

Controlling Gearbox Downtime Costs of Up To \$1M a Day

CHALLENGE

For our client, maintaining the operational readiness of SAG mill gearboxes was critical to keeping production moving. As one of the most important and valuable assets in the grinding circuit, any gearbox failure had the potential to result in significant downtime and lost revenue.



CRITICAL ASSET PROTECTION – DAMAGE & BRINELLING RISK

The challenge was not only ensuring spare gearboxes remained protected and ready for deployment, but also enabling safe, efficient transport whenever a unit required repair or replacement. The client needed a solution that would safeguard these critical assets throughout storage, handling, and transport, while minimising delays when time was of the essence.

Preventing component damage and brinelling — caused by vibrations during storage or transport — was key in determining the correct solution, as repair and downtime costs were significant.

REPAIRS TAKING 2-3 MONTHS AT BEST

A gearbox is critical to the operation of a SAG (Semi-Autogenous Grinding) mill because it transfers and multiplies power from the mill's drive motor to the rotating mill shell. Without a functioning gearbox, the mill cannot generate the torque required to turn the massive grinding load of ore, steel balls, and the mill itself.

In this instance, the SAG mill required two gearboxes to run, with one operating at each end of the mill. If one of these mammoth gearboxes broke down, the operations would literally grind to a halt.

These critical components take time to repair or replace. In the best-case scenario, if one gearbox is out, it can still take 2-3 months for parts to be hot shotted out for repair.

Our client faced a critical challenge in keeping SAG mill gearboxes both operational and protected as high-value assets within the grinding circuit. When repairs were required, these units also needed to be rapidly and safely transported to minimise costly downtime. The solution demanded a balance between secure long-term protection and fast, efficient mobilisation when every hour of production mattered.

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The frame provided protection for the critical gearboxes, including vibration damping to prevent brinelling of the bearings.

DOWNTIME COSTS GRIND ON, \$1 MILLION A DAY

The downtime impact on a SAG mill is significant — estimated at the cost of \$1million a day in lost production. When you factor in the hot shotting of parts to take several months, that figure escalates to \$56 million+.

PROTECTION FOR CRITICAL EQUIPMENT

For many mines, a SAG mill is the heart of the processing plant. Every hour the mill is offline can result in lost production revenue. This is why operators must invest in:

- Critical spare gearbox strategies
- Certified transport frames for gearbox movements
- Secure storage systems for spare components
- Long-term preservation programs to prevent corrosion and degradation during storage

FRAMES PROVIDE FAST SOLUTION

The solution for the gearbox storage and handling was a standard product from DAYWALK, specifically designed to prevent the risk of brinelling in high-value components. These pre-engineered solutions have a short lead-time of approximately 8 weeks. DAYWALK's vibration damping transport frames, including the Transporta, are engineered to minimise these risks through integrated vibration isolation, secure load restraint and component-specific support. By protecting valuable assets throughout transport and handling, they help ensure critical equipment is transported and remains in optimum condition. This ensures that costly downtime is limited and mill operations keep moving.

CONTACT US

SAG mill gearboxes are among the most critical assets in any mining operation, and when they fail, the cost of downtime can escalate rapidly. Whether you're transporting a gearbox for repair, storing a critical spare, or implementing a long-term preservation strategy, having the right systems in place can make all the difference when production is on the line.

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