

Investigation Report  
Worker Fatally Injured When Struck by a Tire  
December 28, 2013

## The contents of this report

This document reports Occupational Health and Safety's investigation of a fatality from an incident in December 2013. It begins with a short summary of what happened. The rest of the report covers this same information in greater detail.

## Incident summary

A worker was fatally injured while servicing a tire in the field on a John Deere 872 grader. During the inflation process, the tire came off of the rim causing the bead seat band to contact the tire technician's head.

## Background information

At the time of the incident, Alberta-Pacific Forest Industries Inc., a pulp mill, had a contract with Glare Holdings O/A Sun Trucking (Sun Trucking). Sun Trucking was to haul timber from various oil sands sites to their plant near Boyle, Alberta. The incident occurred at a stockpile site north of Fort McMurray, Alberta.

Sun Trucking is a log hauling company that had a contract with Alberta-Pacific Forest Inc. to load and haul logs to a stockpile site for subsequent summer hauling. At the time of the incident, Sun Trucking was clearing snow with a grader when two tires on the right side of the grader went flat. Kal Tire Limited (Kal Tire) was contacted to repair the tires.

Kal Tire is Canada's largest independent tire dealer that sells and services tires. The tire technician from Kal Tire had been working for the company for approximately four months and was directed to respond to the service call for Sun Trucking.

## Equipment and materials

### Grader

A grader is a piece of construction equipment used to create a flat surface during the "grading" process of road construction and maintenance. The John Deere 872 G Grader (grader) was equipped with a long blade placed in the center of the vehicle, between the front and middle axle, and a second blade ahead of the front axle. The grader was being used to maintain a winter road. Sun Trucking owned the grader (Figure 1).



*Figure 1. The John Deere Grader involved in the incident.*

### **Service Truck**

The service truck used at the time of the incident was a SILVERADO 2500 4WD Regular Cab (Figure 2). It had a storage compartment on the driver's side and a compressor tank installed in the box. In the engine compartment is an air compression system with a maximum air pressure of approximately 1200 kilopascals (kPa).



*Figure 2. The Kal Tire service truck in use at the time of the incident.*

## Sequence of events

On December 28, 2013, the tire technician was working his regular shift when he received notification to conduct a service call in the poplar creek area north west of Fort McMurray, Alberta. The tire technician prepared for the call and travelled to the site.

The tire technician arrived on site at approximately 3:30 p.m. and met with the owner of Sun Trucking to discuss the job. The owner of Sun Trucking identified the two flat tires on the grader. The grader's front right wheel had been elevated with the grader blades and was ready to be fixed. The tire technician suggested that the tires needed new seals and started to work on the front right tire (Figure 3).



Figure 3. Right side of grader

*A and B are pointing to the two tires that required fixing at the time of the incident.*

The tire technician removed the lock ring (a split ring which holds the tire in place by locking the other wheel components together) from the wheel assembly and rested it against the tire. The owner of Sun Trucking received a call and went back to his truck. The tire technician removed the old O-Ring (rubber seal) from the rim and installed a new one (Figure 4).



Figure 4. Top view of right front rim.

*A - Air chuck tip*

*B - The lock ring gutter*

*C - The O-ring gutter*

He then disconnected the air chuck (a one way air valve for inflating tires) from the air line and removed the tip from the air chuck. Tire technician then screwed the air chuck onto the valve stem of the rim and connected the airline to the air chuck. This process would introduce air quickly to the tire causing the tire bead (the edge of tire to fit or sit into a groove in the rim) to seat.

The tire technician, in a kneeling position, began to inflate the tire. The lock ring was not installed with the wheel assembly to secure the tire to the rim (Figure 5). At approximately 4:00 p.m., the stored energy in the tire released causing the bead seat band, located behind the O-ring, to contact the tire technician in the head.





Figure 5. View of front right tire.

- A - The lock ring
- B - The bead seat band
- C - The O-ring

The owner of Sun Trucking exited his truck and went to the tire technician to assess his condition. The owner of Sun Trucking went back to his truck and called emergency medical Services.

A heavy equipment operator was nearby cleaning snow off the weigh scales at the time of the incident. The heavy equipment operator walked over to the grader when he heard a big bang. The heavy equipment operator assisted the owner of Sun Trucking with cardiopulmonary resuscitation (CPR).

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At approximately 4:25 p.m., the ambulance and the police arrived. The paramedics pronounced the tire technician dead at the scene.

**Completion**

A review for enforcement action was conducted on November 23, 2015. It was concluded that no enforcement action will be taken on this file.

File was closed on November 23, 2015.

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Final Report

**Signatures**

ORIGINAL REPORT SIGNED

November 23, 2015

Lead Investigator

Date

ORIGINAL REPORT SIGNED

November 24, 2015

Manager

Date

ORIGINAL REPORT SIGNED

November 26, 2015

Director

Date