

Safety and health alert

05/03 Mobile crane outrigger base plate failure

Incident

The left rear outrigger base plate of a 22.5 tonne mobile crane split in half when the load was slewed over the outrigger. The failure of the base plate resulted in the hydraulic ram of the outrigger piercing the ground, causing the crane to partially tip and only come to rest when the load hit the ground.

Fortunately the load was only 400mm off the ground and hit the ground before the crane could topple. The crane operator immediately slackened the hoist rope and the load was unhooked from the crane by the dogger. The remaining three outriggers were then retracted, allowing the crane to stabilise on its wheels.

Factors

Pre-operational checks and annual inspection were inadequate and failed to detect a brittle fracture and hairline cracks in the cast alloy base plate.

Timber pads were not placed under the outrigger base plates to distribute the load.

The crane operator had operated the crane with suspect base plates and without timber pads on previous occasions without incidents, and therefore had developed a false sense of security.

Recommendations

Ensure regular checks and annual inspections of cranes are conducted in order to detect structural defects on critical load bearing components.

Timber pads must be placed under outrigger base plates to distribute the load from the base plate where ground conditions are not load bearing.

Crane operators must follow the instructions of crane designers and manufacturers when setting up cranes for use.

Further Information

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

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