be secured to the vehicle as shown in the installation instructions by either of the following means and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap:

(A) the lower connector system, if the restraint system is installed in a seating position that is equipped with a lower universal anchorage system, or

(B) a vehicle seat belt, if the restraint system is installed in a seating position that is not equipped with a lower universal anchorage system,

(iv) if the restraint system is equipped with a lower connector system or a tether strap and is to be used by a disabled person with a mass of more than 30 kg, that the restraint system must be secured to the vehicle by means of a vehicle seat belt only,

(v) if the restraint system is not equipped with a lower connector system, that the restraint system must be secured to the vehicle as shown in the installation instruction by means of a vehicle seat belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap,

(vi) if the restraint system is equipped with belts for restraining a disabled person, that the belts provided with the restraint system must be snugly adjusted around the person, and

(vii) if the restraint system is equipped with a fixed or movable surface for restraining the disabled person and belts for restraining the disabled person, that the surface alone is not sufficient to restrain the person; and

(g) an installation diagram that shows the restraint system

(i) installed as recommended by the manufacturer in a seating position that is equipped only with a lap belt and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap,

(ii) installed as recommended by the manufacturer in a seating position that is equipped only with a continuous-loop lap and shoulder belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap, and

(iii) if the restraint system is equipped with a lower connector system, installed as recommended by the manufacturer in a seating position that is equipped with a lower universal anchorage system, and secured to the vehicle by means of the lower connector system and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap.

Official languages and print size

(2) The information referred to in subsection (1) must be in both official languages and in characters of at least 10 points, except for the words “year/ année”, “month/mois” and “day/jour” under the date of manufacture, which may be in characters of at least 8 points.

Visibility of information

(3) The information referred to in paragraphs (1)(d) to (g) must be fully visible at all times, even when the restraint system is occupied.

Warning — school buses

522. (1) Every custom restraint system for a disabled person that is designed to be used only in school buses must bear the school bus restraint system warning label shown in Schedule 6, and the label must conform to the requirements of that schedule.

Idem

(2) The label referred to in subsection (1) must be affixed in a permanent manner and be fully visible.

Information — custom restraint systems

523. Every custom restraint system for a disabled person must be accompanied by a document, in both official languages, that contains the following information:

- (a) a statement that the restraint system must be used only by the person for whom the restraint system was designed;
- (b) the name and principal place of business of the company that manufactured, imported or sold the restraint system;
- (c) the date of manufacture of the restraint system, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;
- (d) except in the case of a custom restraint system for a disabled person that is designed to be used only in school buses, a statement that the restraint system conforms to the prescribed standards applicable on the date of manufacture;
- (e) a statement indicating whether the restraint system conforms to the inversion test requirements referred to in section 517;
- (f) if the restraint system is designed to be used with a tether strap, a statement that the tether strap must be properly attached to the vehicle and indicating how to attach the tether strap;
- (g) a warning indicating

(i) if the restraint system is not designed to be used at certain adjustment positions or with trays or tables or certain webbing assemblies, that those adjustment positions, trays, tables or webbing assemblies must not be used,

(ii) if the restraint system has a belt with a hook and loop fastener (for example, a Velcro-type fastener) that is designed to restrain a disabled person, that the fastener alone is not sufficient to restrain the disabled person, and that only belts that include buckles must be used to restrain the person, and

(iii) if the restraint system is designed to restrain a disabled person by means of a fixed or movable surface and by means of belts, that the surface alone is not sufficient to restrain the person.

Installation instructions

524. (1) Every mass-produced restraint system for disabled persons must be accompanied by printed instructions, in both official languages, that set out a step-by-step procedure, including diagrams, for

(a) installing and securing the restraint system in a vehicle;

(b) positioning a disabled person in the restraint system; and

(c) adjusting every part of the restraint system that is designed to restrain the person.

Idem

(2) The instructions referred to in paragraph (1)(a) must state that the restraint system, even when unoccupied, must be firmly secured to the vehicle.

Idem

(3) The instructions must

(a) specify the classes of vehicles, the seating positions and the types of vehicle seat belts with which the restraint system may or may not be used;

(b) specify whether the restraint system may be used with a lower universal anchorage system;

(c) explain the primary consequences of not following the warnings appearing on the restraint system;

(d) if the restraint system conforms to the inversion test requirements of section 517, provide a step-by-step procedure, including diagrams, for installing the restraint system in an aircraft passenger seat referred to in subsection 2.1.2 of Test Method 213.3, for restraining a disabled person in the restraint system when it is installed in the seat, and for adjusting the restraint system to fit the person; and

(e) if the restraint system conforms to the inversion test requirements of section 517 and is manufactured with a removable base, and the seating component of the restraint system is designed to be used in a vehicle with or without the base, specify whether the restraint system must be used with or without the base in an aircraft passenger seat.

Storage of instructions

(4) Every mass-produced restraint system for disabled persons must have a place for the storage of instructions.

[525 to 599 reserved]

PART 6

CMVSS 213.5 — RESTRAINT SYSTEMS FOR INFANTS WITH SPECIAL NEEDS

GENERAL

Interpretation

600. In this Part, “Test Method 213.5” means *Test Method 213.5 — Restraint Systems for Infants with Special Needs* (January 2010), published by the Department of Transport.

Restraint system designed to face the rear

601. Every restraint system for infants with special needs must be designed to face the rear of the vehicle, except that a car bed must be designed to rest on the vehicle’s rear bench seat so that its longitudinal axis is perpendicular to the vertical longitudinal plane passing through the longitudinal axis of the vehicle.

Torso restraint

602. Every restraint system for infants with special needs must, when the anthropomorphic test device is positioned in the restraint system in accordance with, in the case of a car bed, subsection 4.5.2 or 4.6.2 of Test Method 213.5 or, in the case of all other restraint systems for infants with special needs, subsection 4.5.3 or 4.6.3 of Test Method 213.5,

(a) restrain the upper torso by means of belts passing over each shoulder; and

(b) restrain the lower torso.

Means of securing restraint system

603. (1) Subject to subsection (2), every restraint system for infants with special needs must be designed to be secured to a vehicle

(a) by means of a vehicle seat belt in such a manner that the belt will not impose directly on the infant any loads that result from the mass of the restraint system, and without using any other means of attachment; and

(b) if the restraint system is equipped with a lower connector system, by means of the lower connector system, without using any other means of attachment.

Restraint system with tether strap

(2) If a restraint system for infants with special needs is equipped with a tether strap and the manufacturer recommends its use, the restraint system must be designed to be secured to a vehicle

(a) by means of the tether strap together with a vehicle seat belt in such a manner that the belt will not impose directly on the infant any loads that result from the mass of the restraint system, and without using any other means of attachment; and

(b) if the restraint system is equipped with a lower connector system, by means of the tether strap together with the lower connector system, without using any other means of attachment.

Restraint system with removable base

604. If a restraint system for infants with special needs is equipped with a lower connector system and is manufactured with a removable base, and the seating component of the restraint system is designed to be used in a vehicle with or without the base, the restraint system must be equipped with the lower connector system on the base.

Car bed

605. Every car bed must

(a) provide restraint against the sideways movement of the infant's head towards the front of the vehicle by means of a head restraint; and

(b) have, in the shell of the car bed, a means of minimizing, when the car bed is installed in a vehicle in accordance with the manufacturer's instructions, any loads to the top of the infant's head in case of a side impact.

Restraint system to be adjustable

606. Every part of a restraint system for infants with special needs that is designed to restrain an infant must be adjustable to snugly fit an infant whose mass and height are within the ranges indicated in the statement referred to in paragraph 616(1)(d), when the infant is positioned in the restraint system in accordance with the instructions referred to in paragraph 618(1)(b) and the restraint system is adjusted in accordance with the instructions referred to in paragraph 618(1)(c).

Audible or visible indication

607. A restraint system for infants with special needs that is equipped with a lower connector system must provide a clear, audible indication when each connector in a lower connector system is securely attached to the lower universal anchorage system or a clear, visual indication that each connector is securely attached to the lower universal anchorage system.

Flammability

608. Every restraint system for infants with special needs must be constructed only of materials that conform to the requirements of section 302 of Schedule IV to the *Motor Vehicle Safety Regulations*.

BELT BUCKLES AND WEBBING

Conformity with TSD 209

609. Every belt buckle and related piece of adjustment hardware and every tether strap attachment and related piece of adjustment hardware that are part of a restraint system for infants with special needs must conform to the requirements of S4.3(a)(2) and (b) of TSD 209.

Belt buckles

610. Every belt buckle that is fitted on a belt designed to restrain an infant in a restraint system for infants with special needs must

(a) under the conditions set out in section 3 of Test Method 213.5,

(i) not release when a force of less than 40 N is applied, and

(ii) release when a force of at least 40 N but not more than 62 N is applied;

(b) under the conditions set out in section 5 of Test Method 213.5, release when a force of not more than 71 N is applied;

(c) conform to the requirements of S4.3(d)(2) of TSD 209, except that the surface area of a belt buckle designed for push-button application must be at least 385 mm²;

(d) conform to the requirements of S4.3(g) of TSD 209; and

(e) not release during the dynamic tests specified in section 4 of Test Method 213.5.

Webbing

611. Any webbing that is designed to secure a restraint system for infants with special needs to a user-ready tether anchorage or to a lower universal anchorage system, or to restrain an infant with special needs within the restraint system, must

(a) when tested in accordance with S5.1(b) of TSD 209, before being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, for resistance to light as specified in S5.1(e) of TSD 209 or for resistance to micro-organisms as specified in S5.1(f) of TSD 209, have a breaking strength of

(i) at least 15 000 N, in the case of webbing designed to secure the restraint system to the user-ready tether anchorage or to the lower universal anchorage system, or

(ii) at least 11 000 N, in the case of webbing designed to restrain an infant with special needs within the restraint system;

(b) when tested in accordance with S5.1(b) of TSD 209, after being tested for resistance to abrasion as specified in S5.1(d) or S5.3(c) of TSD 209, have a breaking strength of at least 75% of its initial breaking strength;

(c) conform to the requirements of S4.2(e) and (f) of TSD 209 and subsections 209(3) to (6) of Schedule IV to the *Motor Vehicle Safety Regulations*; and

(d) if contactable by the torso when the restraint system is tested in accordance with section 4 of Test Method 213.5, have a width of not less than 38 mm, measured as specified in S5.1(a) of TSD 209.

CONTACTABLE SURFACES

Contactable surfaces

612. (1) Every restraint system for infants with special needs, other than a car bed must provide

(a) for the support of the infant's back, a continuous surface that is flat or concave and has an area of not less than 54 800 mm²; and

(b) for the support of the sides of the infant's torso, continuous surfaces that are flat or concave and have an area of not less than 30 500 mm² each.

Contactable surfaces — car bed

(2) Every car bed must provide

(a) for the support of the infant's back and legs, a continuous surface that is flat or concave and has an area of not less than 71 250 mm²; and

(b) for the support of the sides of the infant's torso and legs, continuous surfaces that are flat or concave and have an area of not less than 39 650 mm² each.

Rigid structural elements

613. Any rigid structural element underlying a contactable surface of a restraint system for infants with special needs must not have

(a) a protrusion, with any padding or flexible overlay material removed, of more than 9.5 mm; or

(b) an exposed edge with a radius of less than 6.4 mm.

Surface contactable by head

614. Every surface of a restraint system for infants with special needs that is contactable by the head of an anthropomorphic test device positioned in the restraint system in accordance with, in the case of a car bed, subsection 4.5.2 or 4.6.2 of Test Method 213.5 or, in the case of all other restraint systems for infants with special needs, subsection 4.5.3 or 4.6.3 of Test Method 213.5 must be covered with slow-recovery, energy-absorbing material that, when tested in accordance with section 6 of Test Method 213.5, has

(a) a resistance of not less than 4 kPa but not more than 70 kPa at 25% of compression-deflection resistance;

(b) a thickness of not less than 12 mm, if the material has a resistance of not less than 12 kPa but not more than 70 kPa at 25% of compression-deflection resistance; and

(c) a thickness of not less than 19 mm, if the material has a resistance of not less than 4 kPa but less than 12 kPa at 25% of compression-deflection resistance.

TESTING

Dynamic testing

615. (1) A restraint system for infants with special needs that is subjected to a dynamic test in accordance with section 4 of Test Method 213.5 must, if the adjustment position of each component of the restraint system is in accordance with the manufacturer's instructions,

(a) exhibit no complete separation of any load-bearing structural element, and no partial separation exposing a surface with

(i) a protrusion of more than 9.5 mm, or

(ii) a radius of less than 6.4 mm;

(b) in the case of a restraint system other than a car bed, remain in the same adjustment position during the test as it was in immediately before the test began, except that, if the restraint system has a means of automatically repositioning the seating surface to allow the anthropomorphic test device to move from a reclined position to a more upright position and back to a reclined position during the test, the seating surface does not have to remain in the same adjustment position during the test as it was in immediately before the test began;

(c) in the case of a restraint system other than a car bed, retain the torso of the anthropomorphic test device within the restraint system, and not allow any portion of the target points on either side of the device's head, located on the transverse axis passing through the centre of mass of the device's head and perpendicular to the head's midsagittal plane, to pass at any time, during or immediately after the test, through the transverse orthogonal planes formed by the extension of the seat back frontal surface plane of the restraint system and by the plane that passes through the uppermost point of the restraint system, as shown in Figure 7 of Schedule 7, or through the vertical transverse plane passing through point X on the standard seat assembly, as shown in Figure 8 of Schedule 7;

(d) in the case of a restraint system other than a car bed, not allow the angle between the vertical and the back and head support surface, measured 240 mm above the seating surface, to be more than 70° at any time during the test;

(e) in the case of a restraint system other than a car bed, limit the movement of the head of the anthropomorphic test device towards the rear of the restraint system by means of a continuous seat back that is an integral part of the restraint system;

(f) in the case of a restraint system other than a car bed, limit the rotation of the head of the anthropomorphic test device towards the rear of the restraint system, in its midsagittal plane, by means of a continuous seat back that is an integral part of the restraint system, so that the angle between the head and the torso is at no time during the test more than 45° as compared to the angle between the head and the torso prior to the test; and

(g) in the case of a car bed, retain the head, neck and torso of the anthropomorphic test device within the confines of the car bed.

Dynamic testing — levelling device

(2) A restraint system for infants with special needs that is equipped with a levelling device and that is subjected to a dynamic test in accordance with section 4 of Test Method 213.5 must conform to the requirements of paragraphs (1)(a) and (b) if the adjustment position of each component of the restraint system, except the levelling device, is in accordance with the manufacturer's instructions.

Continuous seat back

(3) The continuous seat back referred to in paragraphs (1)(e) and (f) must

(a) have a height of at least 500 mm;

(b) have a width of at least 200 mm, measured in the horizontal plane at the height specified in paragraph (a); and

(c) not impose any loads on the top of the head of the anthropomorphic test device during the dynamic test referred to in subsection (1).

Measurement of height — paragraph 3(a)

(4) The height referred to in paragraph (3)(a) must be measured in a plane parallel to the surface of the seat back of the restraint system for infants with special needs and orthogonal to the vertical longitudinal plane passing through the longitudinal centreline of the restraint system, from the lowest point of the restraint system's seating surface that is contacted by the buttocks of the seated anthropomorphic test device.

Exception

(5) Despite paragraph (3)(b), if the restraint system for infants with special needs provides surfaces for the support of the sides of the torso, and those surfaces extend at least 100 mm forward from the padded surface of the portion of the restraint system provided for the support of the head of the anthropomorphic test device, the restraint system may have a continuous seat back width of not less than 150 mm, measured in the horizontal plane at the height specified in paragraph (3)(a).

Restraint system with means of automatic repositioning

(6) If a restraint system for infants with special needs that has a means of automatically repositioning the seating surface is subjected, in any adjustment position, to a dynamic test in accordance with section 4 of Test Method 213.5, an opening that is exposed and larger than 6.4 mm before the test must not become smaller during the test as a result of the movement of the seating surface relative to the other parts of the restraint system.

INFORMATION

Information

616. (1) Every restraint system for infants with special needs must have stitched onto it, indelibly moulded into or onto it, or indelibly printed on a label affixed to it in a permanent manner, the following information:

(a) the name and principal place of business of the company that manufactured, imported or sold the restraint system;

(b) the model name and number of the restraint system;

(c) the date of manufacture of the restraint system, as shown in Schedule 5, with the year, month and day above the corresponding wording in both official languages;

(d) a statement indicating — in units based on the International System of Units followed by the corresponding imperial units in parentheses — the mass and height range of the infants for whom the manufacturer recommends the restraint system;

(e) a warning indicating

(i) that the restraint system must be used only in a forward-facing seating position equipped with a vehicle seat belt or, if the restraint system is equipped with a lower connector system, in a forward-facing seating position equipped with a vehicle seat belt or a lower universal anchorage system,

(ii) that the restraint system must be in a rear-facing position, except that a car bed must be used in a flat position along the vehicle's rear bench seat with the head of the infant towards the centre of the vehicle,

(iii) if the restraint system is equipped with a lower connector system, that the restraint system must be secured to the vehicle as shown in the installation instructions by either of the following means and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap:

(A) the lower connector system, if the restraint system is installed in a seating position that is equipped with a lower universal anchorage system, or

(B) a vehicle seat belt, if the restraint system is installed in a seating position that is not equipped with a lower universal anchorage system,

(iv) if the restraint system is not equipped with a lower connector system, that the restraint system must be secured to the vehicle as shown in the installation instructions by means of a vehicle seat belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap, and

(v) if the restraint system is equipped with belts for restraining an infant, that the belts must be snugly adjusted around the infant; and

(f) an installation diagram that shows the restraint system

(i) installed as recommended by the manufacturer in a seating position that is equipped only with a lap belt and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap,

(ii) installed as recommended by the manufacturer in a seating position that is equipped only with a continuous-loop lap and shoulder belt, and secured to the vehicle by means of the belt and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap, and

(iii) if the restraint system is equipped with a lower connector system, installed as recommended by the manufacturer in a seating position that is equipped with a lower universal anchorage system, and secured to the vehicle by means of the lower connector system and, if the restraint system is equipped with a tether strap and the manufacturer recommends its use, by means of the tether strap.

Official languages and print size

(2) The information referred to in subsection (1) must be in both official languages and in characters of at least 10 points, except for the words “year/ année”, “month/mois” and “day/jour” under the date of manufacture, which may be in characters of at least 8 points.

Visibility of information

(3) The information referred to in paragraphs (1)(d) to (f) must be fully visible at all times, even when the restraint system is occupied, whether the restraint system is installed with or without a removable base.

Warning — air bag

617. (1) Every restraint system for infants with special needs must bear the air bag warning label shown in Schedule 6, and the label must conform to the requirements of that schedule.

Idem

(2) The label referred to in subsection (1) must be affixed in a permanent manner at either of the following locations and be fully visible to a person installing the restraint system:

(a) on the side of the restraint system that will face the right front passenger door when the restraint system is facing rearward; or

(b) at the location where the infant's head would rest or adjacent to that location.

Installation instructions

618. (1) Every restraint system for infants with special needs must be accompanied by printed instructions, in both official languages, that set out a step-by-step procedure, including diagrams, for

(a) installing and securing the restraint system in a vehicle;

(b) positioning an infant with special needs in the restraint system; and

(c) adjusting every part of the restraint system that is designed to restrain the infant.

Idem

(2) The instructions referred to in paragraph (1)(a) must state that the restraint system, even when unoccupied, must be firmly secured to the vehicle.

Idem

(3) The instructions must

(a) specify the classes of vehicles, the seating positions and the types of vehicle seat belts with which the restraint system may or may not be used;

(b) specify whether the restraint system may be used with a lower universal anchorage system;

(c) if the restraint system has a means of automatically repositioning the seating surface, specify that the ability of the restraint system to change position must not be impeded; and

(d) explain the primary consequences of not following the warnings appearing on the restraint system.

Storage of instructions

(4) Every restraint system for infants with special needs must have a place for the storage of instructions.

[619 to 699 reserved]

PART 7

TRANSITIONAL PROVISION, REPEAL AND COMING INTO FORCE

TRANSITIONAL PROVISION

Conformity

700. Until December 31, 2010, the restraint systems and booster seats referred to in these Regulations may, instead of conforming to the requirements of these Regulations, conform to the requirements of the *Motor Vehicle Restraint Systems and Booster Cushions Safety Regulations* as they read on the day before the day on which these Regulations came into force and as they were modified in their application by the *Order Modifying the Operation of the Motor Vehicle Restraint Systems and Booster Cushions Safety Regulations and the Motor Vehicle Safety Regulations*, which came into effect on May 1, 2009 and was published in the *Canada Gazette, Part I*, on May 9, 2009.

REPEAL

701. The *Motor Vehicle Restraint Systems and Booster Cushions Safety Regulations* ([see footnote 1](#)) are repealed.

COMING INTO FORCE

Publication

702. These Regulations come into force on the day on which they are published in the *Canada Gazette, Part II*.

SCHEDULE 1

(Subsection 101(1))

Department of Transport

Motor Vehicle Safety Act
(subsection 3(2))

Motor Vehicle Restraint Systems and Booster Seats Safety Regulations (subsection 101(1))

MINISTERIAL AUTHORIZATION

Pursuant to the *Motor Vehicle Safety Act* and the *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations*,

[company name and address]

is authorized to use and apply the national safety mark, and the authorization number _____, to any restraint system or booster seat of a class referred to in section 102 of the *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations*, on condition that the restraint system or booster seat conforms to all the applicable Canada Motor Vehicle Safety Standards.

The national safety mark and the authorization number are applied at the following premises:
[identification of the premises]

This ministerial authorization expires on _____

Issued in Ottawa on _____, 20____

for the Minister of Transport

SCHEDULE 2
(Subsection 101(3))

NATIONAL SAFETY MARK



Note: Replace XXXX with one or more of the following numbers, as applicable: 213, 213.1, 213.2, 213.3 and 213.5.

Replace YYY with the authorization number assigned by the Minister.

SCHEDULE 3
(Section 105)

LOWER UNIVERSAL ANCHORAGE SYSTEM SYMBOL



SCHEDULE 4
(Section 109)

DECLARATION OF IMPORTATION FOR EXHIBITION, DEMONSTRATION,
EVALUATION OR TESTING PURPOSES

1. Name of the manufacturer of the restraint system or booster seat:

2. Name and address of the person importing the restraint system or booster seat:

3. The make and the model name or number of the restraint system or booster seat:

4. The date that the restraint system or booster seat is presented for importation:

I, the undersigned _____,

(Authorized representative)

declare that the information set out in this declaration is true and that the restraint system or booster seat

(a) will be used in Canada solely for purposes of exhibition, demonstration, evaluation or testing, pursuant to paragraph 7(1)(a) of the *Motor Vehicle Safety Act*; and

(b) will remain in Canada for not longer than one year or a period that the Minister specifies.
(see footnote 2)

Signature of authorized representative Date

SCHEDULE 5 (Paragraphs 218(1)(c), 316(1)(c), 409(1)(c), 521(1)(c), 523(c) and 616(1)(c))

DATE OF MANUFACTURE

year of manufacture month of manufacture day of manufacture

#####

##

##

year/année

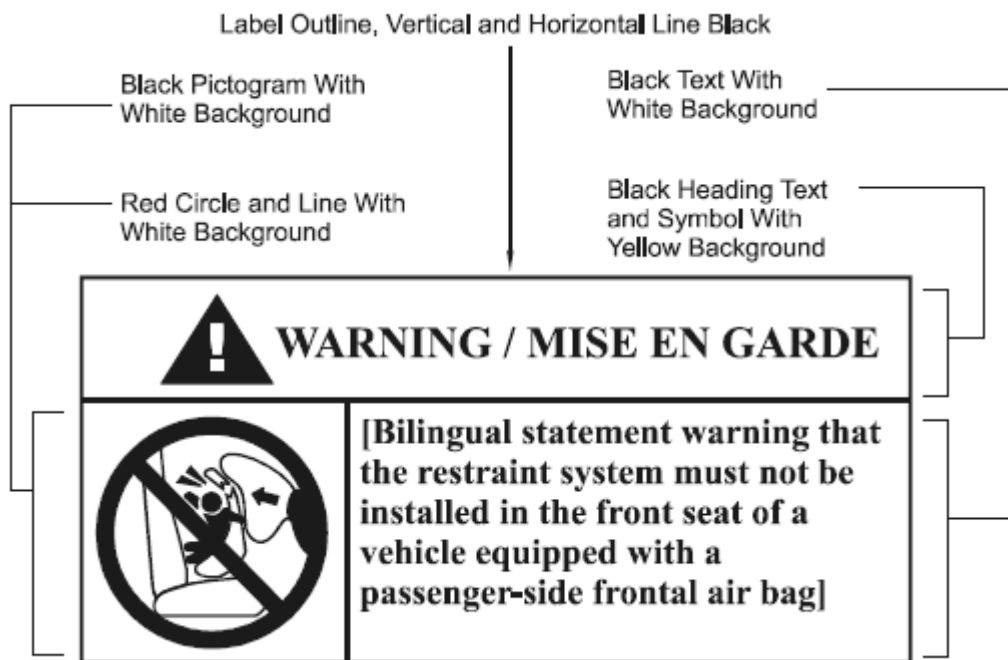
month/mois

day/jour

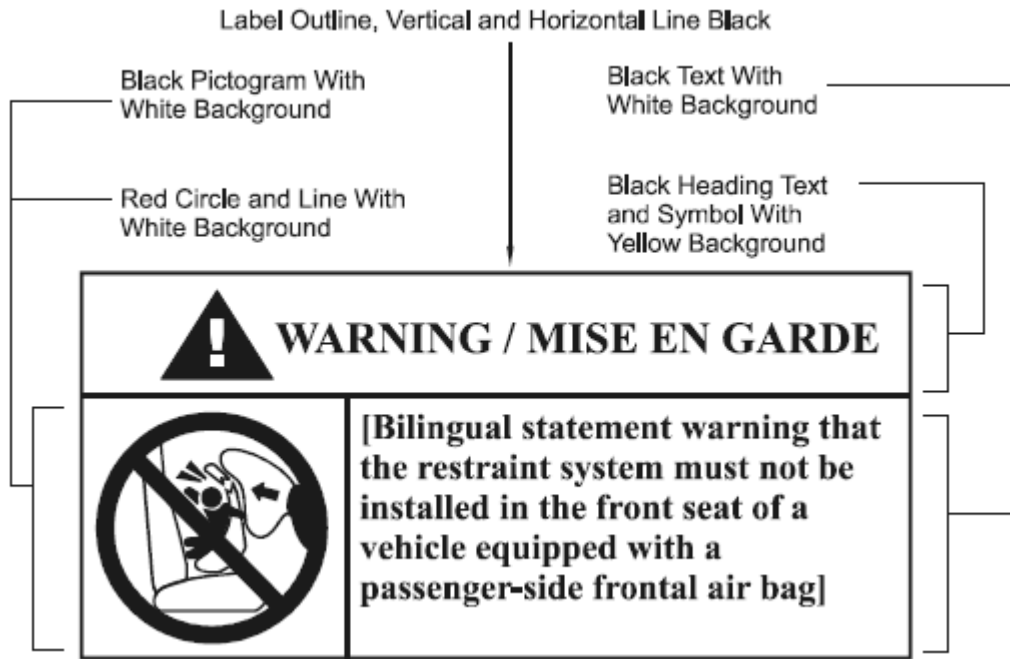
SCHEDULE 6

(Subsections 219(1), 317(1), 522(1) and 617(1))

AIR BAG WARNING LABEL



SCHOOL BUS RESTRAINT SYSTEM WARNING LABEL

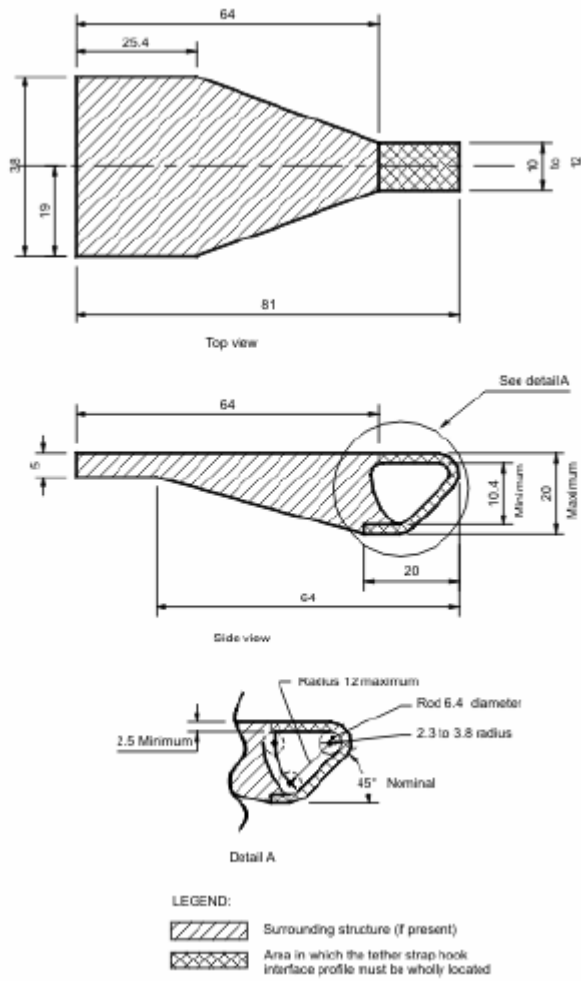


Requirements:

1. The message area containing the warning statement must be at least 30 cm²
2. The warning statement must be in characters of at least 10 points
3. The pictogram must be at least 30 mm in diameter

Note: Drawings not to scale

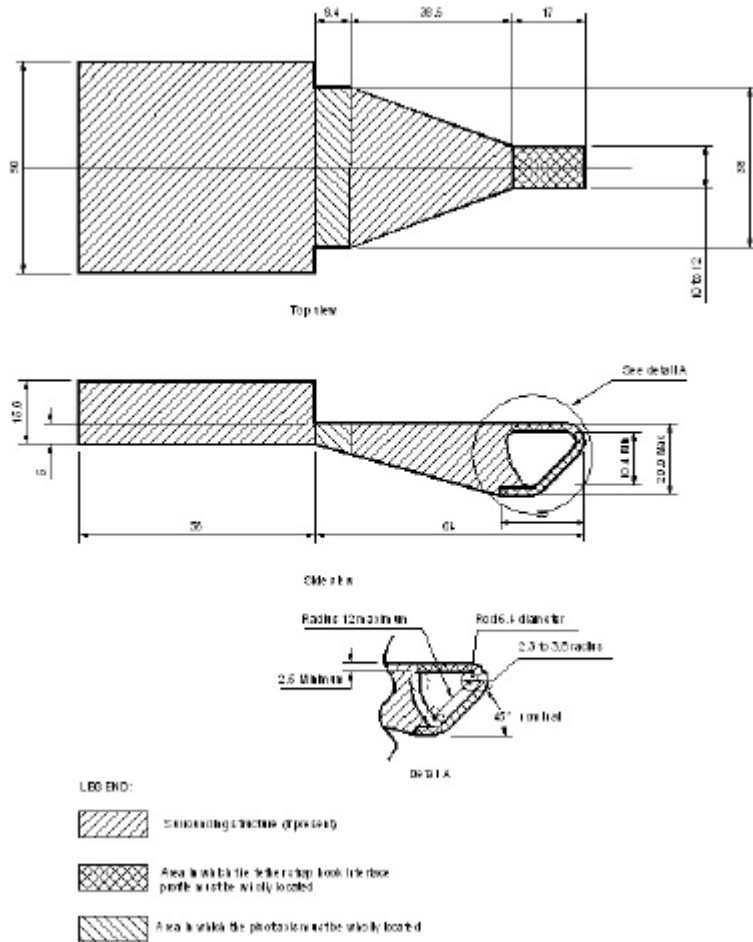
SCHEDULE 7 (*Subsection 100(1), paragraphs 216(1)(a) and (b), 217(a), 315(1)(e), 407(e) and (f), 519(a) and (b), 520(a) and 615(1)(c)*)



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale

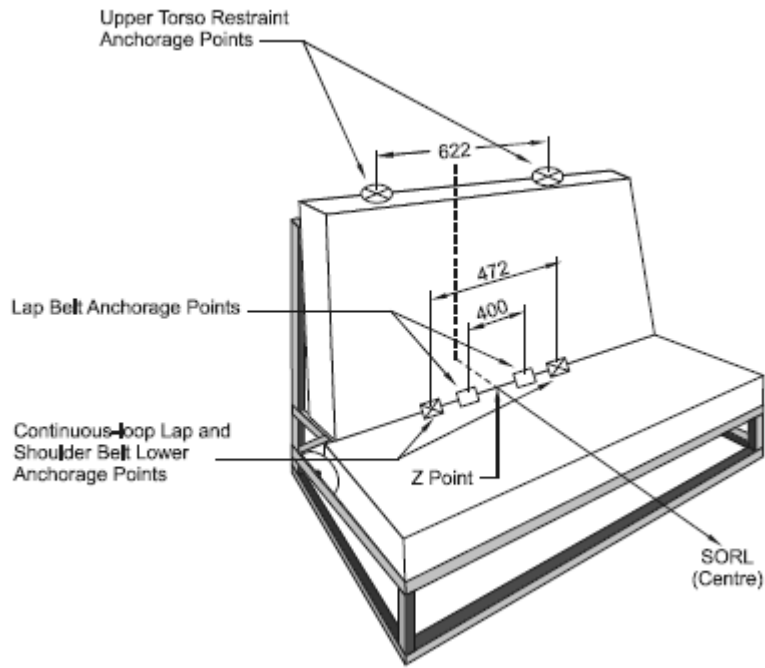
Figure 1 — Interface Profile of Tether Strap Hook



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale

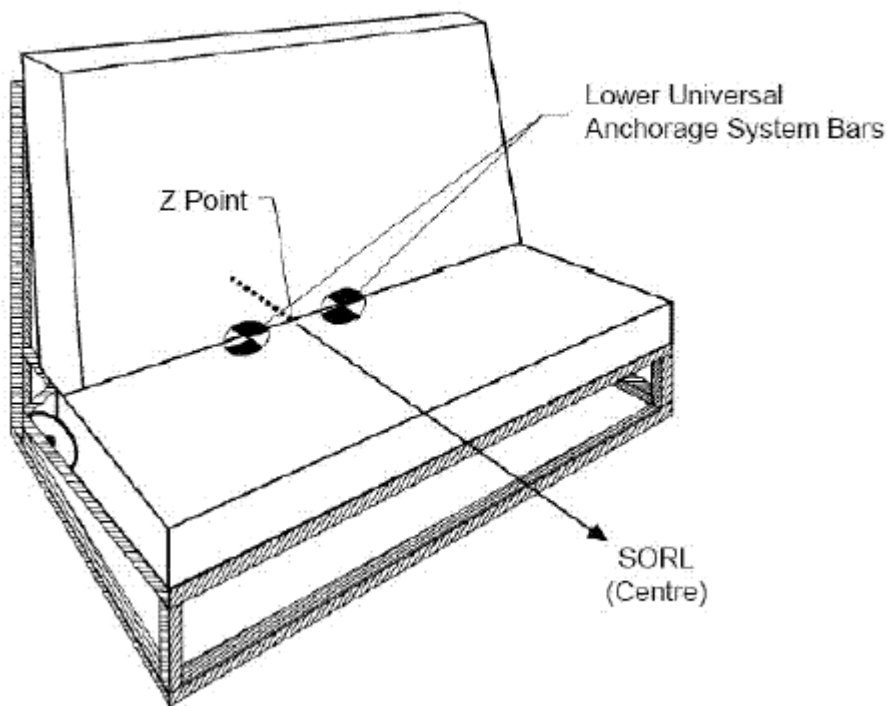
Figure 2 — Interface Profile of Tether Strap Hook with Integrated Adjustment Hardware



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale
3. Lap belt anchorage points and continuous-loop lap and shoulder belt lower anchorage points are symmetrically located with respect to the SORL

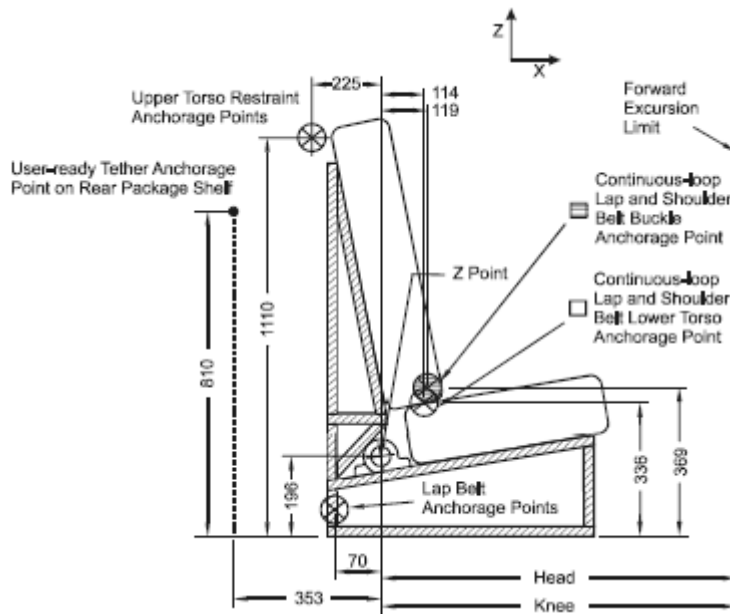
Figure 3 — Three-dimensional Schematic View of Standard Seat Assembly Indicating Location of Seat Belt Anchorage Points



Notes:

1. Drawing not to scale
2. Transverse horizontal distance between the centre of the bars and the vertical plane containing the SORL is 140 mm

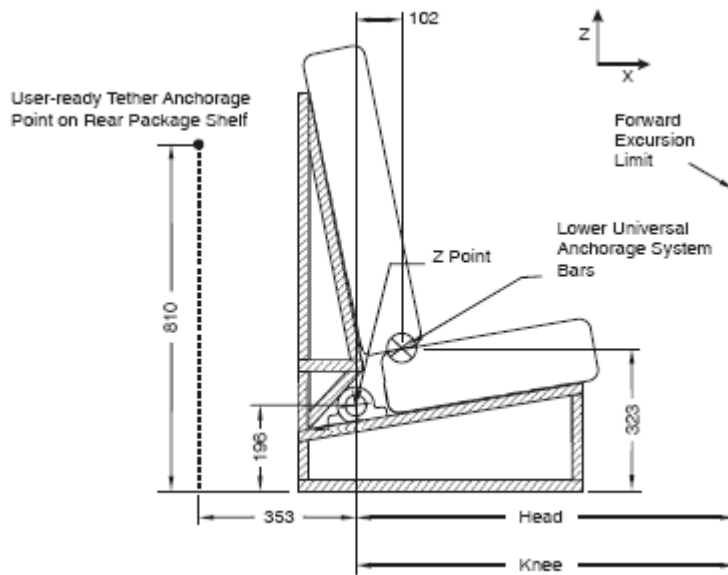
Figure 4 — Three-dimensional Schematic View of Standard Seat Assembly Indicating Location of Lower Universal Anchorage System



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale
3. User-ready tether anchorage point on rear package shelf located on the vertical longitudinal plane containing the SORL or located 544 mm right or left of the vertical longitudinal plane containing the SORL

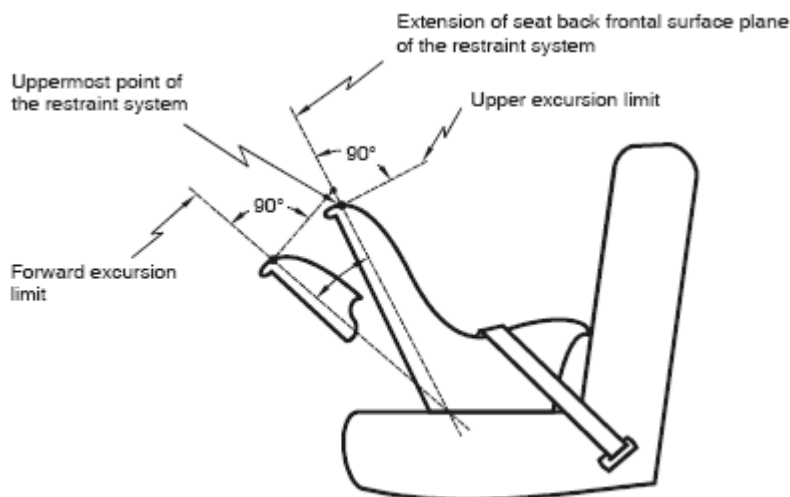
Figure 5 — Side View of Standard Seat Assembly Indicating Location of Seat Belt Anchorage Points



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale
3. User-ready tether anchorage point on rear package shelf located on the vertical longitudinal plane containing the SORL or located 544 mm right or left of the vertical longitudinal plane containing the SORL
4. Lower universal anchorage system bars located 102 mm forward of the Z point and 323 mm upward from floor

Figure 6 — Side View of Standard Seat Assembly Indicating Location of Lower Universal Anchorage System



Note:
The illustrated limits move during dynamic testing

Note: The illustrated limits move during dynamic testing

Figure 7 — Forward and Upper Excursion Limits for any Portion of Target Point on Either Side of Anthropomorphic Test Device Head

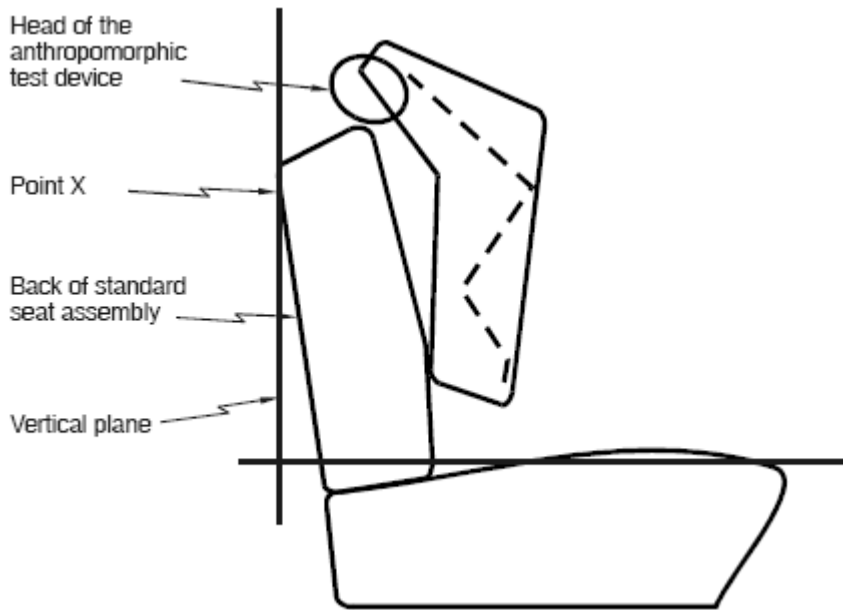
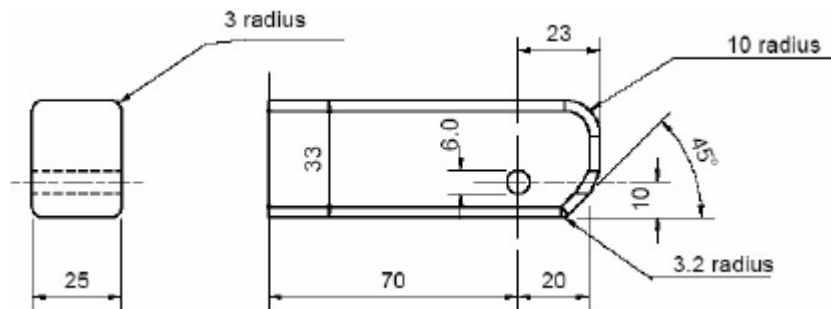


Figure 8 — Point X on Vertical Plane of Standard Seat Assembly



Notes:

1. Dimensions in mm, except where otherwise indicated
2. Drawing not to scale

Figure 9 — Rear and Side View of Checking Device for Lower Connector System - Envelope Dimensions

**REGULATORY IMPACT
ANALYSIS STATEMENT**

(This statement is not part of the Regulations.)

Issue and objectives

Over the past two decades, the average size of children has increased, but the safety standards for child seats used in motor vehicles have not kept pace. Recognizing this evolution, the United States has recently revised its requirements for child seats to account for heavier children in order to improve safety.

To update the Canadian requirements in respect to child safety, the *Motor Vehicle Restraint Systems and Booster Cushions Safety Regulations* are being repealed and replaced with new regulations, entitled the *Motor Vehicle Restraint Systems and Booster Seats Safety*

Regulations (the Regulations). This new update will provide child occupants with improved protection in the event of a collision. These new Regulations will more closely align the Canadian child restraint and booster seat requirements with those of the United States, including allowing child restraints for larger children, the introduction of more advanced test dummies and additional harmonized testing performance criteria. The requirements of these new Regulations relating to child seats designed for larger children have been in effect in Canada since May 2007, by means of successive Interim Orders, which these Regulations make permanent.

In addition to harmonizing most testing protocols with the United States, these new Regulations maintain several unique to Canada testing requirements as well as introduce a new lap/ shoulder belt-testing requirement. This new lap/shoulder belt-testing requirement will better reflect the use of child restraints in today's vehicles. Finally, these new Regulations reorganize the previous regulatory text to clarify the intent of various requirements.

As the Canadian performance test requirements will now be highly aligned with those of the United States, these new Regulations will allow for a wider variety of child seats to be available in Canada. This will minimize the burden to manufacturers caused by past differences in North American regulations.

Description and rationale

Between 1993 and 2006, there was a 21% decrease in the number of motor vehicle occupants who died in motor vehicle collisions. This trend can be attributed to factors such as improved vehicle designs, improved road designs, and reducing high-risk behaviours, such as not using seat belts, and driving under the influence. In this same period, there was a 50% decrease in the number of child occupants who died in motor vehicle accidents. This trend can be attributed to the improved design and greater use of child restraint systems and booster seats. The Canadian regulations for these devices are a major factor in their continuing improvement.

Historically, the Canadian and United States child restraint and booster seat safety regulations have been closely aligned. However, this was no longer the case in several areas since the United States revised their requirements in 2003.

These new Regulations update the Canadian regulatory requirements concerning the safety of restraint system and booster seat occupants in three ways:

Firstly, they improve safety by more closely aligning Canadian restraint system and booster seat requirements with those of the United States by achieving the following goals:

(a) Aligning the infant restraint system mass limits and introducing larger child restraint systems

These new Regulations align Canadian requirements with those of the United States by increasing the occupant mass limit for infant restraint systems from 9 kg to 10 kg and increasing the child restraint system occupant mass limit from 22 kg to 30 kg. In addition, all related United States testing protocols for these heavier mass limits will be adopted. These changes improve safety by encouraging the use of infant and child restraint systems for a longer period of time, before graduating to the next stage of restraints.

(b) Adopting new, improved child-sized crash test dummies, a new standard seat assembly and associated performance criteria

Child-sized crash test dummies are used when testing restraint systems or booster seats to measure certain injury criteria. New, improved child-sized crash test dummies are available, and their specifications have been incorporated by reference as part of these new Regulations. In addition, the testing of the restraint systems or booster seats will be performed on a new standard seat assembly, so that all manufacturers can test their products uniformly using the same equipment and methodology. The United States has implemented a new standard seat assembly that is more representative of many current model vehicle seats. These new Regulations adopt this new standard seat assembly with some slight modifications, as well as most of the United States testing parameters and performance criteria.

(c) Introducing dynamic requirements for booster seats

The previous Canadian Regulations required only quasi-static testing on booster cushions. These new Regulations introduce the current United States dynamic test requirements, similar to current infant and child restraint systems testing, which improve the safety of booster seats.

(d) Incorporating harnesses as part of the new Regulations

The previous Regulations did not recognize custom harnesses for special needs children that are designed for use on school bus seats without anchors or seat belts. Therefore, provincial/territorial jurisdictions were unable to permit their use by referring to Federal regulations. There are some special needs children who, for example, cannot maintain a seated posture without assistance and therefore cannot ride on school buses. These new Regulations will allow custom harnesses to be sold for use by an individual child, in instances where this type of harness is needed to assist in his or her transportation. These harnesses are now one type of custom restraint system for disabled persons, and are not subject to dynamic performance testing. These harnesses can be used without a vehicle seat belt or lower universal anchorage system (UAS).

Secondly, the Government retains the following six Canadian-specific requirements, while the seventh is newly introduced.

(a) Specific Canadian administrative regulatory requirements

Manufacturers of restraint systems or booster seats still have to conform to requirements that are administrative in nature. Such requirements apply to the National Safety Mark application process, importation and records.

(b) The need for labels, information and instructions to be provided in both of Canada's official languages

In addition to maintaining the requirement to provide information in both official languages, these new Regulations improve the visibility of information, installation instructions and Canadian certification labels, thereby reducing the risk of misuse by consumers and facilitating the enforcement by provincial, territorial and local authorities, of their respective laws.

(c) The minimum booster seat occupant mass remains at 18 kg

The United States allows the design of booster seats for children having a mass of 13.6 kg. Research has shown that these smaller children are safer in a child restraint system with an integral five-point harness rather than using a booster seat.

(d) Mandatory inversion test for both infant and child restraint systems

This test ensures that a child restraint system remains attached to an aircraft seat in turbulent conditions and that the child dummy is also held in the seat without falling out.

(e) Canadian unique booster seat deflection test

The booster seat deflection test is designed to assess the stiffness and strength of the seat, and is aimed at ensuring that the child is properly supported and that the vehicle's seat belt is kept properly positioned on the child's body.

(f) Canadian-unique energy-absorbent material requirements

Every surface that may come into contact with the head must be made of energy-absorbent material that is within the specified range of compression-deflection resistance prescribed by the new Regulations.

(g) Introduce the requirement for infant and child restraint systems to be tested using three-point lap/shoulder belts

A new dynamic testing procedure requiring that infant and child restraint systems to be tested when secured by a three-point lap/shoulder belt has been added. This will help ensure that restraint systems are tested using the types of seat belt systems that are installed in most new vehicles.

Thirdly, these new Regulations reorganize the previous regulatory text to clarify the intent of some requirements by introducing new definitions; rewriting certain portions of text; replacing words; adding details or figures; correcting cross-reference errors; and regrouping the information and installation instructions by class of restraint systems and replacing the name "booster cushion" with "booster seat" to harmonize it with the common designation in the United States.

These new Regulations enhance the safety of children who are occupants of vehicles and use an infant or child restraint system or a booster seat. They also ensure that the Canadian and United States requirements are more closely aligned for the most significant testing protocols. Regulations that are not closely aligned increase costs to manufacturers (which are then passed on to Canadian consumers) due to the increased testing requirements, and may reduce the variety of restraint systems and booster seats marketed in Canada by manufacturers.

Consultation

The Department of Transport informs the automotive industry, child seat manufacturers, public safety organizations, and the general public when changes are planned to the regulations. This gives them the opportunity to comment on these changes by letter or email. The Department also consults regularly, in face-to-face meetings or teleconferences, with the automotive industry, child seat manufacturers, public safety organizations, the police community, the provinces, the territories, and its international counterparts such as the United States Department of Transportation and the World Forum for the Harmonization of Vehicle Regulations.

The Department's intention to update the child seat regulations has been part of its regulatory plan since December 2006. An important portion of the new Regulations pertaining to child seats designed for larger children has been in effect in Canada since May 2007 by means of successive Interim Orders. An Interim Order allows the Department to temporarily align its requirements with those of another jurisdiction, which in this case is the United States. These Interim Orders have allowed Canadians to have access to increased-mass limit child seat products that were previously prohibited for use in Canada. These new Regulations provide Canadians with more products to choose from and use legally on a permanent basis. No negative comments have been received regarding the Interim Orders.

The Government has worked with the provinces and territories to help ensure that the introduction of child seats for larger children would be compatible with each of their in-vehicle use laws. Provinces and territories currently have in-vehicle use legislation in place to accommodate the child seats for heavier children.

The Department considers the new Regulations consistent with the goals of the North American Free Trade Agreement (NAFTA) in that they remove unnecessary technical barriers to trade. In addition, under the Department's Strategic Environmental Assessment policy, a preliminary evaluation of the possible effects of these new Regulations was done. It was determined that they would have no impact on the environment.

Consultative session

On May 20, 2009, an informal notice was sent by email to every major restraint system and booster seat manufacturer. The purpose of the informal notice was to gather comments from manufacturers about the Government's intention to amend the *Motor Vehicle Restraint Systems and Booster Cushions Safety Regulations*. On August 15, 2009, a Notice of Intent was issued which outlined the Government's intention to amend the same Regulations. Following the Notice, a consultation session was held in Ottawa on August 27, 2009.

Representatives of various organizations attended the consultation session either in person or via teleconference. Juvenile Products Manufacturers Association (JPMA), the Ministry of Transportation of Ontario and DOREL Juvenile Group had several questions that were technical in nature. The panel members from the Department provided technical information on the proposed amendments.

Prepublication

Following the Notice of Intent, the new Regulations were pre-published in the *Canada Gazette*, Part I, on October 10, 2009, and the prepublication was followed by a 45-day comment period. Various organizations provided comments, mainly school bus transport-related organizations and the Juvenile Products Manufacturers Association (JPMA).

Harnesses for use in school buses

Various school bus-related organizations, such as school boards, regional transportation services and suppliers, submitted concerns that the new Regulations would not incorporate harnesses allowing for the transportation of special needs children on school buses. To meet their needs, the new Regulations include provisions to allow these products to be sold or imported into Canada as a custom restraint system for a disabled person.

It was also requested that harnesses for use in school buses be required to have a National Safety Mark, which has long been a recognizable symbol on child restraint products that

reassures consumers, parents and caregivers that the products have been certified by the manufacturer to meet all applicable government safety requirements. The Department has agreed with this request and has included the National Safety Mark requirement.

Dynamic tests

JPMA noted that most forward-facing child restraints use the same routing belt path whether secured to the vehicle by the lap belt or the UAS. In order to reduce the testing required to certify a restraint to the Canadian standards, the JPMA requested that, in the instances where the seat belt path was the same as for the UAS, the lap belt test would not be required. While most of the Department's compliance testing data showed a similar trend to the JPMA supplied data, this was not the case for every seat. The Department is aware of one specific seat that was tested on multiple occasions and met all applicable requirements when tested with the UAS and tether, but failed to meet all applicable requirements when tested with the lap belt and tether. Since a lap belt could still be used to secure a car seat, especially in older vehicles and heavy trucks, this proposal was not accepted.

A similar request was received for rear-facing seats in which the shoulder portion of the three-point lap/shoulder belt is not used to secure the car seat. However, even if the shoulder portion is not directly used, it will still add a vertical force component, thereby differentiating this method from the UAS securement method. Thus this proposal was not accepted.

National Safety Mark

The JPMA requested to amend the current visibility requirements regarding the National Safety Mark, due to space limitations considering the extensive warnings required by the Regulations. The JPMA also proposed to change the format from the current symbol to a written statement mentioning which standards the seat complies with, or to change the requirements regarding the location where the National Safety Mark could be affixed. As mentioned before, various enforcement authorities are currently familiar with the National Safety Mark symbol. Therefore, changing the format could result in enforcement related concerns. On the other hand, the Department believes that some safety warnings are more important than the National Safety Mark itself and has thus agreed to remove the requirement that the National Safety Mark be visible when the restraint is in its installed position within a vehicle.

Head acceleration requirement

The JPMA requested that the Department add precision regarding the proposed head acceleration requirement. It asked that the maximum period during which the head acceleration limit could exceed 80 g be lengthened to 3 milliseconds. The Canadian safety standard 208 for Occupant Restraint Systems in Frontal Impacts found in the *Motor Vehicle Safety Regulations* currently has a similar 3-millisecond requirement. To maintain consistency between regulations, this request has been granted.

The new Regulations require every surface of infant restraint systems and child restraint systems, which are contactable by the head, to be covered with energy absorbing material. As previously stated, this requirement is unique to Canada. JPMA requested this requirement be removed or modified to allow for different types of material. They believe that it is design restrictive since the type of material that can currently be used to meet the requirement is very limited. They also stated that this requirement did not provide any safety benefits and requested a performance-based requirement instead of a material-based one. This request has

been denied at this time, as the data provided by the JPMA were insufficient to provide a basis for removing or modifying such an important requirement. The Department will continue to research this request and will decide on possible alternatives at a future date.

Coming into force date

The publication in the *Canada Gazette*, Part I, proposed a coming into force date of September 1, 2010. The JPMA requested this date be postponed until December 31, 2011 to give them time to modify their equipment and prepare for the certification process. The Department did not agree with delaying the coming into force date by 16 months. However, the Department is aware that completing the certification process is time consuming and has therefore granted a four-month extension. Starting on the date of publication of these new Regulations, a parallel regime until December 31, 2010 will allow for manufacturers to follow either the content of the previous Regulations, including the requirements of the most recent Interim Order, or the newly introduced Regulations.

Standard seat assembly drawing package

Included in these new Regulations is a drawing package for the new standard seat assembly. The new standard seat assembly is harmonized with the United States. However, there are some additions not found in the United States drawing package due to the new requirements for testing the restraints with a lap/shoulder belt. The content of the drawing package is consistent with that proposed in the *Canada Gazette*, Part I. However, it has been redrawn to ensure accuracy. This new drawing package, entitled “Standard Seat Assembly Specifications for *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations* Compliance Testing,” will combine the information found in both of the following documents: “NHTSA Standard Seat Assembly, FMVSS No. 213; No. NHTSA-213-2003, dated June 3, 2003” and “Transport Canada Modifications to the NHTSA Standard Seat Assembly” (August 2009). (Available at www.tc.gc.ca/eng/acts-regulations/regulations-sor98-159.htm)

Booster seat — seat belt guides

The JPMA requested that the movement of seat belt guides used on booster seats during dynamic testing be permitted in the new Regulations. After reviewing the request, the Department will allow for the movement of a component that is designed to assure proper belt placement throughout the test.

Objectives

JPMA noted that one of the reasons stated by the Department for the introduction of these new Regulations was to more closely harmonize them with those of the United States. However, the Department has proposed a dynamic test using a lap/shoulder belt that is not found in the US regulation. While the Department has aligned many requirements with those of the United States, the Department is of the opinion that it cannot ignore the potential existing safety gap caused by the lack of a requirement for testing using lap/shoulder belts, for the sake of harmonization.

Implementation, enforcement and service standards

Motor vehicle manufacturers, child seat manufacturers and importers are responsible for ensuring that their products comply with the requirements of the *Motor Vehicle Safety Regulations* or *Motor Vehicle Restraint Systems and Booster Seats Safety Regulations*, as applicable. The Government monitors self-certification programs of manufacturers and

importers by reviewing their test documentation, and inspecting and testing vehicles or equipment obtained in the open market. In addition, when a defect in a vehicle or equipment is found, the manufacturer or importer must issue a Notice of Defect to the owners and to the Minister of Transport. If a vehicle or child seat does not comply with a Canadian safety standard, the manufacturer or importer is liable to prosecution and, if found guilty, may be fined as prescribed in the *Motor Vehicle Safety Act*.

Provincial and territorial regulations refer to some of the labels found on child and booster seats. The National Safety Mark (NSM) is required by every province and territory to enforce legal use of child and booster seats.

Contact

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[Footnote a](#)

S.C. 1993, c. 16

[Footnote b](#)

S.C. 1993, c. 16

[Footnote 1](#)

SOR/98-159

[Footnote 2](#)

*Note: Subsection 7(5) of the *Motor Vehicle Safety Act* prohibits a person who makes the declaration referred to in paragraph 7(1)(a) of that Act to use or dispose of a restraint system or booster seat in a manner contrary to the terms of the declaration.

NOTICE:

The format of the electronic version of this issue of the *Canada Gazette* was modified in order to be compatible with extensible hypertext markup language (XHTML 1.0 Strict).

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[Top of Page](#)

[Important Notices](#)