

WAC 296-24-23509 Stops, bumpers, rail sweeps, and guards. (1)

Trolley stops.

(a) You must ensure that stops are provided at the limits of travel of the trolley.

(b) You must ensure that stops are fastened to resist forces applied when contacted.

(c) You must ensure that a stop engaging the tread of the wheel is of a height at least equal to the radius of the wheel.

(2) Bridge bumpers.

You must ensure that a crane is provided with bumpers or other automatic means providing equivalent effect, unless the crane travels at a slow rate of speed and has a faster deceleration rate due to the use of sleeve bearings, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance by the nature of the crane operation and there is no hazard of striking any object in this limited distance or is used in similar operating conditions. The bumpers must be capable of stopping the crane (not including the lifted load) at an average rate of deceleration not to exceed 3 feet per second squared when traveling in either direction at 20% of the rated load speed.

(a) The bumpers must have sufficient energy absorbing capacity to stop the crane when traveling at a speed of at least 40% of rated load speed.

(b) The bumpers must be so mounted that there is no direct shear on bolts.

(c) Bumpers must be so designed and installed as to minimize parts falling from the crane in case of breakage.

(3) Trolley bumpers.

(a) You must ensure that a trolley is provided with bumpers or other automatic means of equivalent effect, unless the trolley travels at a slow rate of speed, or is not operated near the ends of bridge and trolley travel, or is restricted to a limited distance of the runway and there is no hazard of striking any object in this limited distance, or is used in similar operating conditions. The bumpers must be capable of stopping the trolley (not including the lifted load) at an average rate of deceleration not to exceed 4.7 feet per second squared when traveling in either direction at one-third of the rated load speed.

When more than one trolley is operated on the same bridge, each must be equipped with bumpers or equivalent on their adjacent ends.

(b) Bumpers or equivalent must be designed and installed to minimize parts falling from the trolley in case of age.

(4) **Rail sweeps.** You must ensure that bridge trucks are equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.

(5) Guards for hoisting ropes.

(a) If hoisting ropes run near enough to other parts to make fouling or chafing possible, you must install guards to prevent this condition.

(b) You must provide a guard to prevent contact between bridge conductors and hoisting ropes if they could come into contact.

(6) Guards for moving parts.

(a) You must ensure that exposed moving parts such as gears, set screws, projecting keys, chains, chain sprockets, and reciprocating components which might constitute a hazard under normal operating conditions are guarded.

(b) You must ensure that guards are securely fastened.

(c) You must ensure that each guard is capable of supporting without permanent distortion the weight of a 200-pound person unless the guard is located where it is impossible for a person to step on it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 15-24-100, § 296-24-23509, filed 12/1/15, effective 1/5/16. Statutory Authority: RCW 49.17.040, 49.17.050, 49.17.240, chapters 43.22 and 42.30 RCW. WSR 80-17-015 (Order 80-21), § 296-24-23509, filed 11/13/80; Order 74-27, § 296-24-23509, filed 5/7/74; Order 73-5, § 296-24-23509, filed 5/9/73 and Order 73-4, § 296-24-23509, filed 5/7/73.]