

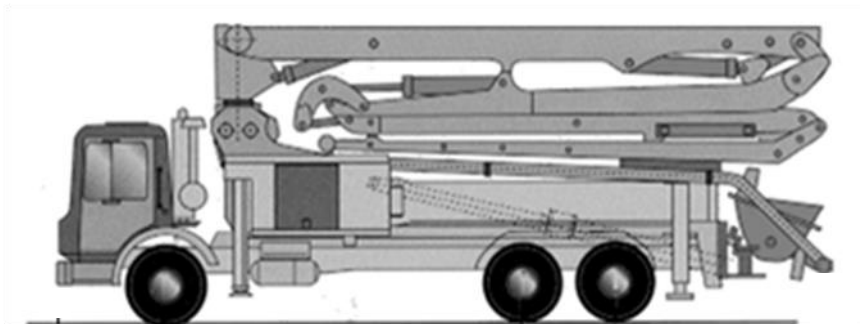
PERMIT POLICY MANUAL

SUBJECT: Concrete Pump Trucks

POLICY NUMBER: 4.21.4

Intent: A permit is required when a concrete pump truck exceeds the legal dimension and weight limits as prescribed in the *Vehicle Weights and Dimensions on Classes of Highway Regulation 155/2018*.

A concrete pump truck can be described as a vehicle with a mounted boom and pump for the delivery of concrete to its final destination from an unloading zone. These are specialized units similar to mobile cranes, and may include a reduced interaxle spacing and a provision for increased axle weights.



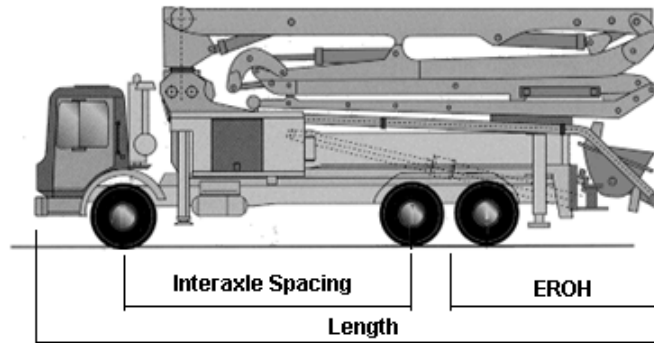
General Information:

- The vehicle cannot carry any payload. Only essential fluids such as fuel, lubricants, hydraulic oil and clean water for washing the equipment may be transported.
- Cannot tow any trailer.
- Lift, pusher and/or tag axles are not permitted.
- Tridem steer axle and carrier style pump trucks are reviewed and permitted on a case by case basis. All requests should include a detailed schematic of the unit.
- Specification sheets and/or provincially scaled weights may be requested prior to a permit being issued.
- Where equipment specifications are not explicitly addressed in this policy, it is deemed that the equipment must meet applicable federal or provincial safety standards.
- Drive axles equipped with wide-base single tires are not eligible for overweight allowances. Must be legal weight requirements as prescribed in Regulation.
- Weights and dimensions which are not specifically identified in this policy must comply with the applicable provincial Acts and Regulations.

Dimensions:

Unless otherwise noted, all dimensions must be in accordance to the *Vehicle Weights and Dimensions on Classes of Highway Regulation 155/2018*.

Single Steer – Tandem Drive



DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	Maximum 12.5 m	14.0 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Box Length	Not Controlled	Not Controlled
Tandem Axle Spread	Min. 1.0 m/ Max 1.85 m	Min. 1.0 m/Max. 1.85 m
Effective Rear Overhang	Maximum 4.0 m	4.0 m
Interaxle Spacing	Minimum 3.0 m	Minimum 3.0 m

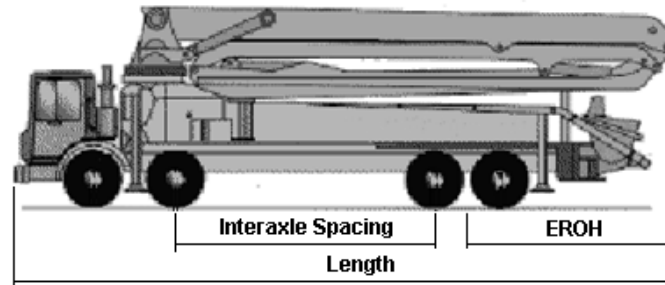
Weight:

WEIGHT LIMIT (kg)				
Axle	RTAC Route	Class A1 Highway	Class B1 Highway	Maximum Weight by Permit
Single Steering Axle	7,300	7,300	7,300	9,100
Tandem Drive Axle	17,000	16,000	14,500	24,000
Gross Vehicle Weight Limits	24,300	23,300	21,800	33,100

Axle Weight:

- The gross weight on the single steering axle shall not exceed the lesser of:
 - 10 kg per mm width of the tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 9,100 kg ;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.
- The gross weight on the tandem drive axle (8 wheels) shall not exceed the lesser of:
 - 9 kg per mm width of tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 24,000 kg;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

Tandem Steer – Tandem Drive



DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	Maximum 12.5 m	15.0 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Box Length	Not Controlled	Not Controlled
Tandem Steer Axle Spread	Min. 1.0 m /Max 2.2 m	Min. 1.0 m/Max. 2.2 m
Tandem Axle Spread	Min. 1.0 m/ Max 1.85 m	Min. 1.0 m/Max. 1.85 m
Effective Rear Overhang	Maximum 4.0 m	6.0 m
Interaxle Spacing	Minimum 5.0 m	Minimum 5.0 m

If the Interaxle spacing is less than 5.0 meters, the combined allowable steering and drive axle weights will be reduced by 500 kg for each 0.1 m or portion thereof up to a minimum spacing of 3.6 m.

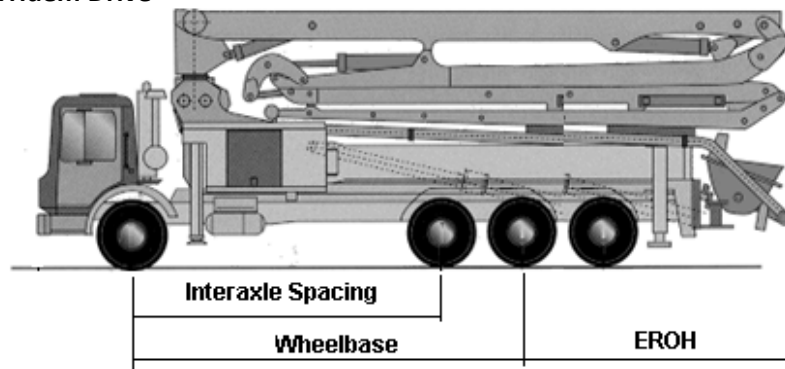
Weight:

WEIGHT LIMIT (kg)				
Axle	RTAC Route	Class A1 Highway	Class B1 Highway	Maximum Weight by Permit
Tandem Steer Axle	13,600	13,600	11,000	16,000
Tandem Drive Axle	17,000	16,000	14,500	24,000
Gross Vehicle Weight Limits	30,600	29,600	25,500	40,000

Axle Weight:

- The gross weight on the steering axle shall not exceed the lesser of:
 - 10 kg per mm width of the tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 16,000 kg ;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.
- The gross weight on the tandem drive axle (8 wheels) shall not exceed the lesser of:
 - 9 kg per mm width of tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 24,000 kg;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

Single Steer – Tridem Drive



DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	Maximum 12.5 m	14.0 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Box Length	Not Controlled	Not Controlled
Tridem Axle Spread	Min 2.4 m Max 3.10 m	Min 2.4 m Max 3.10 m
Effective Rear Overhang	Maximum 4.0 m	Maximum 6.0 m
Interaxle Spacing	Minimum 3.0 m	Minimum 3.0 m

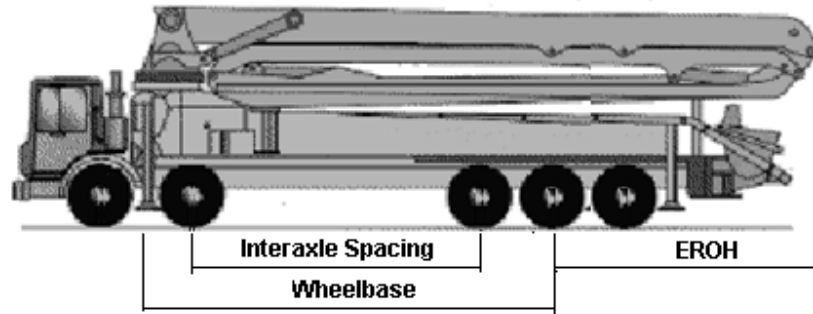
Weight:

WEIGHT LIMIT (kg)				
Axle	RTAC Route	Class A1 Highway	Class B1 Highway	Maximum Weight by Permit
Single Steer	7,300	7,300	7,300	9,100
Tridem Drive				
Spread 2.4 to less than 2.7 m	21,000	21,000	20,000	27,500
Spread 2.7 m to 3.10 m	22,000	21,000	20,000	
Gross Vehicle Weight Limits	28,300 to 29,300	28,300	27,300	36,600

Axle Weight:

- The gross weight on the single steering axle shall not exceed the lesser of:
 - 10 kg per mm width of the tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 9,100 kg ;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.
- The gross weight on the tridem drive axle (12 wheels) shall not exceed the lesser of:
 - 9 kg per mm width of tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 27,500 kg;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

Tandem Steer – Tridem Drive



DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	Maximum 12.5 m	16.5 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Box Length	Not Controlled	Not Controlled
Tandem Steer Axle Spread	Min 1.0 m to Max 2.2 m	Min 1.0 m to Max 2.2m
Tridem Axle Spread	Min 2.4 m Max 3.10 m	Min 2.4 m Max 3.10 m
Effective Rear Overhang	Maximum 4.0 m	Maximum 6.0 m
Interaxle Spacing	Minimum 5.5 m	Minimum 5.5 m

Bridge approval is required if axle spacing is less than 5.5 m. If the Interaxle spacing is less than 5.5 meters, the combined allowable steering and drive axle weights will be reduced by 500 kg for each 0.1 m or portion thereof up to a minimum spacing of 3.6 m.

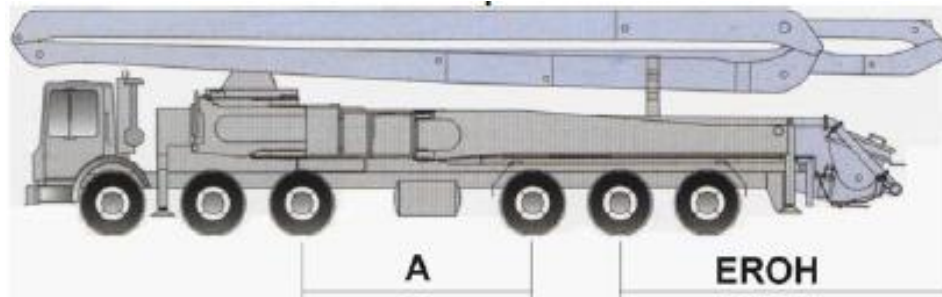
Weight:

WEIGHT LIMIT (kg)				
Axle	RTAC Route	Class A1 Highway	Class B1 Highway	Maximum Weight by Permit
Tandem Steer	13,600	13,600	11,000	16,000
Tridem Drive				
Spread 2.4 to less than 2.7 m	21,000	21,000	20,000	27,500
Spread 2.7 m to 3.10 m	22,000	21,000	20,000	
Gross Vehicle Weight Limits	34,600 – 35,600	34,600	31,000	43,500

Axle Weight:

- The gross weight on the steering axle shall not exceed the lesser of:
 - 10 kg per mm width of the tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 16,000 kg ;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.
- The gross weight on the tridem drive axle (12 wheels) shall not exceed the lesser of:
 - 9 kg per mm width of tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 27,500 kg;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

Tridem Steer – Tridem Drive



DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	Maximum 12.5 m	16.5 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Box Length	Not Controlled	Not Controlled
Tridem Steer Axle Spread	N/A	Min 2.4 m Max 3.10 m
Tridem Axle Spread	Min 2.4 m Max 3.10 m	Min 2.4 m Max 3.10 m
Tridem Drive Track Width	Min 2.5 m Max 2.6 m	Min 2.5 m Max 2.6 m
Effective Rear Overhang	Maximum 4.0 m	Maximum 6.0 m
Interaxle Spacing	Minimum 6.0 m	Minimum 6.0 m

Bridge approval is required if axle spacing is less than 6.0 m. If the Interaxle spacing is less than 6.0 meters, the combined allowable steering and drive axle weights will be reduced by 500 kg for each 0.1 m or portion thereof up to a minimum spacing of 3.6 m.

Weight:

WEIGHT LIMIT (kg)				
Axle	RTAC Route	Class A1 Highway	Class B1 Highway	Maximum Weight by Permit
Tridem Steer	N/A	N/A	N/A	24,000
Tridem Drive				
Spread 2.4 to less than 2.7 m	21,000	21,000	20,000	27,500
Spread 2.7 m to 3.10 m	22,000	21,000	20,000	
Gross Vehicle Weight Limits	N/A	N/A	N/A	51,500

Tridem Steering axles:

- Must maintain a minimum steering axle group weight of 40% of drive axle weight at all times.
- Must be equally spaced.
- The weight must be equally distributed between axles within 1000kg of an adjacent axle.

Axle Weight:

- The gross weight on the steering axle shall not exceed the lesser of:
 - 9 kg per mm width of the tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 24,000 kg ;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

- The gross weight on the tridem drive axle (12 wheels) shall not exceed the lesser of:
 - 9 kg per mm width of tire (weight multiplied by the width of the tire multiplied by the number of tires);
 - 27,500 kg;
 - the rated capacity of the tire (weight multiplied by the number of tires); or
 - the gross axle weight rating (GAWR) for the axle unit.

Static Rollover Threshold Requirement

The static rollover threshold (SRT), minimum 0.4g, must be certified by the manufacturer of the truck or a Professional Engineer and submitted to and reviewed by the Director of Traffic Engineering before approval is considered for these configurations.

Carrier Style – Wide Based Tires (445 mm or greater)



Carrier Style General Information

- All configurations are subject to review and approval by WM&S and City of Winnipeg engineers.
- The weight on the axles must equalize such that adjacent axles are within 1000 kg.
- No lift, pusher or tag axles will be allowed.
- The wheels at the front and rear of the vehicle shall be designed to steer to avoid scuffing of the tires during turning manoeuvres.
- Tire width shall be a minimum of 445 mm.
- One move permits only.

DIMENSION	Legal Maximum	Maximum by Permit
Overall Length	N/A	16.5 m
Overall Width	Maximum 2.6 m	2.6 m
Overall Height	Maximum 4.15 m	4.15 m
Track Width	N/A	Min 2.5 m Max 2.6 m
Effective Rear Overhang	Maximum 4.0 m	Maximum 6.0 m
Interaxle Spacing – Axle to Axle	N/A	Min 1.5 m Max 3.0 m

Weights:

Carrier style concrete pumper trucks equipped with wide base single tires will be allowed varying seasonal axle weights based on the allowable weight per mm width of tire in a haul season and the tire size (minimum tire width of 445 mm). The seasonal axle weights shall not exceed the values calculated using Table 1 and the allowable maximum gross axle weights shown in Table 2 (whichever is the minimum).

Table 1: Maximum Allowable Weights per mm Width of Tires

Route/Highway Spring Weight Restrictions	Spring Season (Spring Road Restrictions Period)	Summer/Fall and Winter Seasons (No Spring Road Restrictions in Effect)
None (Normal)	7.5 kg/mm	7.5 kg/mm
Level 1	6.75 kg/mm	7.5 kg/mm
Level 2	4.875 kg/mm	7.5 kg/mm

Table 2: Maximum Allowable Gross Single Axle Weights

Spring Road Restrictions	Spring Season (Spring Road Restrictions Period)	Summer/Fall and Winter Seasons (No Spring Road Restrictions in Effect)
None (Normal)	9,100 kg	9,100 kg
Level 1	8,190 kg	9,100 kg
Level 2	5,915 kg	9,100 kg

Static Rollover Threshold Requirement

The static rollover threshold (SRT), minimum 0.4g, must be certified by the manufacturer of the truck or a Professional Engineer and submitted to and reviewed by the Director of Traffic Engineering before approval is considered for these configurations.

General Conditions – All Types

- Night travel is permitted for vehicles with front or rear projections provided that lighting requirements are met in accordance with *The Highway Traffic Act*.
- Gross axle weight rating (GAWR) must meet or exceed requirements for permitted steer axle weights.
- Vehicles must comply with any posted restrictions in place.

Annual Permits:

Annual permits can be obtained for the following:

- Heavy steer axle units up to 9,100 kg for a single steer and up to 16,000 kg for a tandem steer;
- Gross vehicle weight of a single unit may not exceed 38,000 kg;
- Annual permits are unit specific. Fleet permits are not available.
- Carrier style units are not eligible for Annual permits. One Move permits only.

(Reference: Vehicle Weights and Dimensions Standard 4.21.4, Version 2)

Date: June 12, 2019