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MOTOR VEHICLE SAFETY ACT

Regulations Amending the Motor Vehicle Safety Regulations (Interpretation, Section 18 and Standards 203, 204, 208, 212 and 219)

P.C. 2013-18 January 31, 2013

Whereas, pursuant to subsection 11(3) of the *Motor Vehicle Safety Act* (see footnote a), a copy of the proposed *Regulations Amending the Motor Vehicle Safety Regulations (Interpretation, Section 18 and Standards 203, 204, 208, 212 and 219)*, substantially in the annexed form, was published in the *Canada Gazette*, Part I, on February 11, 2012 and a reasonable opportunity was afforded to interested persons to make representations to the Minister of Transport with respect to the proposed Regulations;

Therefore, His Excellency the Governor General in Council, on the recommendation of the Minister of Transport, pursuant to section 5 (see footnote b) and subsection 11(1) of the *Motor Vehicle Safety Act*, (see footnote c)makes the annexed *Regulations Amending the Motor Vehicle Safety Regulations (Interpretation, Section 18 and Standards 203, 204, 208, 212 and 219)*.

REGULATIONS AMENDING THE MOTOR VEHICLE SAFETY REGULATIONS (INTERPRETATION, SECTION 18 AND STANDARDS 203, 204, 208, 212 AND 219)

AMENDMENTS

1. (1) The definitions "Type 2A shoulder belt" and "vehicle manufactured for operation by persons with disabilities" in subsection 2(1) of the *Motor Vehicle Safety Regulations* (see footnote 1) are repealed.

(2) The definition "tell-tale" in subsection 2(1) of the Regulations is replaced by the following:

"tell-tale" means an optical signal that, when alight, indicates the activation or deactivation of a device, its correct or defective functioning or condition, or its failure to function; (*témoin*)

(3) Subsection 2(1) of the Regulations is amended by adding the following in alphabetical order:

"disabled person" means a person who, for orthopaedic reasons or because of the person's build or other physical characteristics, requires a vehicle that has been adapted to accommodate their disability; (*personne handicapée*)

2. The Regulations are amended by adding the following after section 17:

OWNER'S MANUAL

18. (1) For the purposes of paragraph 5(1)(*f*) of the Act, for each vehicle that a company imports into Canada before the vehicle is sold to the first retail purchaser and for each vehicle to which a company applies a compliance label, the company shall provide, in written, electronic or optical form, an owner's manual containing the information required by these Regulations relating to the operation of the vehicle.

(2) The owner's manual shall be available in both official languages.

(3) If the owner's manual is available only in electronic or optical form, it shall be capable of being used inside the occupant compartment using a device installed in or supplied with the vehicle.

3. Subsection 203(4) of Schedule IV to the Regulations is replaced by the following:

(4) Subsections (2) and (3) do not apply to a vehicle that conforms to the requirements of S5 and S14 of *Technical Standards Document No. 208, Occupant Crash Protection* (TSD 208), as amended from time to time.

(5) Subsection (4) expires on October 31, 2017.

4. Section 204 of Schedule IV to the Regulations is replaced by the following:

204. (1) Every passenger car and three-wheeled vehicle, and every truck, bus and multi-purpose passenger vehicle — other than a walk-in van — with a GVWR of 4 536 kg or less and an unloaded vehicle mass of 2 495 kg or less, shall conform to the requirements of *Technical Standards Document No. 204, Steering Control Rearward Displacement* (TSD 204), as amended from time to time.

(2) For the purposes of this section, the words "passenger car" used in TSD 204 mean "passenger car and three-wheeled vehicle".

(3) Subsection (1) does not apply to a vehicle that conforms to the requirements of S5 and S14 of *Technical Standards Document No. 208, Occupant Crash Protection* (TSD 208), as amended from time to time.

(4) This section expires on October 31, 2017.

5. The heading "OCCUPANT RESTRAINT SYSTEMS IN FRONTAL IMPACT (STANDARD 208)" before section 208 of Schedule IV to the Regulations is replaced by the following:

OCCUPANT PROTECTION IN FRONTAL IMPACTS (STANDARD 208)

6. Section 208 of Schedule IV to the Regulations is replaced by the following:

208. (1) Every enclosed motorcycle shall be equipped at each designated seating position with a Type 2 manual seat belt assembly that

(*a*) has an upper torso restraint that cannot be detached from the pelvic restraint;

(*b*) can be adjusted by means of an emergency-locking retractor; and

(*c*) cannot be detached from any anchorage point.

(2) Every passenger car and three-wheeled vehicle, and every truck and multi-purpose passenger vehicle with a GVWR of 4 536 kg or less, shall be equipped

(*a*) at each front outboard designated seating position except the one referred to in paragraph (*b*), and at each rear designated seating position except those referred to in paragraphs (*c*) and (*d*), with a Type 2 manual seat belt assembly that

(i) has an upper torso restraint that cannot be detached from the pelvic restraint,

(ii) can be adjusted by means of an emergency-locking retractor, and

(iii) cannot be detached from any anchorage point;

(*b*) at each front outboard designated seating position that is designed for a disabled person, with a Type 2 seat belt assembly;

(*c*) at each rear designated seating position that has a seat designed to be easily removed and replaced by means of equipment installed by a manufacturer for that purpose, or that is adjacent to a walkway located between the seat and the side of the vehicle and designed to allow access to more rearward seating positions, or that is an inboard designated seating position that has a seat whose back can be folded so that no part of the back extends above a horizontal plane located 250 mm above the highest seating reference point on the seat, with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*) or with a Type 2 manual seat belt assembly that

(i) can be detached from the upper or lower anchorage point, but not from both, by means of a key or key-like object,

(ii) can be adjusted by means of an emergency-locking retractor, and

(iii) has an upper torso restraint that cannot be detached from the pelvic restraint;

(*d*) at each rear designated seating position that has a seat that can be adjusted to change the direction it is facing, with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*) and can function regardless of the direction the seat is adjusted to face, or with a Type 2 manual seat belt assembly that cannot be detached from any anchorage point and that

(i) has a pelvic restraint that restrains the movement of the pelvis regardless of the direction the seat is adjusted to face and is equipped with an emergency-locking retractor, and

(ii) in the case of a seat that can be placed in a forward-facing or rear-facing position or within ±30° of either position, has an upper torso restraint that

(A) can be detached from the pelvic restraint,

(B) can be adjusted by means of an emergency-locking retractor,

(C) is for use only in conjunction with the pelvic restraint, and

(D) can function when the seat is in any position in which it can be placed within that range; and

(*e*) at each rear designated seating position that has a side-facing seat, and at each front inboard designated seating position,

(i) with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*),

(ii) with a Type 2 manual seat belt assembly that

(A) has a pelvic restraint that can be adjusted by means of an emergency-locking retractor, an automatic-locking retractor or a manual adjusting device,

(B) has an upper torso restraint that can be adjusted by means of an emergency-locking retractor or a manual adjusting device, and

(C) cannot be detached from any anchorage point, or

(iii) with a Type 1 manual seat belt assembly that

(A) can be adjusted by means of an emergency-locking retractor, an automatic-locking retractor or a manual adjusting device, and

(B) cannot be detached from any anchorage point.

(3) Every truck and multi-purpose passenger vehicle with a GVWR greater than 4 536 kg shall be equipped at each designated seating position

(*a*) with a Type 2 manual seat belt assembly that

(i) has an upper torso restraint that cannot be detached from the pelvic restraint,

(ii) can be adjusted by means of an emergency-locking retractor or an automatic-locking retractor, and

(iii) cannot be detached from any anchorage point; or

(*b*) with a Type 1 manual seat belt assembly that

(i) can be adjusted by means of an emergency-locking retractor or an automatic-locking retractor, and

(ii) cannot be detached from any anchorage point.

(4) In the case of a motor home, the number of designated seating positions with seat belts shall not be less than the number of sleeping positions.

(5) Every bus with a GVWR of 4 536 kg or less, other than a school bus, shall be equipped

(*a*) at each front outboard designated seating position, and at each rear designated seating position except those referred to in paragraphs (*b*) to (*d*), with a Type 2 manual seat belt assembly that

(i) has an upper torso restraint that cannot be detached from the pelvic restraint,

(ii) can be adjusted by means of an emergency-locking retractor, and

(iii) cannot be detached from any anchorage point;

(*b*) at each rear designated seating position that has a seat designed to be easily removed and replaced by means of equipment installed by a manufacturer for that purpose, or that is adjacent to a walkway located between the seat and the side of the vehicle and designed to allow access to more rearward seating positions, or that is an inboard designated seating position that has a seat whose back can be folded so that no part of the back extends above a horizontal plane located 250 mm above the highest seating reference point on the seat, with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*) or with a Type 2 manual seat belt assembly that

(i) can be detached from the upper or lower anchorage point, but not from both, by means of a key or key-like object,

(ii) can be adjusted by means of an emergency-locking retractor, and

(iii) has an upper torso restraint that cannot be detached from the pelvic restraint;

(*c*) at each rear designated seating position that has a seat that can be adjusted to change the direction it is facing, with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*) and can function regardless of the direction the seat is adjusted to face, or with a Type 2 manual seat belt assembly that cannot be detached from any anchorage point and that

(i) has a pelvic restraint that restrains the movement of the pelvis regardless of the direction the seat is adjusted to face and is equipped with an emergency-locking retractor, and

(ii) in the case of a seat that can be placed in a forward-facing or rear-facing

position or within ±30° of either position, an upper torso restraint that

(A) can be detached from the pelvic restraint,

(B) can be adjusted by means of an emergency-locking retractor,

(C) is for use only in conjunction with the pelvic restraint, and

(D) can function when the seat is in any position in which it can be placed within that range; and

(*d*) at each rear designated seating position that has a side-facing seat,

(i) with a Type 2 manual seat belt assembly that conforms to the requirements of paragraph (*a*),

(ii) with a Type 2 manual seat belt assembly that

(A) has a pelvic restraint that can be adjusted by means of an emergency-locking retractor, an automatic-locking retractor or a manual adjusting device, and

(B) cannot be detached from the pelvic restraint or from any anchorage point, or

(iii) with a Type 1 manual seat belt assembly that

(A) can be adjusted by means of an emergency-locking retractor, an automatic-locking retractor or a manual adjusting device, and

(B) cannot be detached from any anchorage point.

(6) Every bus with a GVWR greater than 4 536 kg shall be equipped, at the driver's designated seating position,

(*a*) with a Type 2 manual seat belt assembly that

(i) has an upper torso restraint that cannot be detached from the pelvic restraint,

(ii) can be adjusted by means of an emergency-locking retractor or an automatic-locking retractor, and

(iii) cannot be detached from any anchorage point; or

(*b*) with a Type 1 manual seat belt assembly that

(i) can be adjusted by means of an emergency-locking retractor or an automatic-locking retractor, and

(ii) cannot be detached from any anchorage point.

(7) Every school bus with a GVWR of 4 536 kg or less shall be equipped, at the driver's designated seating position, with a Type 2 manual seat belt assembly that

(*a*) has an upper torso restraint that cannot be detached from the pelvic restraint;

(*b*) can be adjusted by means of an emergency-locking retractor; and

(*c*) cannot be detached from any anchorage point.

(8) [Reserved]

(9) An automatic-locking retractor that is installed in order for a seat belt assembly to conform to the requirements of paragraph (2)(*e*), (3)(*a*) or (*b*) or (5)(*d*) or subsection (6) shall

(*a*) engage the next locking position when a length of seat belt webbing between 19 mm and 77 mm has moved into the retractor, as measured from an initial position determined by extending the seat belt webbing to 75 per cent of its total length from the retractor; and

(*b*) if used on a vehicle seat that has a suspension system, be attached to the suspended portion of the seat.

Seat Belt Fit

(10) A Type 2 manual seat belt assembly shall be constructed so that when a 50th percentile adult male occupant is secured in place by the seat belt assembly, the intersection of the upper torso restraint and the pelvic restraint shall be at least 150 mm from the front vertical centreline of the occupant, measured along the centreline of the pelvic restraint, with

(*a*) any upper torso restraint manual adjusting device adjusted in accordance with the manufacturer's instructions;

(*b*) the vehicle seat adjusted to its rearmost and lowest position; and

(*c*) the seat back adjusted to the manufacturer's nominal design riding position.

(11) When the vehicle seat is placed in any position, and the seat back is placed in the manufacturer's nominal design riding position and any adjustable seat belt anchorage is placed in the manufacturer's nominal design position for a 50th percentile adult male occupant, every pelvic restraint shall

(*a*) at the driver's designated seating position, be adjustable to fit any occupant whose dimensions range from those of a 5th percentile adult female to those of a 95th percentile adult male; and

(*b*) at all of the other designated seating positions, be adjustable to fit any occupant whose dimensions range from those of a 50th percentile six-year-old child to those of a 95th percentile adult male.

(12) When the vehicle seat is placed in any position, and the seat back is placed in the manufacturer's nominal design riding position and any adjustable seat belt anchorage is placed in the manufacturer's nominal design position for a 50th percentile adult male occupant, every upper torso restraint shall be adjustable to fit any occupant whose dimensions range from those of a 5th percentile adult female to those of a 95th percentile adult male.

Technical Standards Document No. 208

(13) Every passenger car, multi-purpose passenger vehicle, truck, bus and three-wheeled vehicle, and their owner's manuals, shall conform to the requirements of *Technical Standards Document No. 208, Occupant Crash Protection* (TSD 208), as amended from time to time.

(14) For the purposes of this section,

(*a*) the words "passenger car" used in TSD 208 mean "passenger car and three-wheeled vehicle"; and

(*b*) the word "dummy" used in the English version of TSD 208 means "anthropomorphic test device".

(15) Despite subsection (13), every vehicle with a front outboard designated seating position that is designed for a disabled person may, instead of conforming to the requirements of S5, S7.1, S7.2, S7.4 and S14 to S27 of TSD 208, display the following statement on one or more labels, permanently affixed in view of the occupants of the front designated seating positions, in letters of not less than six points in height: "The [here refer to the outboard designated seating position in the front row of designated seating positions that does not conform to the requirements set out in CMVSS 208] does not conform to all of the requirements set out in CMVSS 208. / La [insérer ici la place assise désignée extérieure de la première rangée de places assises designées qui n'est pas conforme aux exigences prévues par la NSVAC 208] n'est pas conforme à toutes les exigences prévues par la NSVAC 208."

(16) Despite subsection (13), every three-wheeled vehicle shall, at the option of the

manufacturer, either conform to the requirements of S5 and S14 to S27 of TSD 208 or display the following statement on one or more labels, permanently affixed in view of the occupants of the front designated seating positions, in letters of not less than six points in height: "This vehicle does not conform to the requirements of the dynamic or static tests set out in CMVSS 208. / Ce véhicule n'est pas conforme aux exigences des essais dynamiques ou statiques prévues par la NSVAC 208."

(17) If a label referred to in subsection (15) or (16) is displayed in a vehicle, the English and French versions of the owner's manual shall include the statement contained on the label.

(18) The information contained on the label referred to in S4.5.1(a) of TSD 208 shall be in both official languages.

(19) Despite S4.5.4 of TSD 208, a passenger car, three-wheeled vehicle, multi-purpose passenger vehicle, truck and bus manufactured on or after September 1, 2012 may be equipped with a device that deactivates the air bag installed at the right front outboard designated seating position in the vehicle if all of the conditions in S4.5.4.1 to S4.5.4.4 of that TSD are satisfied.

(20) Despite S6.4(b) of TSD 208, the compression deflection of the sternum relative to the spine of the upper thorax of each anthropomorphic test device shall not exceed 55 mm.

(21) The information referred to in S4.5, S7.1.1.5 and S7.4.2 of TSD 208 shall be provided in the English and French versions of the owner's manual.

(22) S14 of TSD 208 applies to every passenger car, and to every truck, bus and multi-purpose passenger vehicle — other than a walk-in van — with a GVWR of 3 856 kg or less and an unloaded vehicle weight of 2 495 kg or less.

(23) Despite S15.3.4 of TSD 208, the compression deflection of the sternum relative to the spine of the upper thorax of each anthropomorphic test device shall not exceed 45 mm, when the vehicle is tested in accordance with S16.1(a)(2) or S18 of TSD 208.

(24) Subsections (13) to (23) expire on October 31, 2017.

Air Bag Warning Labels

(25) If a vehicle is equipped with an air bag at a front outboard designated seating position, the vehicle shall have a label or labels permanently affixed to the sun visor at that designated seating position or permanently affixed in a readily visible area adjacent to the sun visor stating, in letters of not less than six points in height, in both official languages, the following warnings:

(*a*) in the case of a right front outboard designated seating position with an air bag that can be deactivated by means of a manual cut-off switch,

(i) a warning not to install an infant restraint system or a rear-facing child restraint system in that designated seating position unless the air bag is deactivated, and

(ii) a warning about the safety of children around air bags; and

(*b*) in all other cases, a warning about the safety of children around air bags.

Transitional Provision

(26) Until September 1, 2015, trucks, buses, enclosed motorcycles, multi-purpose passenger vehicles, passenger cars and three-wheeled vehicles may conform to the requirements of this section as it read on the day before the day on which this subsection came into force.

7. Section 212 of Schedule IV to the Regulations is replaced by the following:

212. (1) Every passenger car, other than a forward control configuration vehicle or an open-body type vehicle with a fold-down or removable windshield, shall conform to the requirements of *Technical Standards Document No. 212, Windshield Mounting* (TSD 212), as amended from time to time.

(2) Every truck, bus and multi-purpose passenger vehicle with a GVWR of 4 536 kg or less, other than a walk-in van, a forward control configuration vehicle or an open-body type vehicle with a fold-down or removable windshield, shall conform to the requirements of TSD 212, as amended from time to time.

(3) This section expires on October 31, 2017.

8. Section 219 of Schedule IV to the Regulations is replaced by the following:

219. (1) Every passenger car, other than a forward control configuration vehicle or an open-body type vehicle with a fold-down or removable windshield, shall conform to the requirements of *Technical Standards Document No. 219, Windshield Zone Intrusion* (TSD 219), as amended from time to time.

(2) Every truck, bus and multi-purpose passenger vehicle with a GVWR of 4 536 kg or less, other than a walk-in van, a forward control configuration vehicle or an open-body type vehicle with a fold-down or removable windshield, shall conform to the requirements of TSD 219, as amended from time to time.

(3) This section expires on October 31, 2017.

COMING INTO FORCE

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

REGULATORY IMPACT ANALYSIS STATEMENT

(*This statement is not part of the Regulations*.)

Issue and objectives

The objective of this amendment is to enhance vehicle safety and align Canadian regulatory requirements concerning occupant protection more closely with those of the United States.

Section 208 of Schedule IV of the *Motor Vehicle Safety Regulations*, hereafter referred to as Canadian safety standard 208, *Occupant Protection in Frontal Impacts*, has been updated to improve safety and align more closely with the corresponding safety standard in the United States. In addition, the exceptions for disabled persons in Canadian safety standard 208 have been updated to account for various types of disabilities. Canadian safety standards 203, 204, 212 and 219 have also been updated to more closely align with the U.S. standards. Finally, the provisions regarding the owner's manual itself have been clarified.

Canada's policy to pursue harmonized motor vehicle regulations has reduced trade barriers within North America. It assists the Government in achieving the mutual goals of the three North American Free Trade Agreement (NAFTA) nations, which include encouraging compatibility of regulations and eliminating redundant testing. On February 4, 2011, the President of the United

States and the Prime Minister of Canada directed the creation of a joint United States–Canada Regulatory Cooperation Council, which commits both countries to finding ways to reduce and prevent regulatory barriers to cross-border trade. Canadian safety standard 208, *Occupant Protection in Frontal Impacts*, has been identified as a high priority file by the automotive industry under this Canada–U.S. Regulatory Cooperation Council.

Description and rationale

Canadian safety standard 208, *Occupant Restraint Systems in Frontal Impact*

On May 12, 2000, the U.S. Department of Transportation published a final rule (see footnote 2) that made several fundamental changes to its occupant protection requirements. The intent of the final rule was to improve frontal impact protection for both belted and unbelted motorists, as well as to reduce the risk of air bag-induced injury to small women, older occupants, children and those who are out of position at the moment of deployment. The final rule included the introduction of additional dynamic tests using a female crash test dummy, neck injury criteria, improved head protection, lower chest deflection limits and a series of out-of-position static tests.

In order to improve safety and maintain regulatory alignment with the United States, Canadian safety standard 208 has been updated and incorporates by reference a partial reproduction of the United States Federal Motor Vehicle Safety Standard No. 208 by way of *Technical Standards Document No. 208*. This amendment includes the following updates:

- Adopting combined lap and shoulder seat belts at the inboard rear position of vehicles under 4 536 kg gross vehicle weight rating (GVWR);
- Modifying the 50th percentile male rigid barrier crash by
- increasing the test speed from 48 km/h to 56 km/h,
- adopting neck injury criteria, and
- eliminating the head acceleration requirement;
- Adopting the 5th percentile female rigid barrier and offset deformable barrier requirements and test procedures; and
- Adopting the out-of-position driver and passenger requirements and test procedures.

While most of the Canadian safety standard 208 is now aligned with the U.S. standard, areas that remain unique to Canada include

- no requirement for unbelted crash testing;
- no chest acceleration requirement; and
- unique barrier chest deflection limits for all vehicles up to 3 856 kg GVWR:
- 55 mm for the 50th percentile male (63 mm in the United States), and
- 45 mm for the 5th percentile female (52 mm in the United States).

These changes are further described below.

Seat belts

This amendment replaces the preceding text in the seat belt provisions of Canadian safety standard 208 with new regulatory text so that seat belt requirements are more clearly presented. In addition, other changes, which are summarized below, are necessary to improve safety and align regulatory requirements with those of the United States.

The previous Canadian safety standard 208 required that a Type 2 seat belt (combined lap and shoulder belt) be installed in all forward-facing front and rear outboard seating positions and allowed a Type 1 seat belt (lap belt only) to be installed at the inboard (centre) rear positions in vehicles with a GVWR under 4 536 kg. In 1999, the National Highway Traffic Safety Administration in the United States published a report (see footnote 3) that reviewed the fatality risk of rear seat

occupants. The report concluded that a Type 2 seat belt significantly improved protection of rear seat occupants over the use of a Type 1 seat belt. Seat belts in modern vehicles are also designed to protect a wide range of occupants but are not optimized to fit small children. Child booster seats are designed for use with Type 2 seat belts. To enhance safety and to ensure that booster seats can be properly used in all rear seating positions, this amendment aligns Canada with the United States and requires all passenger cars, multi-purpose passenger vehicles and trucks with a GVWR of 4 536 kg or less to be fitted with Type 2 seat belts at all rear forward or rearward facing designated seating positions.

In addition, walk-in vans with a GVWR of 4 536 kg or less previously had the option of installing a Type 1 or a Type 2 seat belt in the driver's position. Transport Canada has consulted the association which represents the truck manufacturers and they verified that all new walk-in vans of this size are built with Type 2 seat belts. This amendment eliminates the Type 1 seat belt option in the driver's position for walk-in vans with a GVWR under 4 536 kg.

In most instances, Canadian safety standard 208 requires non-detachable seat belts; however, consumer demand for improved cargo capacity by the use of foldable seats has resulted in the need for detachable seat belts. These detachable seat belts, which offer convenience while maintaining safety, come in two configurations. The first configuration allows the shoulder belt to be detached while the lap belt remains operational. The second configuration requires the seat belt to detach at an anchorage point and renders the seat belt inoperable. This amendment allows a detachable seat belt in a rear seating position in several seat designs including the interior position of a folding seat, at a removable seat, and at a seat adjacent to an aisle way. All these situations allow for a seat belt that is detachable at an anchorage point. Only in instances where a seat can be adjusted to face multiple directions (swivel seat) is a detachable shoulder belt permitted.

Collision testing

Vehicles offered for sale in Canada have been tested in 48 km/h collisions with rigid barriers which assessed injuries to occupants using crash test dummies that represented the height and weight of a 50th percentile adult male occupant. This amendment modifies the crash test requirements using the 50th percentile adult male crash test dummies, and adopts collision tests using 5th percentile adult female crash test dummies.

50th percentile adult male barrier testing

The United States' final rule published in 2000 increased the test speed of the full frontal rigid barrier tests from 48 km/h to 56 km/h. This change resulted in a different test speed between the Canadian and U.S. regulations. The automobile industry requested that Transport Canada increase the regulatory test speed to match the U.S. requirement as they desire to test vehicles destined for sale in Canada and the United States at one common test speed. This amendment aligns Canada with the United States by adopting the full frontal rigid barrier test speed of 56 km/h.

The previous Canadian standard had a 50 mm requirement for chest deflection applied to vehicles with a GVWR of 2 722 kg or less. For vehicles with a GVWR between 2 722 kg and 3 856 kg, the previous Canadian standard was 60 mm. The U.S. standard for chest deflection in rigid barrier testing is 63 mm for all vehicles having a GVWR of 3 856 kg or less. Transport Canada has considered harmonizing the 50th percentile male chest deflection requirements with those of the United States; however, there could be a resulting negative safety consequence as vehicles with less chest protection could be sold in Canada. Considering the speed change from 48 km/h to 56 km/h, this amendment modifies the allowable chest deflection for the 50th percentile adult male to 55 mm for all vehicles with a GVWR of 3 856 kg or less.

Research (see footnote 4) and accident investigations have shown that air bags in conjunction with seat belts provide improved protection to occupants compared to seat belts alone. When Canadian safety standard 208 was last amended in 1998, not all vehicles had frontal air bags

installed in the driver and passenger position. As a result, the regulations included the option of head injury requirements for vehicles with air bags or a head acceleration requirement for vehicles without airbags. Today, all new vehicles are equipped with frontal air bags, and thus this amendment eliminates the option of satisfying the frontal crash protection requirements by meeting a head acceleration requirement.

In the United States' final rule, the most significant change to the injury evaluation criteria was the introduction of the neck injury formula known as "Nij," which consists of a set of seven interrelated components that evaluate tension, compression, flexion and extension of the neck. This measure monitors the combined loading of the neck by the inflating air bag. This amendment adopts the same neck injury formula and related components as those of the United States.

5th percentile female barrier testing

In Canada, only the 50th percentile adult male crash test dummy was used in the driver and front passenger positions in full frontal rigid barrier tests. A 5th percentile adult female crash test dummy represents smaller adults and older adults who have a lower injury tolerance. This amendment aligns Canada with the United States and requires additional crash tests with the 5th percentile adult female dummy in the driver and front passenger position for the full frontal rigid barrier tests.

In an offset frontal collision involving two vehicles, only a portion of the involved vehicles' front structure is engaged. Due to the crushing of the two vehicle structures, the actual collision event has a different time history than a full frontal rigid barrier event. Air bags must be designed to perform in both types of collisions. This amendment aligns Canada with the United States and adopts the same dynamic test requirement in an offset deformable barrier test using a 5th percentile adult female crash test dummy in the driver and front passenger position.

The 5th percentile adult female dummy, from previous research, has a scaled factor of 0.817 (see footnote 5) from the 50th percentile adult male dummy to calculate the appropriate chest deflection limit. Using this scaling factor, a 45 mm chest deflection limit for the 5th percentile adult female dummy barrier tests is adopted, rather than the 52 mm limit used in the United States.

Chest deflection limits

In 2010, Transport Canada reviewed the chest deflection limits for the full frontal rigid barrier tests in this amendment. It was concluded that the combination of 55 mm limit for the 50th percentile adult male and 45 mm limit for the 5th percentile adult female would produce a slight improvement in chest protection as compared to the previous Canadian regulation.

The U.S. government has a New Car Assessment Program (NCAP) which crash tests vehicles for consumer rating purposes. Part of this program includes crash testing cars at 56 km/h into a rigid barrier and uses the same test procedures that are found in this amendment. Up to the 2010 model year, vehicles were tested with a 50th percentile adult male crash test dummy in the driver and front passenger position. As of the 2011 model year, vehicles are tested with a 50th percentile adult male in the driver position and a 5th percentile adult female crash test dummy in the front passenger position.

While there may be some regulatory and vehicle option differences between Canada and the United States, vehicles that are sold both in Canada and the United States would usually have similar, if not the same, frontal crash protection systems. Under this assumption, vehicle models sold in Canada if tested under the NCAP would likely achieve very similar results for chest deflection limits in a frontal crash test. A review of the NCAP data from the 2007 model year forward, completed as of March 1, 2011, reveals the following:

Vehicle Model Year	Number of Vehicles Tested	Driver			Passenger		
		Dummy	Maximum Chest Deflection in mm	Average Chest Deflection in mm	Dummy	Maximum Chest Deflection in mm	Average Chest Deflection in mm
2007–2010	130	50th male	39.4	27.9	50th male	44.2	26.2
2011	51	50th male	37.2	24.2	5th female	29.1	16.9

This data suggests that the regulatory chest deflection limits of 55 mm for the 50th percentile adult male and 45 mm for the 5th percentile adult female were achievable for many vehicles already being sold. Transport Canada is currently unaware of any vehicle that would not meet the new chest deflection limits.

Out-of-position occupants

Transport Canada recommends that occupants be seated as far away from air bags as possible. However, it is necessary to ensure air bags are not overly aggressive when they initially deploy for rare instances where an occupant may be out of the recommended seated position. To reduce the risk of injury or death to occupants, this amendment aligns Canada with the United States and adopts all air bag test methods and injury criteria for out-of-position occupants.

The out-of-position requirements consider 5th percentile female, infant, three-year-old and six-year-old crash test dummies in the front outboard passenger position. Requirements for the 5th percentile female crash test dummy also apply to the driver's position to reduce the risk of injury to a smaller driver who is seated too close to the steering wheel. Although Transport Canada does not recommend that children sit in the front seat of vehicles, this amendment adopts the out-of-position child requirements of the United States to provide protection to any occupant in the front passenger seat of a vehicle who is out of position at the time of collision.

Persons with disabilities

The previous Canadian safety standard 208 had crash test exceptions for vehicles manufactured for operation by persons with disabilities. These exceptions were too restrictive, as they accounted only for drivers who used wheelchairs, and did not account for other disabilities. This amendment repeals the definition of "vehicle manufactured for operation by persons with disabilities" and creates a new definition for "disabled persons" in section 2 of the *Motor Vehicle Safety Regulations*.

The amendment allows for a front driver or front passenger position that is intended for a disabled person to be exempted from the crash test requirements of Canadian safety standard 208, as long as the vehicle clearly displays a specified label stating that the position does not conform to the crash test requirements. The amendment also provides more flexibility in the types of seat belts, such as detachable or automatic seat belts, which could be installed for those positions.

Section 18 — Owner's manual

Paragraph 5(1)(*f*) of the *Motor Vehicle Safety Act* authorizes regulations that require the dissemination, in the prescribed form and manner, of specified information relating to the operation of vehicles. The addition of section 18 to the *Motor Vehicle Safety Regulations* is intended to clarify that the form and manner of providing, to the first retail purchasers, information relating to the operation of the vehicle is by way of an owner's manual in written, optical or electronic form and that the provision of such information in an owner's manual for each

vehicle is a regulatory requirement. In particular, section 18 requires that

- every vehicle must be provided with an owner's manual that contains the specified information relating to the operation of the vehicle;
- the owner's manual must be available in English and French; and
- if the owner's manual is not provided in paper copy, then the owner's manual shall be capable of being used in the vehicle occupant compartment with a device that is installed in, or accompanies the vehicle.

Related Canadian safety standards: 203, *Driver Impact Protection and Steering Control System*;204, *Steering Column Rearward Displacement*; 212, *Windshield Mounting*; 219, *Windshield Zone Intrusion*

Canadian safety standard 203 required a reference update due to the amendments to Canadian safety standard 208.

Canadian safety standard 204, *Steering Column Rearward Displacement*, states that in the prescribed frontal crash test, the steering column cannot displace more than 127 mm rearward. This test was developed prior to the introduction of the frontal crash test in Canadian safety standard 208. Transport Canada has reviewed the 204 regulatory requirements and is of the opinion that a vehicle cannot meet the crash test requirements of Canadian safety standard 208 if the steering column displaces more than 127 mm. To reduce the testing burden of manufacturers, the amendment exempts vehicles from meeting Canadian safety standard 204 if the dynamic requirements of Canadian safety standard 208 are met.

The previous versions of Canadian safety standards 204, *Steering Column Rearward Displacement*; 212, *Windshield Mounting*; and 219, *Windshield Zone Intrusion*, introduced common test requirements that referenced Test Method 208 to allow for verification of multiple regulations at one time, thus reducing the testing burden on manufacturers. After the amendments were in place, the Canadian Vehicle Manufacturers' Association raised concerns. The Association noted that standards 204, 212 and 219 do not require the use of instrumented anthropomorphic test devices; however, each standard references the loading procedures of Test Method 208, which requires the use of instrumented anthropomorphic test devices. To remedy this discrepancy, the amendment removes the reference to Test Method 208 in Canadian safety standards 204, 212 and 219 and aligns Canada with the United States by introducing technical standards documents for each of these safety standards.

Consultation

The proposal for this amendment was published in the *Canada Gazette*, Part I, on February 11, 2012, followed by a 75-day comment period. Following the Part I publication, two letters with comments were received from stakeholders.

The Canadian Vehicle Manufacturers' Association (CVMA) commented requesting clarification with respect to the documents or media that could be used to meet the owner's manual requirements of the new section 18. The requirement of this new section states that regulated information must be included in the owner's manual; however, section 18 does not require the document or media to be entitled "owner's manual." Therefore, any document or media that meets the requirements of section 18 would be considered an owner's manual, regardless of the title used by the manufacturer. As an example, a manufacturer would be permitted to install an owner's manual in the vehicle explaining the operation and functioning of the vehicle and then provide a supplemental information document with the mandated requirements of section 18. After further consultation, the industry has agreed that section 18 does not require any additional modifications to the proposal.

The CVMA commented that the seat belt requirements of Canadian safety standard 208 would

not be in harmony with the United States for the types of retractors allowable in vehicles over 4 536 kg GVWR. After a review of this issue, the proposed regulations have been modified to accommodate the CVMA proposal.

A concern was also raised by the CVMA regarding the option allowed in the proposed Regulations for vehicles to be fitted with a manual air bag deactivation switch for the front passenger seat. This option is allowed for vehicles having only one row of seats, such as a truck or sports car with no rear seating positions, or vehicles with very small rear seats. While this was permitted previously in Canada and the United States, the U.S. regulation will not allow this option after September 1, 2012. The CVMA was concerned that this difference could prevent a vehicle purchased in Canada with this option from being exported to the United States at a later date. This option existed in the previous Regulations, and provides flexibility to manufacturers in those cases where a user may want to place a child restraint in a vehicle having small or no rear seating positions. Transport Canada is not aware of any concerns with this option for Canadian vehicles currently in operation; thus no changes have been made to this amendment.

Finally, the CVMA noted some minor concerns with the proposed *Technical Standards Document No. 208*. These concerns have been addressed in the final published version of the *Technical Standards Document No. 208*.

The Association of International Automobile Manufacturers of Canada (AIAMC) requested that the proposed effective date of September 1, 2014, for Canadian safety standard 208 be modified to September 1, 2016. Transport Canada reviewed this request and decided to provide some additional time for manufacturers to prepare for the introduction, and thus the effective date for Canadian safety standard 208 has been modified to September 1, 2015.

Finally, the AIAMC noted that the driver's side air bag warning label for the sun visor was inadvertently omitted from the proposed Regulations. This omission has been corrected, and ensures that the necessary air bag warnings are visible to the driver.

McMillan LLP commented that the proposed regulations would now require three-wheeled vehicles to comply with Canadian safety standards 212 and 219 even though the existing Regulations exempt three-wheeled vehicles from these standards. This modification was due to a misunderstanding. As a result, a modification was made to the proposed Regulations to continue allowing three-wheeled vehicles to be exempt from the requirements of Canadian safety standards 212 and 219.

Implementation, enforcement and service standards

Motor vehicle manufacturers and importers are responsible for ensuring that their products conform to therequirements of the *Motor Vehicle Safety Regulations*. Transport Canada monitors self-certification programs of manufacturers and importers by reviewing their test documentation, inspecting vehicles and testing vehicles obtained in the open market. In addition, when a defect in a vehicle or equipment is identified, the manufacturer or importer must issue a Notice of Defect to the owners and to the Minister of Transport. Any person or company who contravenes a provision of the *Motor Vehicle Safety Act* is guilty of an offence, and liable to the applicable penalty set out in the Act.

All the amendments come into effect upon publication in the *Canada Gazette*, Part II. However, until September 1, 2015, motor vehicle manufacturers are allowed to comply with either the new requirements for Canadian safety standard 208 (pertaining to *Occupant Protection in Frontal Impacts*) or the previous requirements of that standard.

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Footnote a
S.C. 1993, c. 16

Footnote b
S.C. 1999, c. 33, s. 351

Footnote c
S.C. 1993, c. 16

Footnote 1
C.R.C., c. 1038

Footnote 2
United States Federal Register: Rules and Regulations; *Federal Motor Vehicle Safety Standards; Occupant Crash Protection*, Vol. 65, No. 93, May 12, 2000; p. 30680 (final rule).

Footnote 3
"Effectiveness of Lap/Shoulder Belts in the Back Outboard Seating Positions," DOT HS 808 945, NHTSA Technical Report, June 1999.

Footnote 4
Road Safety and Motor Vehicle Regulation Directorate, *Evaluation of the Effectiveness of Air Bags and Seat Belts*, Transport Canada, 2001, TP13187.

Footnote 5
Mertz, H. J., Prasad, P., and Irwin, A. L. (2003), Biomechanical and Scaling Bases for Frontal and Side Impact Injury Assessment Reference Values Proc., 47th Stapp Car Crash Conference, pp. 155–188. Society of Automotive Engineers, Warrendale, PA.

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