

Case 524. 26-year-old repair shop supervisor died when he was struck by a tire/rim assembly that separated during inflation of the tire.

A 26-year-old male repair shop supervisor died when he was struck by a tire/rim assembly that separated during inflation of the tire. The tire/rim assembly had been placed flat on the concrete floor. A new tire was being placed on a used agricultural rim. The compressor regulator read 160 psi. The decedent used an airline without a clip-on chuck or in-line valve with a gauge or pressure regulator. During inflation, there was a violent separation of the tire/rim assembly. The decedent was in the trajectory of the exploding tire/rim assembly and was struck by the tire/rim assembly.

MIOSHA General Industry Safety and Health Division issued the following Serious and Other-than-Serious citations at the conclusion of its investigation.

Serious: GI PART 72, AUTOMOTIVE SERVICE OPERATIONS

- Rule 408.17211(a): An employer shall provide training to an employee as to the hazards, safe operations of the assigned job, and applicable rules of this part.

There was inadequate training provided to employees that perform service on tire and wheel assemblies. Employees were not trained on the hazards and safe operating procedures required to service single-piece rim and wheel assemblies.

- Rule 408.17235(4): A restraining device, as defined in R 408.17206(3), shall be provided by the employer and maintained in a safe condition and shall be in compliance with all of the following requirements:
 - (a) Each restraining device or barrier shall have the capacity to withstand the maximum force that would be transferred to it during a rim wheel separation that occurs at 150% of the maximum tire specification pressure for the type of rim wheel being serviced.
 - (b) Restraining devices and barriers shall be capable of preventing the rim wheel components from being thrown outside or beyond the device or barrier for any rim wheel that is positioned within or behind the device.
 - (c) Restraining devices and barriers shall be visually inspected before each day's use and after any separation of the rim wheel components or sudden release of contained air. A restraining device or barrier that exhibits evidence of damage, such as the following defects, shall be immediately removed from service:
 - I. Cracks at welds.
 - II. Cracked or broken components.
 - III. Bent or sprung components caused by mishandling, abuse, tire explosion, or rim wheel separations.
 - IV. Pitting of components due to corrosion.
 - V. Other structural damage that would decrease the effectiveness of the restraining device or barrier.
 - (d) A restraining device or barrier that is removed from service shall not be returned to service until it is repaired and reinspected. A restraining device or barrier that requires structural repair, such as component replacement or rewelding, shall not be returned to service until it is certified by either the manufacturer or a registered professional engineer that the device or barrier meets the strength requirements specified in subdivision (a) of this subrule.

There was no restraining device that constrained all rim wheel components following their release during an explosive separation of the wheel components during tire maintenance on *Date* 2019. (*MIFACE removed the date of the incident*)

- Rule 408.17235(5): During rim wheel servicing, a clip-on chuck with a sufficient length of hose to permit the employee to stand clear of the potential trajectory (see figure 1) of the wheel components and an in-line valve with a gauge or a pressure regulator preset to the desired pressure shall be furnished by the employer and used to inflate tires.

There was no clip-on chuck and in-line valve with a gauge or pressure regulator on the air line chuck used by an employee while inflating tires on *Date*, 2019. (*MIFACE removed the date of the incident*)

- Rule 408.17237(2): On single-piece rim wheels, a rim manual, as prescribed in R 408.17206(3), which contains instructions for the types of wheels serviced shall be available in the service area.

There was no rim manual available for single piece rim wheel maintenance that was performed on *Date* 2019. (*MIFACE removed the date of the incident*)

- Rule 408.17237(8): On single-piece rim wheels, employees shall stay out of the potential trajectory of the wheel when inflating a tire and shall not lean or place a rim wheel on or against any flat solid surface.

A single piece rim was placed flat on the ground while being inflated with an employee positioned in the trajectory of the wheel on *Date* 2019. (*MIFACE removed the date of the incident*)

Other-than-Serious: 408.22139(1): ADM PART 11, RECORDING AND REPORTING OF OCCUPATIONAL INJURIES AND ILLNESSES

Within 8 hours after the death of any employee from a work-related incident, you must report the fatality by telephone to the MIOSHA toll-free central telephone number: 1-800-858-0397.

The employer did not report to MIOSHA within the required 8 hours the workplace fatality which occurred on *Date* 2019. (*MIFACE removed the date of the incident*)