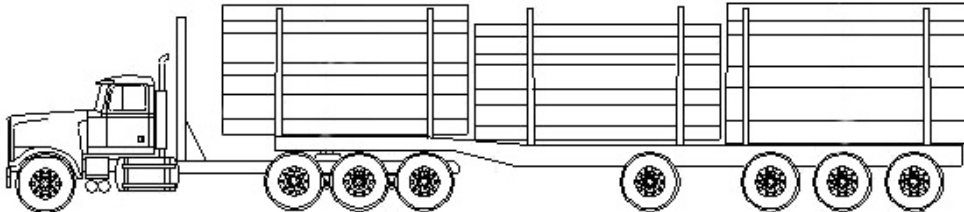


Tridem Drive Quad Axle Semi-Trailer Regulation Summary

Part 1 – Dimension Limits

A quad axle logging truck is composed of a single steer tridem drive tractor and a semi-trailer (hay rack) that has two axle groups; a single self-steer axle (in front) and a tridem axle group (in the rear).



DIMENSION LIMIT

Overall Length	Maximum 23.0 metres If operating without valid tridem drive equipment exemption permit. Maximum 23.5 metres If operating with valid tridem drive equipment exemption permit.
Overall Width	Maximum 2.6 metres
Overall Height	Maximum 4.15 metres
Box Length	Maximum 20.0 metres
Tractor	
Wheelbase	Maximum 6.2 metres If operating without valid tridem drive equipment exemption permit. Minimum 6.6 metres / Maximum 6.8 metres If operating with valid tridem drive equipment exemption permit.
Tridem Drive Axle Spread	Maximum 2.8 metres
Quad Axle Semi-Trailer	
Length	Maximum 16.2 metres
King Pin Setback	Maximum 2.0 metres
Wheelbase	Minimum 6.25 metres / Maximum 12.5 metres
Tridem Axle Spread	Minimum 3.0 metres / Maximum 3.1 metres
Track Width	Minimum 2.5 metres / Maximum 2.6 metres If operating without valid quad axle semi-trailer equipment exemption permit. Minimum 2.5 metres / Maximum 3.05 metres If operating with valid quad axle semi-trailer equipment exemption permit.
Effective Rear Overhang	35% of trailer wheelbase
Interaxle Spacings	
Single Steer to Tridem Drive Axle	Minimum 3.0 metres
Tridem Drive Axle to Single Self Steer Trailer Axle	Minimum 5.0 metres
Single Self Steer Axle to Tridem Trailer Axle	Minimum 2.9 metres / Maximum 3.0 metres

Definitions as per [Commercial Vehicle Dimension and Weight Regulation AR315/2002](#)

Effective rear overhang

The longitudinal distance from the turn centre of the rear axle group of a commercial vehicle to the rearmost point of:

- (i) the vehicle, or
- (ii) the load on the vehicle,

whichever is the greater distance

Kingpin setback

The longitudinal distance from the centre of the kingpin to the front of the semi-trailer or the load, whichever is further forward, excluding any auxiliary equipment attached to the front of the semi-trailer that is not designed for the transportation of goods.

Lift Axle

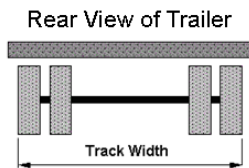
An axle of a vehicle that is constructed so that the operator of the vehicle may lift or otherwise remove the wheels located on that axle from contact with the highway without removing the wheel from the axle or the axle from the vehicle

Quantum Axle Group

An axle group other than a single, tandem or tridem axle or axle group.

Track Width

The overall width of an axle measured from the outside of the outside tire located on one side of the vehicle to the outside of the outside tire located on that axle on the other side of the vehicle at any point above the lowest point of the rim



Trailer Wheelbase

The longitudinal distance from the centre of the kingpin on a semi-trailer, the centre of the turntable on a full trailer or the centre of the hitch device on a pony trailer, to the trailer turn centre.

Tridem axle group

An axle group, on a trailer, consisting of any 3 consecutive axles of a vehicle where the axles are evenly spaced over a distance of not less than 2.4 metres and not greater than 3.7 metres.

Tridem drive axle group

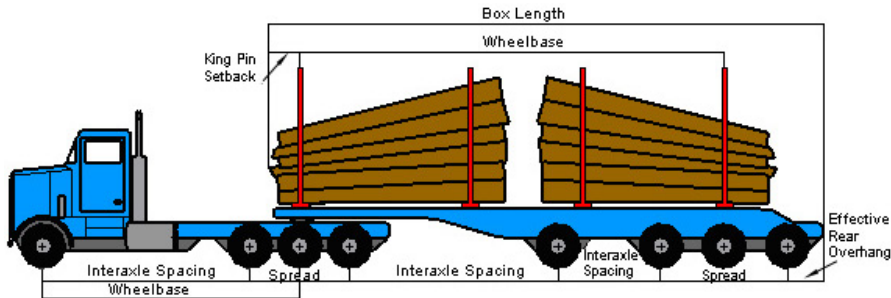
A driving axle group or axle group, on a truck or truck tractor, consisting of 3 driving axles:

- (i) equally spaced
- (ii) with a track width of between 2.5 metres and 2.6 metres,
- (iii) on a common suspension designed to equalize the weight between the axles,
- (iv) with a minimum of 12 tires, and,
- (v) with all tires of the same size and a minimum width of 255 millimetres, as determined by the manufacturer's width shown on the tire, but does not include a lift axle or a self steering axle

Truck Tractor Wheelbase

The longitudinal distance from the centre of the steering axle or twin steer axle group located on a truck tractor to the turn centre

Part 2 – Weight Limits



WEIGHT LIMITS

Steering Axle (minimum tire size 305 mm)	Maximum 7300 kg Steering axle must have a minimum weight of 27% of the drive axle weight at all times
Tridem Drive Axle – Dual tires (minimum tire size 255 mm)	Maximum 17,000 kg if operating without valid tridem drive permit Maximum 23,000 kg if operating with valid tridem drive permit
Quad Axle Semi-Trailer Axles	
Single Self Steer Axle	Maximum 9,100 kg if operating with valid quad axle exemption permit.
Single Self Steer Axle and Tridem Axle Group	Maximum 17,000 kg for the single steer axle and the three axles at the rear of the trailer if operating without valid quad axle semi-trailer equipment exemption permit.
Tridem - Dual tires with axle spread from 3.0 m to 3.1 metres	Maximum 24,000 kg if operating with a valid quad axle exemption permit.
Gross Vehicle Weight Limits	Maximum 63,400 kg subject to minimum interaxle spacing Carrier must have a valid tridem drive permit and valid quad axle equipment exemption permit.

A vehicle equipped with a lift axle does not qualify for additional weight. Maximum regulated weight on the single axle and tridem semi-trailer (quantum axle) is 17,000 kg. Maximum Gross Vehicle Weight (GVW) is 39,500 kg. A semi-trailer as defined in Commercial Vehicle Dimension and Weight Regulation 'AR 315/2002' cannot have more than one axle group, Section 4(c)(vii).

A quad axle semi-trailer would be considered a quantum axle group.

Maximum weight without a permit for a quantum axle is:

- (i) 9,100 kilograms for a quantum axle group consisting of 2 axles;
- (ii) 17,000 kilograms for a quantum axle group consisting of 3 or more axles with 12 or more tires;
- (iii) 15,000 kilograms for a quantum axle group consisting of 3 or more axles with fewer than 12 tires;

An annual equipment exemption permit is available to qualifying carriers which allows a quad axle semi-trailer to maximize axle weights and operate at a GVW of 63,400 kg. This permit regulates the use of two axle groups on a semi-trailer and provides dimensions and weights equivalent to regulated.

Prior to issuance of these permits, a carrier must undergo a safety review and be approved by Alberta Transportation and Economic Corridors. Contact the Central Permit Office at 1-800-662-7138 or central.permits@gov.ab.ca for further information.

The application form is available at [Permit Application Form for the Operation of Quad Axle Semi-Trailer OR 9/10 Axle B-Train \(alberta.ca\)](#)

A copy of the attached permit conditions to allow the operation of these vehicles at weights exceeding 63,500 kg is available at the following link: [Tridem Drive Quad Axle Semi-Trailer – Winter Weight \(alberta.ca\)](#)

A copy of the attached conditions for this annual exemption permit is available for viewing at [Quad Axle Equipment Exemption Permit Conditions | Alberta.ca](#)

Note: All axle weights are subject to minimum tire size. (Chart below)

Maximum steering axle weight as per [Commercial Dimension and Weight Regulation AR 315/2002](#)

9(1) Subject to section 62 of the Act and section 12(1) of this Regulation, no person shall operate a commercial vehicle on a highway when

- (a) the gross weight on a tire exceeds the smallest of the following:
 - (i) 3,650 kilograms;
 - (ii) the capacity determined by multiplying the cross section dimension of the tire in millimetres, as determined by the manufacturer’s width shown on the tire, by 10 kilograms;
- (b) the gross weight on
 - (i) a steering axle exceeds
 - (A) in the case of a truck tractor, 5,500 kilograms;
 - (B) in the case of a truck, bus, picker truck, bed, truck or winch truck, 7,300 kilograms.

STEERING AXLE TIRE WEIGHT CHART FOR TRUCKS

ALLOWABLE STEERING AXLE WEIGHTS		ALLOWABLE STEERING AXLE WEIGHTS		PICKER STEERING WEIGHTS WITH ANNUAL PERMIT		
Tire Size	Single Steer	Tire Size	Single Steer	Tire Size	Tire Size	Single Steer
(inches)	Maximum Weight (kg)	(mm)	Maximum Weight (kg)	(inches)	(mm)	Maximum Weight (kg)
210	5, 100	285	5, 700			
211	5, 600	305	6, 100			
212	6, 100	315	6, 300			
213	6, 600	335	6, 700			
214	7, 100	365	7, 300			
215	7, 300	385	7, 300	215	385	7,700
216	7, 300	425	7, 300	216	425	8,500
218	7, 300	445	7, 300	218	445	9,100

