Garages

Garages - Single-piece Rim Wheels

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What should I do when working with single-piece rim wheels?

- Make sure you are trained and authorized to complete the task and understand the safe work procedures.
- Know how to use manufacturers' information and tire charts to ensure correct repair parts are installed.
- If the tire is bolted to the vehicle, stand to one side when checking or inflating truck or automobile tires.
- Keep your face above the fender or to one side when inflating tires. Use a clip-on chuck, sufficient hose length, and an in-line valve with gauge to stand out of the path.
- If the tire is not bolted to the vehicle, use a tire changing machine with the tire inflated only to the minimum pressure necessary to force the tire bead onto the rim ledge. Create an airtight seal before removing it from the tire-changing machine.
- Inspect the rim, tire, and all other components before assembly. Remove any defective components immediately from service.
- Use tools and equipment as recommended by the manufacturer for servicing and repairs.
- Remove the valve core to deflate the tire completely before removing the tire from the rim.
- Mount and remove from the narrow ledge side of the wheel. Avoid damaging the tire beads.
- Mount only rims and tires of compatible diameter and width.
- Apply a non-flammable rubber lubricant to the bead and wheel mating surfaces before assembling the rim wheel unless the tire or wheel manufacturer recommends otherwise.

- Other employees must stay out of the area when a tire is inflated in case of explosion.
- Remove the bead expander before installing the valve core and as soon as the rim wheel becomes airtight (when the tire bead slips onto the bead seat).
- Remove the bead expander before inflating the tire to more than 35 kPa (5 psi).
- Inflate when the tire is contained within a restraining device, positioned behind a barrier, or bolted on the vehicle with the lug nuts fully tightened.
- Inspect the rim flanges, bead seating surfaces, and tire for defects and foreign particles.
- Clean the contaminated surfaces and do not use any hazardous, defective parts.
- Remove the hold-down cone before inflating unless otherwise directed by the manufacturer. In most cases, it is wrong to assume that the hold-down cone prevents or minimizes an accident. It could become an additional flying object.
- Seat the beads with short bursts of air, not a continuous flow. Allow time for each shot of air to move the beads toward their seat.
- Deflate the assembly, reposition the tire on the rim, re-lubricate, and re-inflate the tire if the beads have not seated by the time the pressure reaches 275 kPa (40 psi).
- Replace any rim that is rusted, corroded, or damaged.

Please see other OSH Answers on Garage safety, including Garages - Inflating Tires on Wheels with Split Rims or Rims using Retainer Rings for more information.

What should I avoid doing?

- Do not position your head and shoulders over the tire during inflation.
- Do not inflate the tire when any flat, solid surface is in the path and within 30 cm (one foot) of the sidewall.
- Do not inflate tires above the maximum pressure recommended by the manufacturer to seat the tire bead firmly against the rim flange.
- Do not exceed the vehicle or manufacturer's recommended inflation pressure, and use whichever value is appropriate for the use of the tire.
- Do not rework, weld, braze, or otherwise heat wheels.
- Do not apply lubricant to a tire bead while it is under pressure. Sudden freeing of the bead may cause it to slam into the flange with sufficient force to break the bead wires.
- Do not attempt to repair tires larger than your equipment can handle.
- Do not use a rim that is cracked, broken, bent, pitted, or otherwise damaged.

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