

Case Study

Marion 8050 Dragline Tub Refurbishment

A Bowen Basin mining company engaged AE Young Engineers to assist with the refurbishment of a **Marion 8050 dragline tub**. After **40 years in service**, the tub had worn through in multiple locations, requiring structural repairs.

Assessment & Feasibility Study

AE Young Engineers conducted a **detailed condition assessment**, inspecting the tub both internally and externally. A **feasibility study** was then completed to determine the most suitable repair method.

While traditional repairs involve **over-plating the existing tub floor**, the extent of damage made this approach unsuitable. Instead, the study determined that **replacing entire sections** of the tub floor would provide a more effective and durable solution.



Work Area

Challenges & Solutions

The scale of the works presented several engineering challenges:

- **Heavy replacement sections** – The new floor plates weighed **over 5,000 kg each**, requiring careful planning for lifting and installation.
- **Limited headroom** – Precise mounting was essential despite restricted working space.
- **Accurate measurement constraints** – External access was unavailable while the dragline was in service, necessitating **internal laser scanning** for precise plate fabrication.



Tub Floor Damage

Outcome

Using the **tub replacement method** developed by AE Young Engineers, the project was completed **safely, efficiently, and to a higher standard** than traditional over-plating.

The method allowed for:

- ✓ Improved structural integrity
- ✓ Cost-effective execution
- ✓ Faster project completion
- ✓ Minimized operational downtime

By leveraging **advanced scanning, design, and engineering solutions**, AE Young Engineers delivered a **high-quality, long-lasting refurbishment** for the Marion 8050 dragline tub.

