

SAFETY ALERT



STEERING FAILURE ON CATERPILLER 793B DUMP TRUCK

INCIDENT

A steering failure occurred on a moving dump truck. Loss of steering on a large dump truck may result in serious or catastrophic consequences.

CIRCUMSTANCES

An unloaded Caterpillar 793B dump truck was being driven down a ramp at a large opencut mine. The operator noticed a change in the steering of the truck. He stopped the truck and found the steering mechanism hanging down below the chassis of the truck. The front wheels of the truck were in a "toe out" position.

INVESTIGATION

Initial investigations by the mine and the service provider found the pivot pin coupling the steering centre arm to the chassis of the truck had detached from the chassis. Two high tensile bolts tighten the locking device that holds the pivot pin. These bolts had broken away from the centre arm, allowing the lock and pivot pin to detach and fall away. It is not known if the bolts failed simultaneously together or at the same time.

Investigations by the Department have shown this is the third time this type of failure has happened at the mine during the past four years.

The original equipment manufacturer (OEM) and the mine's service provider are doing further investigations.

RECOMMENDATION(S)

Failure of critical parts on trucks such as tyres, brakes, suspension and/or steering may put lives at risk. These risks should be evaluated and appropriate engineering controls put in place.

The truck in this incident was a Caterpillar 793B model. Other trucks with the same type of steering are: 777, 785, 789, 793A&C. They are included in these recommendations.

1. Inspect the steering system to see if the retaining bolts have failed. Note that failure of ball joints has been a recent issue.
2. Refer to the OEM for the replacement assembly and correct installation procedure. Ensure you are receiving OEM safety bulletins and update information.
3. Defective equipment should be recorded in the maintenance management system and the OEM notified.
4. Inspection and maintenance management systems should reflect safety concerns and the updates provided by the OEM. Include in these systems concerns and engineering controls that have resulted from the risk assessment on the operation of these vehicles.

For more information, contact Graham Johnston, MSO - Mechanical on (office) 0242 239 107, (mobile) 0417 985200, email johnstog@minerals.nsw.gov.au

A handwritten signature in black ink, appearing to be 'R. Regan'.

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ASSISTANT DIRECTOR SAFETY OPERATIONS