

RAPID RESULTS SUCCESS

IMPROVING HAUL TRUCK TYRE LIFE AT ANGLO AMERICAN

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The global open-pit mining industry is currently plagued by a haul truck tyre shortage. This shortage is particularly severe on larger tyre sizes – from 45” rim size and above. The crisis has been so severe that several non-Anglo open-pit mines have been forced to park up trucks. Due to the tyre supply shortage on the global market, Anglo American has identified efficiency improvements as one of the key strategies to ensuring that our open-pit operations are not affected by the tyre crisis. We have identified the need to improve tyre life by 20% in order to keep our trucks rolling.

A global – multidisciplinary team, lead by ATD, was formed in 2007 to investigate ways and means of improving tyre life. Members from all Anglo Business Units were participants in the project. This project was part of the larger ATD Multi-Disciplinary Optimization Teams initiative.

The aim of the project was to capture and document the best practices around improving haul truck tyre life in order to prevent Anglo American open pit operations from being adversely affected by the current tyre supply crisis. The team visited 20 mine sites in three continents as well as several tyre suppliers, retreaders, repairers etc in developing their findings.

The outcome of the research was documented in the Tyre Improvement Guideline and Implementation Manual which is accompanied by a Tyre Improvement Toolkit. The Guideline illustrates the framework and activities that open-pit mines need to implement in order to improve tyre life. The Tyre toolkit, includes an operator training DVD, reports, manuals etc. and is aimed at supplementing the framework.

The findings of the team illustrated the need for a dedicated site tyre champion. The champion, supported by senior mine management, is tasked with orchestrating and managing four key tyre improvement pillars. The pillars together with a brief overview of each area is discussed below:

1. Creating operator awareness and urgency around improving tyre life. The DVD created by the team is aimed at assisting site champions with this pillar. Other activities include pre-shift talks, posters etc.
2. Ensuring optimal pit conditions for improving tyre life. Some activities here include road load and dump area condition monitoring, spillage clearing, road design issues, overloading and skew loading controls.
3. Tyre and Rim Management : The champion is expected to ensure the proactive pressure checking, tyre rotation and matching as well as identification of damages tyres for repairs.
4. Tyre System Management: Supply issues need to be managed together with site performance against predefined KPI's.

The framework was implemented in a pilot test at Anglo American Platinum's PPRust operation. Significant tyre savings were recorded during the three month pilot test period. Implementation is currently underway at all Anglo Coal SA open-pit mines under the guidance of Anglo Coal and ATD continuous improvement teams. Anglo Chile, Kumba and Anglo Coal Australia are also starting with implementation.

There are clear lessons that have been learned from the initial pilot implementations – there is no silver bullet – improving tyre life is a long term project that is driven by:

- Strong support and attention by mine management on improving tyre life
- Passionate people, from the tyre champion right through to all equipment operators, who are committed to implementing simple and practical tyre improvement initiatives.

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