

# Safety and health alert

## 19/99 Young worker injured by exploding tyre and rim

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### Incident

An 18-year-old tyre fitter received injuries when the truck tyre he was inflating underneath the tailgate of a service truck exploded sending him 1.8 metres into the air.

Prior to the incident the tyre fitter had fitted the three piece trilex steel rim into a new truck tyre. He then rolled the wheel to the rear of the service truck and laid it down. The tailgate was then lowered over the tyre. The tyre fitter then threaded the air line through a hole in the tailgate in order to reach the valve of the tyre, to inflate it. He then sat on the tailgate whilst he waited for the tyre to inflate to 770 kPa (110 psi). The tyre/rim assembly exploded, catapulting him into the air.

In April 1997 a labourer was killed when the split ring from a wheel came free and hit him as he was fitting the wheel to a low loader.

### Factors

The exact cause of the tyre/rim explosion is not known, however:

1. The employee was relatively new to the industry having had only 9 months experience.
2. The tyre fitter who fitted the rim pieces into the tyre had not seen the trilex type rim before that day, and had not received adequate instruction and training in its correct installation.
3. The workers were not directly supervised during the fitting and inflating of the truck tyre.
4. The work practice used to seat the rim pieces was inadequate as the tyre fitter tapped the rim with his boot instead of using a softheaded hammer.
5. The wheel was placed under the tailgate lifter to restrain it during inflation of the tyre. This was ineffective because the tailgate is hinged and was able to swivel up when the tyre exploded.
6. With the wheel under the tailgate the tyre fitter could not visually check that the rim was seating correctly during inflation of the tyre.
7. The tyre fitter was situated on the tailgate, which was in the trajectory path of the rim when the tyre exploded.
8. The air line was not fitted with a pressure gauge or control device.



## Recommendations

1. New employees must receive adequate instruction and training in safe operating procedures.
2. Companies carrying out this type of work must ensure training is provided in respect of all different rim assemblies being provided e.g. trilex, split rim, tubeless, etc.
3. Provide supervision for employees appropriate to their skill and knowledge.
4. Before a tyre is placed on a rim the rim must be inspected for defects such as cracks and rust.
5. Ensure the rim pieces are seated correctly and if necessary tap them gently into position with a soft headed hammer.
6. All truck tyres should be inflated in a purpose built restraining device such as a safety cage.
7. The air line should have a hand piece with a gauge and there should be sufficient distance from the valve stem to the gauge so that the tyre fitter is in a safe position whilst inflating the tyre.
8. Inflation should be undertaken in 70 kPa (10 psi) stages and after each stage the rim should be checked to ensure correct seating.
9. Always consider the trajectory path of the rim components when inflating tyres or when handling or fitting wheels on vehicles.

## Further Information

Further information can be obtained from the WorkSafe internet site [www.worksafe.wa.gov.au](http://www.worksafe.wa.gov.au), or by contacting customer service on 1300 307 877 or email: [safety@docep.wa.gov.au](mailto:safety@docep.wa.gov.au).

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