

Safety Alert



Explosives

Explosives Inspectorate

Safety Alert No. 52 | 3 November 2011

Hub assembly failures result in wheel losses

What happened?

In two serious incidents **wheel hub assemblies** detached in **heavy trailers transporting explosives**:

Incident 1: The wheel assembly detached and collided with several parked vehicles in a township on a main highway.

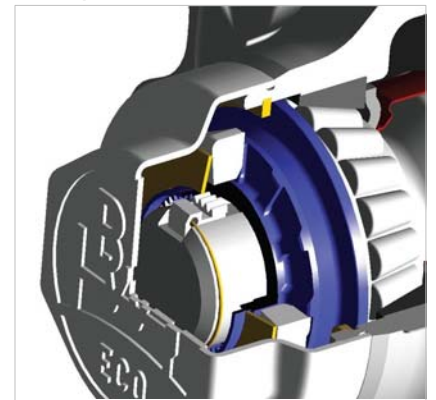
Incident 2: The wheel assembly separated but the loss was not noticed by the driver until the vehicle returned to base.

Both incidents happened soon after scheduled maintenance during which the wheel bearings had been inspected and readjusted. In incident 2, the wheel bearing axle nut retaining clip, which was deficient in tension, was mended and reinstalled onto the axle.

After both incidents, the axle and hub assembly was inspected. The **wheel bearing retaining clip had failed**, allowing the **axle retaining nut** to loosen.

Recommendations

1. Everyone responsible for vehicle maintenance and repairs must ensure that good engineering practice has been followed and that standards meet the manufacturer's instructions. Verify technical data with the original equipment manufacturer (OEM).
2. Repairs or modifications to vehicle equipment and parts must be carried out to a standard at least equivalent to the OEM.
3. Vehicles and equipment must be tagged out of service until suitable replacement parts are available and fitted.
4. Licence holders and contractors should ensure that standards are implemented for scheduled maintenance inspections and repairs.
5. Licence holders should review maintenance procedures to ensure that vehicle maintenance and repair standards are defined and expectations understood for maintenance tasks carried out by internal staff and contractors.
6. Licence holders and contractors should ensure that all maintenance is carried out to the manufacturer's recommendations and standards.
7. Vehicle drivers must undertake regular pre-start and en route checks to confirm the ongoing roadworthiness of their vehicle.



Wheel bearing assembly

Authorised by **Geoff Downs** | Chief Inspector of Explosives

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