

**WHEEL CHOCK APPLICATION**



**1. Scope**

This standard covers the requirements for applying aluminum wheel chocks, Stock Number 760931, to light, medium, and heavy duty vehicles and equipment.

Cars and sport utility vehicles (SUVs) with gross vehicle weight rating (GVWR) of less than 8,000 pounds are outside the scope of this standard.

Equipment with a GVWR greater than 54,000 pounds is outside the scope of this standard.

Trailers of any size are outside the scope of this standard.

**2. Application**

This standard is directed at drivers of light, medium, and heavy duty vehicle and equipment.

Wheel chocks are used as a back up measure to prevent a vehicle from rolling down a hill in the event the vehicle's parking brake system fails.

The details of this standard were derived from field tests performed in August 2010 under the supervision of a professional engineer. A professionally-edited video of these tests is available for showing at Safety Meetings or driver training sessions. Contact Standards or Safety for a copy.

Misapplication of wheel chocks could lead to serious personal injury to Seattle City Light employees or the general public.

**3. Definitions**

**Gross vehicle weight rating (GVWR):** is the maximum allowable total mass of a road vehicle or trailer when loaded. This includes the weight of the vehicle itself plus fuel, passengers, cargo, and trailer tongue weight. The GVWR can usually be found on a placard or sticker on or around the equipments drivers door jam.

**Light duty (LD):** for this standard shall be any truck or equipment with a GVWR of less than 19,000 pounds. Cars and sport utility vehicles (SUVs) with a GVWR of less than 8,000 pounds are outside the scope of this standard.



**Medium duty (MD):** is any equipment that has a GVWR between 19,001 and 33,000 pounds.



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### 3. Definitions, continued

**Heavy duty (HD):** is any equipment that has a GVWR between 33,000 and 54,000 pounds. Equipment with a GVWR greater than 54,000 pounds is outside the scope of this standard.

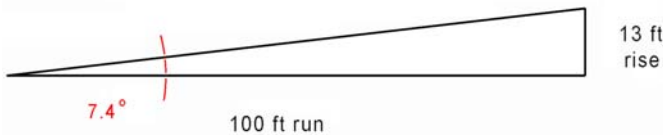


**Grade:** is typically referred to in terms of percent. It is equal to:

$$\frac{\text{Rise} \times 100}{\text{Run}}$$

Example:

$$13\% \text{ grade} = \frac{13}{100} \times 100$$



Note: Percent grade should not be confused with an angle expressed in degrees. They are not equivalent.

### 4. General Requirements

Drivers shall apply wheel chocks whenever their light, medium, or heavy duty vehicle or equipment is parked.

The only wheel chock approved for use at Seattle City Light is cited in Material Standard 7609.30 and assigned Stock Number 760931.



Aluminum wheel chocks acquired before the development of Material Standard 7609.30 may be used with the approval of Civil/Mechanical Engineering. Rubber wheel chocks, or any other type, shall not be used.

To be applied correctly, each wheel chock needs to be pushed snugly against the downhill side of the tire.

**Caution:** Never chock just one front tire.

Wheel chocks should always be applied in pairs across the same axle.

The same chocking rules apply whether:

- the street surface is dry or wet
- the street surface is asphalt or concrete
- the vehicle is facing up grade or down grade

If a chock is involved in a failed parking brake event, obtain new chocks from the warehouse and return the affected unit(s) to Fleet Services for inspection.

Refer to Section 7 for a list of the twenty steepest streets in Seattle.

### 5. Detailed Requirements as Text

#### 5.1 Light Duty (LD) Trucks and Equipment

Minimum of 2 wheel chocks anytime LD equipment is parked on a hill of any grade. Apply the wheel chocks to tires of one axle on the down hill side, street side and curb side.

#### 5.2 Medium Duty (MD) Equipment

Minimum of 2 wheel chocks anytime MD equipment is parked on a hill of any grade. Apply the wheel chocks to tires of one axle on the down hill side, street side and curb side.

#### 5.3 Heavy Duty (HD) Equipment

Minimum of 2 wheel chocks anytime HD equipment is parked on a hill with less than 13 percent grade. Apply the wheel chocks to tires of one axle on the down hill side, street side and curb side.

When on level ground, apply 2 wheel chocks, front and rear of one rear axle tire.

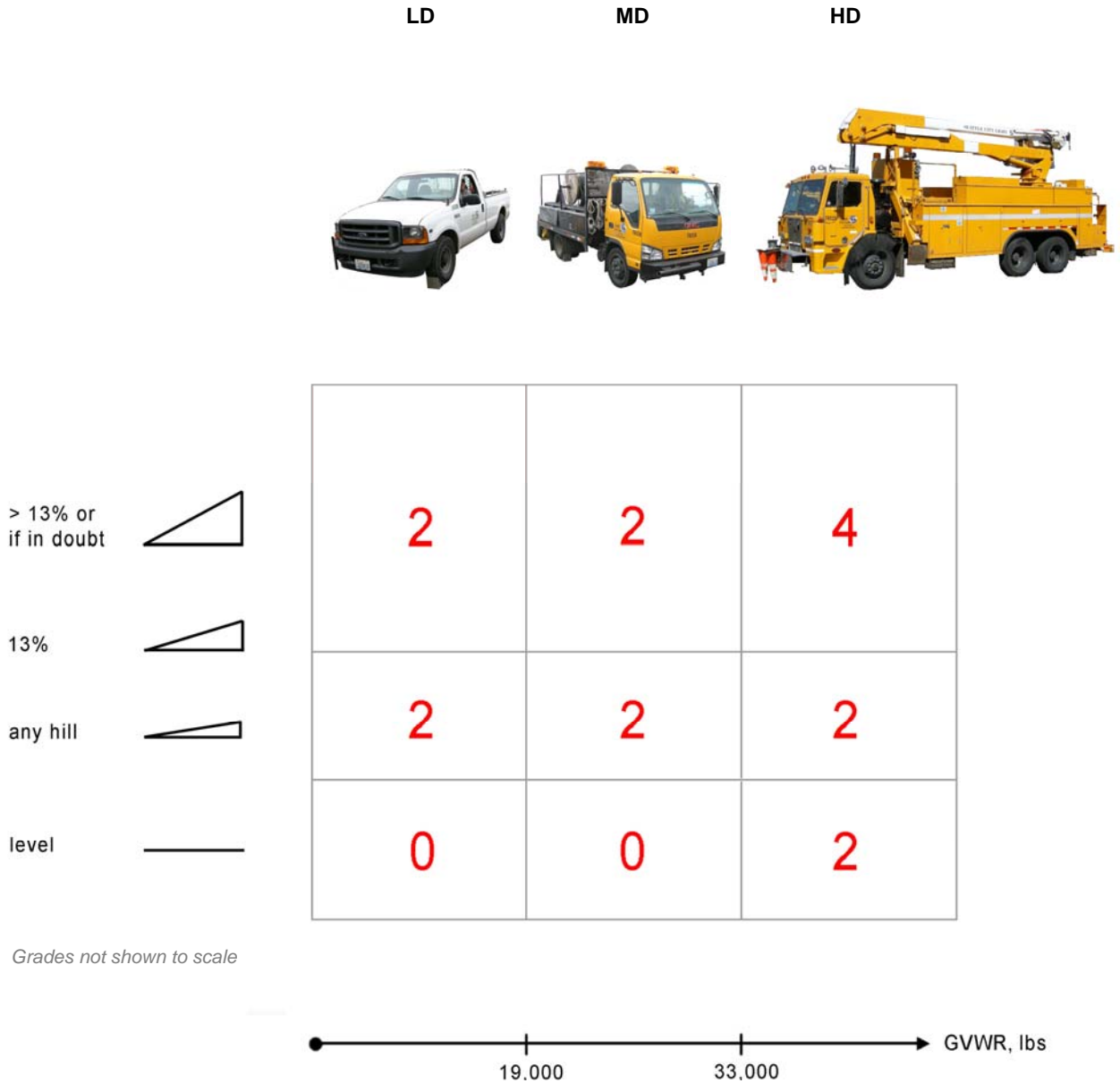
Minimum of four wheel chocks anytime HD equipment is parked on a hill with 13 percent grade or greater. Apply the wheel chocks to tires of both axles, two on each, on the down hill side, street side and curb side.

If in doubt of hill grade use four (4) wheel chocks.

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**6. Detailed Requirements in Graphical Format**

**Figure 6 Required Number Of Wheel Chocks, Minimum**



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**7. Twenty Steepest Streets in Seattle**

Percent Grade	Street Name	From	To
21	E Roy St	25th Av E	26th Av E
20	W Blaine St	9th Av W	10th Av W
20	E Terrace St	Randolph Av	Erie Av
20	SW Charlestown St	59th Av SW	60th Av SW
19	Warren Av N	Prospect St	Highland Dr
19	W Newell St	3rd Av W	4th Av W
19	S Charles St	29th Av S	Yakima Av S
19	E Boston St	Harvard Av	Broadway E
19	E Ward St	25th Av E	26th Av E
18	E Highland Dr	24th Ave E	25th Av E
19	E Lee St	24th Ave E	25th Av E
18	E Roy St	Melrose Av E	Bellevue Av E
18	Queen Anne Av N	Florentia St	Etruria St
18	W Bertona St	12th Av W	13th Av W
18	Highland Dr	4th Av N	5th Av W
18	SW College St	Hobart Av SW	Halleck Av S
18	S Dakota St	41st Av S	42nd Av S
18	S Cooper St	64th Av S	65th Av S
18	NW 48th St	2nd Av NW	3rd Av NW
18	1st Av N	Ward ST	Prospect St

**8. References**

**SAE J348**, SAE International, Surface Vehicle Standard, revision June 1990

**7609.30**; "Wheel Chocks, Aluminum"; Material Standard, SCL

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[www.seattle.gov/transportation/steepest.htm](http://www.seattle.gov/transportation/steepest.htm)