



*This safety resource was written for the recycled materials industry by the recycled materials industry and was developed to assist you in making your recycling operation a safe place for employees, customers, and visitors. This resource covers OSHA requirements that may or may not be applicable to your operation.*

## **VEHICLE WHEEL RIMS**

**DEFINITION:** Single and multi-piece rim assembly used for mounting large tires of heavy equipment, trucks, and similar vehicles, sometimes called 'spilt-rim wheels'.

### **Potential Hazards:**

Material handling/ergonomic/muscle strains/sprains  
Rapid and catastrophic disassembly during pressurization  
Pinch points

### **Guarding/Shielding:**

Wheel rim/tire assembly cages or similar servicing devices must be used when mounting tires on multi-rim assemblies.

### **Protective Equipment:**

Hard hats\*  
Safety glasses\*  
Steel toe/steel shank work boots\*  
Gloves as needed  
Respirator as needed  
*\*minimum requirements*

### **Safety Procedures:**

- No employee can be allowed to service a rim wheel/tire unless the employee has been trained and has demonstrated the ability to service rim wheels safely including performance of the following tasks:
    - Mounting/demounting of tires
    - Handling. Inspection and identification of rim wheel components
    - Use of restraining device/barrier
    - Inflation of the tire when a single piece rim wheel is mounted on a vehicle
    - Installation and removal of rim wheels
  
  - Employees servicing rim wheels must demonstrate an understanding of the necessity of standing outside the trajectory both during inflation of the tire and during inspection of the rim wheel following inspection.
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- The training program must include the same information that is applicable to the types of rims/ wheels being serviced found in the following charts and instructions:
  - OSHA 'demounting and Mounting Procedures for Bus/Truck Tires';
  - OSHA 'Multi-piece rim matching chart';
  - National Highway Traffic Safety Administration (NHTSA) 'Demounting and mounting procedures for Bus/Truck Tires';
  - NHTSA 'Multi-piece rim matching chart'.

**Safe Operating Procedures:**

- Multi-piece Rim Wheels:
  - Employers must establish a safe operating procedure for servicing multi-piece rim wheels which include at least the following elements:
    - - Tires must be completely deflated before demounting by removal of the valve core;
      - Tires must be completely deflated by removing the valve core before a rim wheel is removed from the axle in either of the following situations:
        - When the tire has been driven underinflated at 80 percent or less of its recommended pressure;
        - When there is obvious or suspected damage to the tire or wheel components.
  - Rubber lubricant must be applied to the bead of the tire and rim mating surfaces during assembly of the wheel and inflation of the tire, unless the tire or wheel manufacturer recommends against it.
  - If a tire on a wheel is underinflated but has more than 80 percent of the recommended pressure, the tire may be inflated while the rim wheel is on the vehicle provided remote control inflation equipment is used and no employees remain in the trajectory during inflation.