

# Safetree Safety Alert

**Post this alert on your workplace noticeboards. Discuss it at safety or tailgate meetings.**

**Type of incident:** Felling machine rollover

**Date:** February 2017

**From:** FISC/Scion

**Learning Review:** This Alert uses the Learning Review approach to understand how incidents happen. The purpose of a Learning Review is to learn and improve. The recommendations are focused on improving the whole 'system' (the way work is done in forestry) to prevent future incidents. You can watch a video version of this Safety Alert at: <https://youtu.be/XO3vrMwwnVo>

## What happened

This incident is one of several machine rollovers that have occurred and it was chosen for a Learning Review because it includes factors common to these incidents - maintenance issues, ground conditions and work pressures.

On the day of the incident, the machine operator was first on site at 4.45am. His crew arrived shortly afterwards with a felling head which had been away for repairs. It had put them behind schedule. After their toolbox meeting the machine operator attached the repaired felling head to his machine. The dim morning light made it difficult to see the colour-coded cable ties on the hose fittings and he fitted them the wrong way around.



With the head attached the machine operator started work about 8am. But by 9am the machine broke down again. A sensor joint had blown because of the incorrectly fitted hoses. The machine operator went to find a replacement part then returned at 1.30pm and began to fit the new part. It wasn't until 3.30pm that he was able to get back to work.

By 4pm the crew had finished all the work they could do and decided to head home. With most of his day spent fixing the machine, the machine operator decided to stay on to get wood on the ground to relieve the pressure for the next morning. Much of the stand was very wet and had a lot of debris in it. Because the slope wasn't very steep the machine operator thought it would be okay to work across it, using an old working road and clearing debris as he went.

By 4.30pm he'd felled about 20 trees and was just about finished. He slewed to the uphill side of the track to fell the final tree of the day. As he reached for the final tree he felt the machine become unstable on the downhill side. He quickly slewed back and dropped his felling head on the ground to stabilise the machine. But it was too late. Felling the previous tree and clearing the track had destabilised the road causing the track to sink. The machine rolled down the bank. Luckily the machine operator was unhurt but the machine was damaged.



## Lessons

There are many things that could have reduced the likelihood of this incident occurring, including these technical solutions:

- **Retro-fitting a level gauge:** Moving across the gradient is common practice on flat ground. But the tipping point being 12 degrees allows for very little margin of error even for the most experienced operator. Retro-fitting a level gauge like we see in many four-wheel vehicles could warn drivers when they are operating in a dangerous range.
- **Retrofit a track pressure sensor:** Another quick and easy technical solution is to retrofit a track pressure sensor, which warns the driver if one of the tracks is beginning to float.
- **Redesign the hoses to be one-way installed:** Fitting the hydraulic hoses incorrectly is a very common problem. Redesigning the hoses to be one-way installed would be simple and would prevent a tremendous amount of damage being done to machines across the industry.



Read the full report *Felling Machine Rollover 2017* at <http://safetree.nz/safety-alerts/>