

Harmonization of vehicle load and size limits

Agreement in principle between Québec and Ontario



1. INTRODUCTION

On August 30, 2000, in Montréal, the Ontario and Québec ministers of transport announced that they had concluded an agreement in principle aimed at harmonizing load and size limits for heavy vehicles from both provinces. The agreement is scheduled to come into force on January 1, 2001 but must obtain the prior approval of both governments.

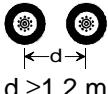
This agreement is in keeping with various measures designed to harmonize vehicle load and size limits, such as the Agreement on Internal Trade and the memorandum of understanding concerning a federal-provincial-territorial agreement on vehicle load and size limits. In the case of Québec, this agreement is also part of a comprehensive strategy, dating back to 1991, aimed at promoting the use of high-performance vehicles from the standpoints of road safety, economy and road infrastructure preservation. This agreement will simplify standards for heavy vehicle owners and operators, and also shippers, thereby facilitating vehicle fleet management in both Ontario and Québec, increasing competitiveness, and facilitating compliance with standards. The Ontario and Québec governments will benefit from having vehicles that are less damaging to the road network, easier to monitor and as safe as or safer than the heavy vehicles currently in use.

Requiring suspensions that enable the weight of a load to be equalized among the axles of a same group, requiring on-board load indicators to establish the load supported by certain groups of axles, eliminating auxiliary lift axles in three-axle groups and replacing them with self-steering axles in four-axle groups are concrete measures that will better preserve road infrastructures. More stringent standards for rear bumpers and the setting up of a program to evaluate the use of on-board monitoring systems, commonly called black boxes, will increase road user safety. From an economic standpoint, the elimination of certain incompatibilities and differences in load limits in Québec and Ontario will make Québec export industries and carriers whose vehicles use Québec and Ontario roads more competitive.

This agreement covers load limits for tandem axles, triple axles and four-axle groups. With regard to other standards, heavy vehicles and combination vehicles must comply with the legislation in force in each respective administration. The main vehicles covered in this agreement are truck tractors and semi-trailer combinations with five, six or seven axles. The main elements in the agreement are mentioned below.

2. TANDEM AXLES

The load limit for tandem axles under the agreement is 18 000 kg for axles spaced 1.2 metres or more apart.

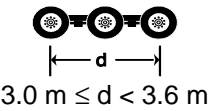
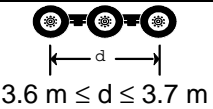
A tandem axle		18 000 kg
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In Québec, this provision does not require any changes in the current standards. In Ontario, the load limit for tandem axles that are 1.2 to 1.6 metres apart will be increased to 18 000 kg. Ontario will maintain higher load limits for tandem axles that are 1.6 metres apart or more. In Ontario, the 18 000 kg weight limit will only apply to tandem axles of truck tractors and of semi-trailers with two axles that are part of a combination of vehicles composed of a truck tractor and

one semi-trailer. The provision will not apply to trucks, semi-trailers of double road trains, semi-trailers with more than two axles or trailers.

3. TRIPLE AXLES

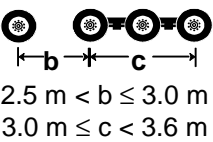
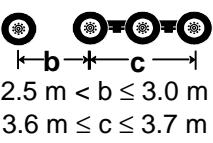
The triple axle load limits under the agreement are 24 000 kg for triple axles with an axle spread of 3.05 metres and 26 000 kg for triple axles with an axle spread of 3.66 metres. These load limits only come into effect on January 1, 2006.

A triple axle		24 000 kg
A triple axle		26 000 kg

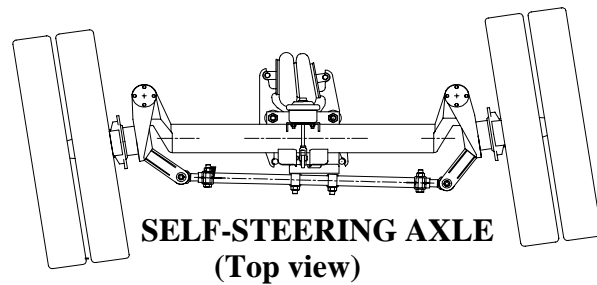
In Québec, this provision does not require that any changes be made to the standards currently in force. In Ontario, the load limit of triple axles with an axle spread of 3.05 metres will be increased to 24 000 kg as of January 1, 2006 and the load limit of triple axles with an axle spread of 3.66 metres will be increased to 25 500 kg as of January 1, 2001 and to 26 000 kg as of January 1, 2006. In Ontario, these load limits will only apply to the triple axles of semi-trailers with three axles that are part of a combination of vehicles composed of a truck tractor and one semi-trailer. They will not apply to trucks, semi-trailers of double road trains, semi-trailers with more than three axles or trailers.

4. FOUR-AXLE GROUPS

The load limit of a group of four axles composed of a self-steering axle in front of a triple axle will be 32 000 kg for groups with triple axles with an axle spread of 3.05 metres and 34 000 kg for groups with triple axles with an axle spread of 3.66 metres. The distance between the self-steering axle and the triple axle must be greater than 2.5 metres but not more than 3.0 metres.

A self-steering axle in front of a triple axle		32 000 kg
A self-steering axle in front of a triple axle		34 000 kg

A self-steering axle is an axle equipped at each end with a part that pivots around an axis, enabling the wheels to automatically take on the trajectory of the vehicle.



In Québec, a special permit must be issued in order to increase the load limit from 32 000 kg to 34 000 kg for four-axle groups with triple axles with an axle spread of 3.66 metres. The total loaded mass limit will in the latter case be increased to 57 500 kg. In Ontario, the standards must be amended to include this new class of axles.

Four-axle groups including a self-steering axle must meet the following requirements:

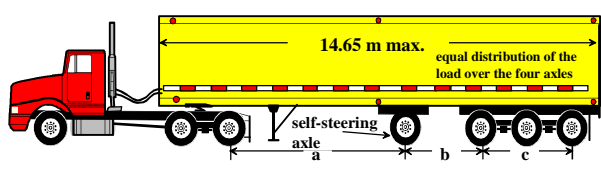
- The suspension of the semi-trailer must permit equalization to within 1000 kg, without possible adjustment, of the mass under the wheels of each of the four axles;
- There must be a mechanism that can measure the load borne by the group of axles of the semi-trailer;
- The self-steering axle must be between 2.5 and 3 metres in front of the triple axle and at least 6 metres from the tandem axle of the tractor in the case of a triple axle with an axle spread of 3.05 metres apart and at least 5.5 metres in the case of a triple axle with an axle spread of 3.66 metres;
- The wheels of the self-steering axle must be able to turn around a vertical pivot pin at least 20 degrees on each side of the longitudinal axis of the semi-trailer (A study is currently under way to determine whether self-steering axles with tilted pivot pins are acceptable.);
- Self-steering axles must be lowered when the load limits of the other axle groups on the combination of vehicles exceed the limits allowed;
- All control mechanisms used to lift and lower the self-steering axle must be installed on the semi-trailer or be entirely automatic;
- Self-steering axles may be equipped with single or paired wheels;
- The standard width of single tires on a self-steering axle is at least 365 mm for tires in front of a triple axle with an axle spread of 3.05 metres and less than 385 mm for tires in front of a triple axle with an axle spread of 3.66 metres.

It should be noted that the 1000 kg penalty and the 10 kg restriction per millimetre of width of tire provided for in the Québec regulations will not apply to self-steering axles equipped with single tires. However, a special permit is required.

The agreement provides specific standards for four-axle groups on semi-trailers, according to the year of manufacture, the type of suspension, the presence of self-steering axles and the length of the semi-trailer. Six cases are covered: the first three concern new semi-trailers, and the remaining three, existing semi-trailers. In certain cases, special permits are required (see section 5 below).

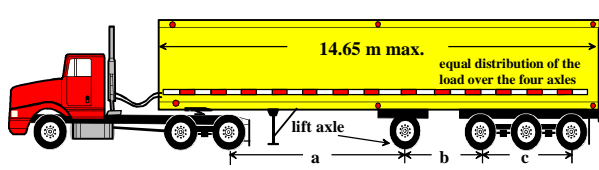
NEW SEMI-TRAILERS

Case 1 : The semi-trailer of the future

	$a \geq 6.0 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

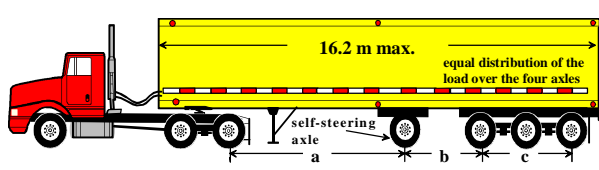
This is the case of a semi-trailer in a combination of vehicles with seven axles that will be mainly used for interprovincial trips between Québec and Ontario. This semi-trailer, of a maximum length of 14.65 metres, must be equipped with a self-steering axle; and the four axles must allow for the equalization, without possible adjustment, of the mass under the wheels of each axle.

Case 2: Interim semi-trailer (assembled between January 1, 2001 and December 31, 2002)

	$a \geq 6.0 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

This semi-trailer is similar to the one above, but has a conventional auxiliary lift axle instead of a self-steering axle. This provision concerns vehicles assembled before January 1, 2003. This semi-trailer cannot be used without a self-steering axle after December 31, 2010 in Ontario and after December 31, 2014 in Québec.

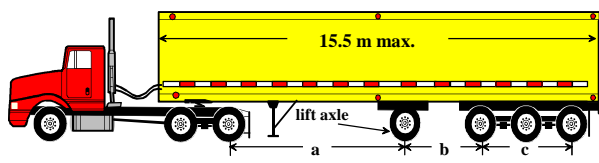
Case 3: Experimental semi-trailer (assembled as of June 1, 1999)

	$a \geq 6.0 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; 2.5 \text{ m} < b \leq 3.0 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

This semi-trailer is similar to the one in case 1, but is between 16.0 and 16.2 metres long. On a trial basis, this combination of vehicles is authorized to travel between Ontario and Québec under a special permit. Particular conditions apply in this case. The number of special permits is limited to 500 for each province, 200 of which are reserved for carriers of another administration. The number of permits per company will be limited to 10 a month. Permits cease to be valid when the semi-trailer is more than 10 years old.

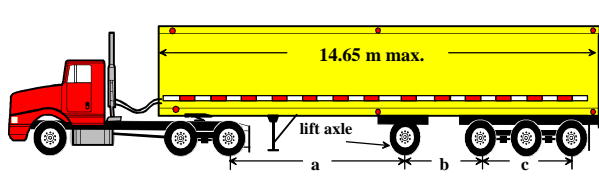
EXISTING SEMI-TRAILERS (assembled before January 1, 2001)

Case 4: Semi-trailer 15.5 m long

	$a \geq 6.0 \text{ m}; b \geq 2.4 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; b \geq 2.4 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

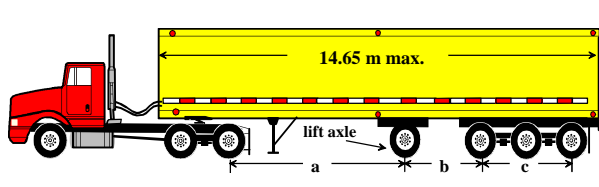
This case concerns semi-trailers between 15.0 and 15.5 metres long, which have been authorized to travel in Québec since 1982. Special permits (maximum 500) will be issued by Ontario. Permits will be distributed to companies who apply for them on a pro rata basis according to the number of applications filed. Permits cease to be valid when semi-trailers are over 10 years old.

Case 5: Existing semi-trailer complying with Québec standards

	$a \geq 6.0 \text{ m}; b \geq 2.4 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; b \geq 2.4 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

Québec and Ontario standards differ with respect to the position of the auxiliary lift axle in relation to the triple axle and to the distribution of weight between the auxiliary lift axle and the triple axle. Ontario will be issuing special permits to enable this Québec configuration to travel in Ontario. These permits can be renewed up until December 31, 2010.

Case 6: Existing semi-trailer complying with Ontario standards

	$a \geq 6.0 \text{ m}; b > 2.5 \text{ m}$ $3.0 \text{ m} \leq c < 3.6 \text{ m}$	32 000 kg
	$a \geq 5.5 \text{ m}; b > 2.5 \text{ m}$ $3.6 \text{ m} \leq c \leq 3.7 \text{ m}$	34 000 kg

This is the case of a semi-trailer in a combination of vehicles that complies with Ontario standards. Permits for such vehicle combinations can be renewed up until December 31, 2010. In order to travel in Québec, a suspension that evenly distributes the load between each axle will be required on semi-trailers assembled after November 1, 1998.

5. OPERATION OF THESE COMBINATIONS OF VEHICLES

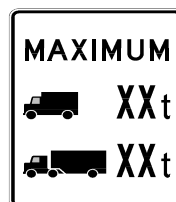
In certain cases, operating vehicle combinations that comply with the provisions of the agreement may not require a special permit from either the Ontario or the Québec government; in other cases a special permit is required.

IN QUÉBEC

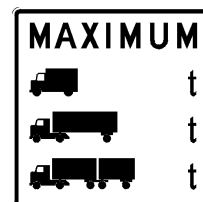
Most of the provisions of the agreement are already in the Québec *Vehicle Load and Size Limits Regulation*. However, a special permit is required to operate a combination of vehicles composed of a tractor and a semi-trailer with four axles that is between 16.0 et 16.2 metres long (case 3: experimental semi-tractor). Operating a semi-trailer not more than 15.5 metres long equipped with a self-steering axle with single tires in front of a triple axle requires a special permit to avoid the 1000 kg penalty provided for in the regulations. Permits are also required to operate a combination composed of a truck tractor and a semi-trailer with four axles whose load is over that established in the regulations, i.e. 32 000 kg, without exceeding 34 000 kg (cases 1 to 6). In the latter case, driving on bridges with load limit signs (P-195, P-200-1 and P-200-2) is prohibited, and the permit relating to loads is not valid during the thaw period.



P-195



P-200-1



P-200-2

Special permits increasing load limits for four-axle groups to 34 000 kg only come into force on January 1, 2001. In the other cases, special permits are available as of now. The ministère des Transports du Québec will soon be publishing the Info-camionnage newsletter for carriers wishing to obtain a special permit. Special permits allowing load increases will cost \$150 annually (in addition to usual administrative costs).

IN ONTARIO

Legislative and regulatory amendments will be required for standards respecting tandem axles, triple axles and four-axle groups corresponding to case 1. For the other cases (case 2 to 6), special permits are normally necessary.

6. SPECIAL REQUIREMENTS

Special requirements with regard to the safety and preservation of the road network have been provided for in certain cases.

An on-board load indicator is required in order to determine the load carried by the four axles of a semi-trailer in cases 1, 2 and 3. These semi-trailers must be equipped with bumpers that comply with the *United States Federal Motor Vehicle Safety Standards* in force on the date the semi-trailer was assembled. In addition, the distance between the centre of the triple axle and the far back end of the semi-trailer (load included) must not exceed 35% of the distance between the hitch pivot point and the centre of the triple axle. Semi-trailers between 15.0 and 15.5 metres long must have self-adjusting brake levers on each axle if assembled after October 19, 1994, with a rear underride device and reflecting bands.

In the case of vehicles travelling under a special permit granted under this agreement, administrative measures (audit, permit cancellation, etc.) may be taken when the holder of a special permit does not comply with the performance criteria established.

Québec and Ontario have agreed to implement a program aimed at evaluating the use of on-board monitoring systems, commonly called black boxes, that record driving time, vehicle speed and axle loads.