

PC3000 Undercarriage

Location	Queensland, Australia
Platform	PC3000 Hydraulic Excavator
Conditions	Hard Rock
Solution	Undercarriage Wear Monitoring Program and Tailored Maintenance Proposal

Situation

A customer based in Queensland, Australia, was utilising their PC3000 as the principal ore-digging machine during the final stages of their mine's operational life.

However, through Bradken's ongoing undercarriage inspection program, it was identified that the existing undercarriage would not be capable of lasting until the conclusion of the mine's end of life-without replacement.

Investing in new track assemblies at this late stage presented a significant financial challenge. The cost would divert resources from other critical operational requirements, with no practical way to recover the expenditure.

Solution

Bradken collaborated closely with the customer, conducting a detailed analysis of undercarriage wear data gathered during inspections. This analysis revealed that track pitch extension—largely caused by wear in the crawler shoe pin bores—was the main factor limiting the system's longevity. Notably, about 25% of the pitch extension was attributed to wear on the outer diameter of the connecting pins.

Bradken proposed a cost-effective and targeted maintenance strategy: replace only the worn connecting pins. By doing so, approximately one-quarter of the total pitch extension was eliminated. This intervention allowed the excavator to continue operating within safe wear limits, without the need for full crawler shoe replacement.

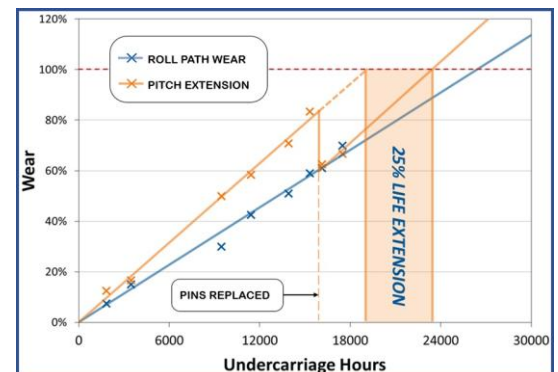
Forecasts showed that this approach could extend the undercarriage's life sufficiently to meet the mine's projected closure timeline.

Results Summary

- Operational targets met
- OEM wear life exceeded by 25%
- Achieved wear life requirements
- Operational costs minimised
- Reduced waste (throw-away shoe mass)



PC3000 Bradken Undercarriage



PC3000 Wear Life Increase Achieved



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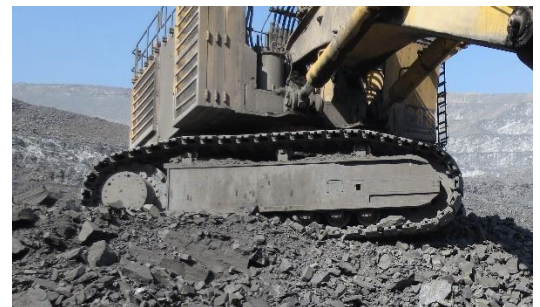
Results

Implementing the proposal delivered a critical reduction of over one-quarter in pitch extension, enabling safe operation of the PC3000 through the mine's final phase.

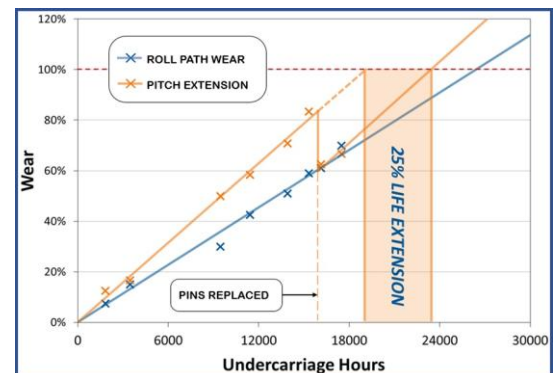
This strategic approach resulted in substantial cost savings, by eliminating the need to replace the far more costly full crawler shoe assemblies. The customer successfully concluded their operations without unnecessary capital expenditure, optimising both efficiency and financial resources.

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