



Mounting and Demounting a Wheel/Tire

Loss Control Bulletin

With more trucks, SUVs and cars with extreme plus size wheels, the wheels and tires are getting bigger and heavier. As an example, a typical 16-inch or 17-inch wheel/tire package will likely weigh around 40 to 50 pounds or more, for the sake of comparison, a 26-inch wheel and tire package can easily more than double that weight.

Bigger may look cool, but the increase in weight creates additional physical demands on the mechanic performing a job involving the removal of the wheel/tire.

There are guidelines with recommended weight limits for lifting tasks based on what is known about lifting and back injuries. Maximum recommended weights range from 51 pounds (National Institute for Occupational Safety and Health (NIOSH)) to 72 pounds by the American Conference of Governmental Industrial Hygienists (ACGIH) for infrequent lifts with a close reach.

Recommended weight limits tend to go down as the lifting tasks become more awkward (e.g., bending, reaching, twisting), increase in frequency and increase in duration. Employers should take these factors into account when designing lifting jobs, arranging storage, and setting policies on lifting.

In addition to reducing or preventing injuries, addressing the material handling tasks may lower costs by reducing worker compensation costs, worker turnover, retraining and absenteeism.

In 2008, the California Workers' Compensation Insurance Rating Bureau reported that there were 11,443 injury claims from strains due to lifting with an average cost of \$30,560.

Try and eliminate the need to lift and carry the wheel/tire whenever possible:

- Position the vehicle so that, once the lug nuts are removed, the tire and wheel can be gently rocked side to side to remove the wheel and tire from the lugs.
- The procedure can be reversed to mount the tire and wheel.
- A crowbar can be used if needed to slightly lift the tire on or off the studs.

There may be no choice but to lift the tire or wheel being repaired, balanced and replaced. If that is the case:

- Keep the load close to you.
- Bend to lift an object – don't stoop. Keep your back straight by tucking in your chin.
- Lift with the strong leg muscles, not the weaker back muscles.
- Don't twist while lifting.
- Get help with heavy or awkward loads.



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The same procedures need to be followed while lifting or removing a tire and wheel to a wheel balancing machine, a tire remover, etc. Some of the new tire mounting and balancing machines have hydraulics to lift the tire and wheel in position. It's also possible to build a ramp to roll the tire into position.

For more information, please contact your Republic Indemnity Loss Control Consultant.

The guidelines provided in this bulletin are only intended to provide an overview of some of the more important steps that can be taken by management to establish a safe workplace. The guidelines are not considered exhaustive of all measures and controls that can be implemented by management to address all potential loss or injury producing causes. Ultimately it is the responsibility of management to take the necessary steps to provide for employee and customer safety. It is not intended as an offer to write insurance for such conditions or exposures. The liability of Republic Indemnity Company of America and its affiliated insurers is limited to the terms, limits and conditions of the insurance policies underwritten by any of them. © 2022 Republic Indemnity of America, 4500 Park Granada, Suite 300, Calabasas, CA 91302.