Mechanic Fatally Injured by Split Tire Rim

A 26-year-old mechanic was struck and killed by a side ring from a multi-piece (split) tire rim.

The mechanic was installing a rim that had been serviced by a co-worker. The wheel was remounted pressurized, checked, and stored overnight. That morning, the victim began to install the tire on a dump truck. He hand-tightened the lug nuts and then used an impact wrench to continue the job. As he began to tighten the lug nuts, the side ring of the rim came loose, striking and killing him.

The investigation revealed that the rim parts were heavily pitted by corrosion, obscuring the stamping marks. This corrosion indicated that they were not cleaned and inspected prior to replacement. In addition, the locking ring was deformed. These items contributed to the incident.

Since procedures for removing and mounting truck tires were not posted in the shop, it was impossible to determine if improper force on the impact wrench also played a role in the incident.

Recommendations included a warning to clean and inspect all rim parts after removal and prior to remounting. Properly matching parts before mounting them, and posting OSHA charts for rim matching, and rim removal and remounting are also important. In addition, workers should be trained on the procedures for removal and mounting of tire rims. Finally, manufacturers should clearly label rim parts to encourage inspection and matching of parts prior to use.

Source: Alaska Fatality Assessment and Control Evaluation (FACE) Progam, Case Report 0SAK006