



Safety Alert & Standing Order

Torquing of Wheel Fastening Systems

Incident Description: A Pos.3 tyre assembly had been replaced on a CAT truck and the tyre serviceman carried out the initial wheel torque to the wheel fastening system (wheel studs) using a hydraulic torque multiplier tool. The SWP was not fully followed and instead of checking to establish the correct air regulator setting, the tyre serviceman used a setting he thought was correct which resulted in the wheel not being torqued sufficiently.

This caused the wheel assembly to come loose and detach from the truck before the truck was returned to the tyrebay for its first inspection and wheel stud torque check.

Considerable property damaged occurred as did a minor oil spill, no personal injury occurred, however it is a very serious safety incident with high potential for injury.

Recommendations: Before a wheel assembly torque or retorque is carried out the following mandatory actions are to be carried out:

1. Only trained and competent personnel are permitted to carry out re-torques.
2. Safe and correct wheel stud/nut torque can only be achieved using purpose designed torque tools, manual or hydraulic.
3. Rattle guns must only be used to tighten the wheel studs/nuts and must not solely be relied on to torque up wheel studs/nuts.
4. Ensure that torque tools are able to deliver the required OEM specified torque, are inspected, fit for purpose and fully serviceable before the job commences.
5. The torque tool, manual or hydraulic, must be 'in calibration' and the calibration certificate must be readily available. Note: The work must not proceed if the torque gun is 'out of calibration' - this can be verified by checking its last calibration date, this must be less than 12 months old.
6. All wheel / rim / hub mating surfaces must be thoroughly cleaned and inspected before fitment as per SWP.
7. All wheel studs, Nuts, Cleats etc. are to be inspected individually for damage, corrosion and damage, and be cleaned as per SWP.
8. Damaged/stretched or corroded wheel studs/nuts are to be replaced. Stud holes are to be inspected also for ovality or other damage.
9. For hydraulic torque multiplier tools, the air regulator chart must be current, and available at the tyre bay so that the serviceman can correctly set the tool to deliver the OEM required torque, failure to consult with the chart will result in the wheel not being torqued to the correct setting and cause the wheel to become loose in service. Note: **Do not proceed unless the chart had been checked and the correct setting has been established.** Charts are not interchangeable, and each tool must have its unique chart (refer to serial number of gun) available in the tyrebay.
10. Where required by the OEM, ensure the correct lubricant type and amount is applied to the stud/nut, and never over tighten a wheel stud/nut beyond its OEM specified torque.
11. Failure to abide by these simple steps will not only cause a hazardous condition, putting people and equipment at risk, but may also result in disciplinary action including dismissal.

Please follow these steps always.

Tilman Rasche, Manager – Global Risk & Business Improvement,

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