

## **CAT 797B Rear Chassis Access Work Platform**

Anglo Coal Australia – Dawson Mines Maintenance Department

### **The Problem**

CAT 797B rear dumps are the largest coal haul trucks in the Anglo American fleet. The Original Equipment Manufacturer (OEM) has provided adequate access for operation of the CAT 797B's, however a risk assessment conducted at The Dawson Mines identified that OEM access is inadequate to perform a range of maintenance tasks required.

Maintenance work in the rear chassis of the rear dump is conducted at heights over 4 metres with poor or no fall protection barriers provided by the OEM. Without fall protection barriers in place, the OEM access provided to the rear chassis of 797B rear dumps is in breach of Anglo Coal Golden Safety Rules for working at heights. OEM supplied access to the rear of a 797B rear dump is either:

- Cramped- crawling through the engine bay; or
- Dangerous- entering the rear of the truck by climbing down the irregular OEM supplied foot peg ladder; and
- There is a restricted ability to take necessary tools into the work area safely when using OEM supplied access.

The conditions of the work environment make use of a fall arrest harness dangerous due to cramped conditions, inadequate attachment points and catch potential of the harness equipment.



Cramped engine bay access



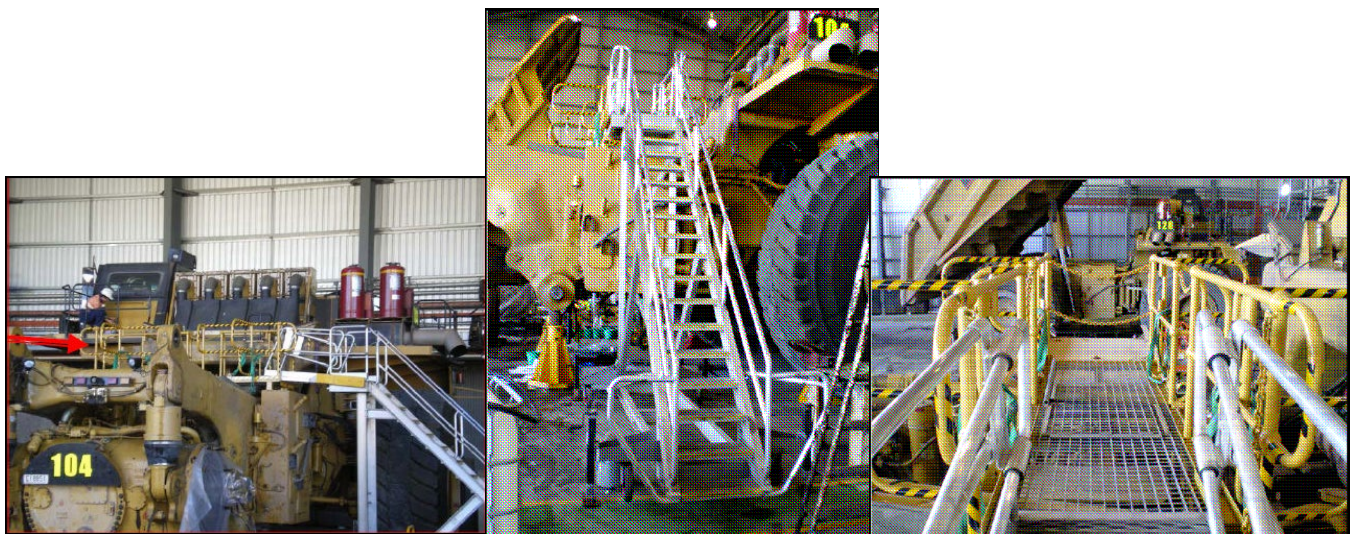
Dangerous OEM rear chassis foot peg Access

Note: use of the OEM foot pegs is not allowed at Dawson Mines due to being deemed unsafe.

## The Solution

A drop in work platform has been designed and built by the maintenance team at Dawson Mines. The platform is dropped into place across the rear chassis of the truck by a crane and used in combination with a step ladder to provide a safe means of access to the rear of the 797B rear dump.

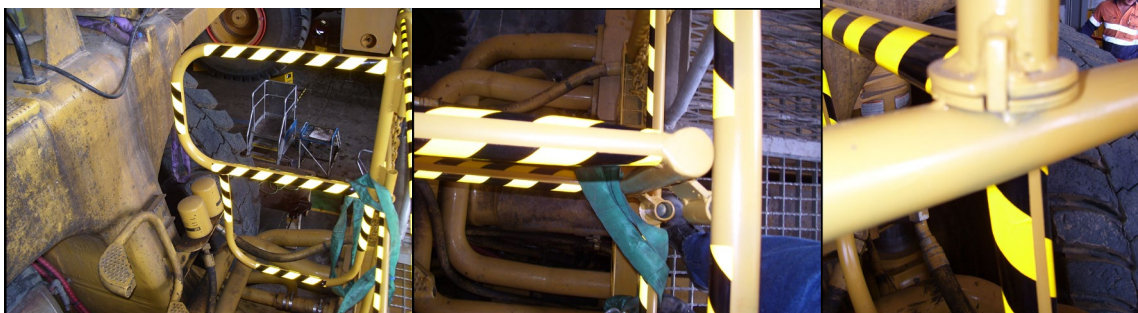
The platform designed and built provides a hard barrier to engineer out the fall potential hazard and also provide safe and easy access with employees now able to “walk onto” the truck with minimal effort and safely able to carry any necessary tools into the work area. Set up of the platform is quick and easy as a crane is used to lift the platform straight onto the rear chassis of the truck in a matter of minutes. The platform sits across the fuel and hydraulic tanks and locating lugs assist ease of placement.



Above:- photos of the platform placed across the truck chassis and a step ladder in place providing access to the platform.

Note- the truck rear tray has been removed in these photos.

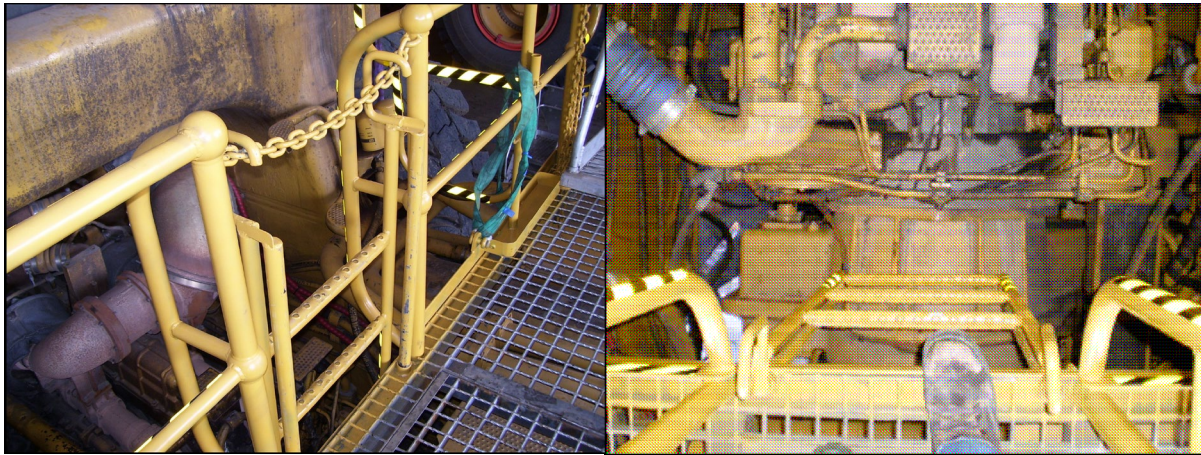
Once the platform is in place, fold out wings then swing out and lock into place to provide fall protection when working on the rear of the 797B, thus providing a hard barrier to engineer out the fall risk potential.



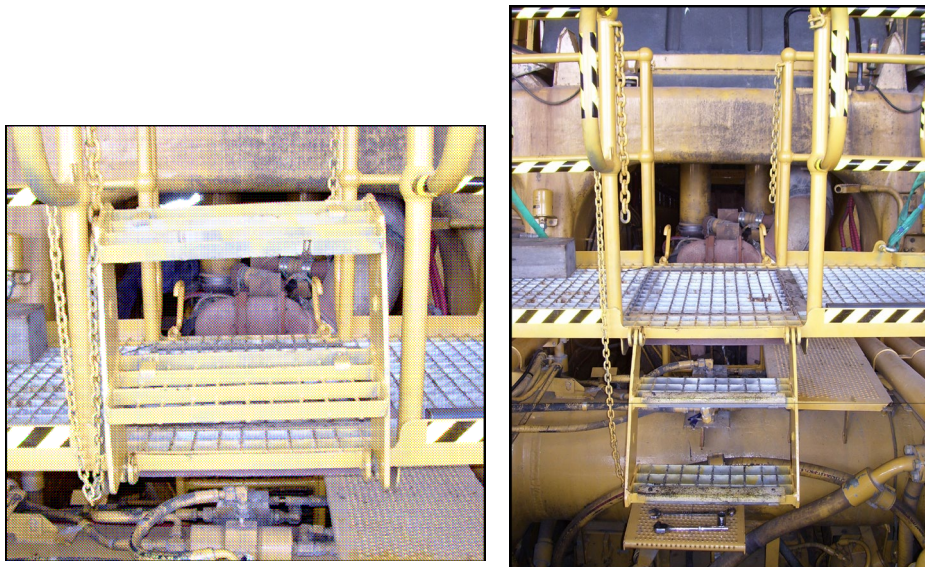


Above:- photos of one of the fold out wings and locking mechanism

A slide down ladder provides access from the platform to the engine bay and fold down steps provide access to the rear chassis of the rear dump.



Above:- photos of the slide down ladder. The left hand photo is of the ladder prior to it being lowered, the right hand photo is looking down into the engine bay with the ladder lowered.



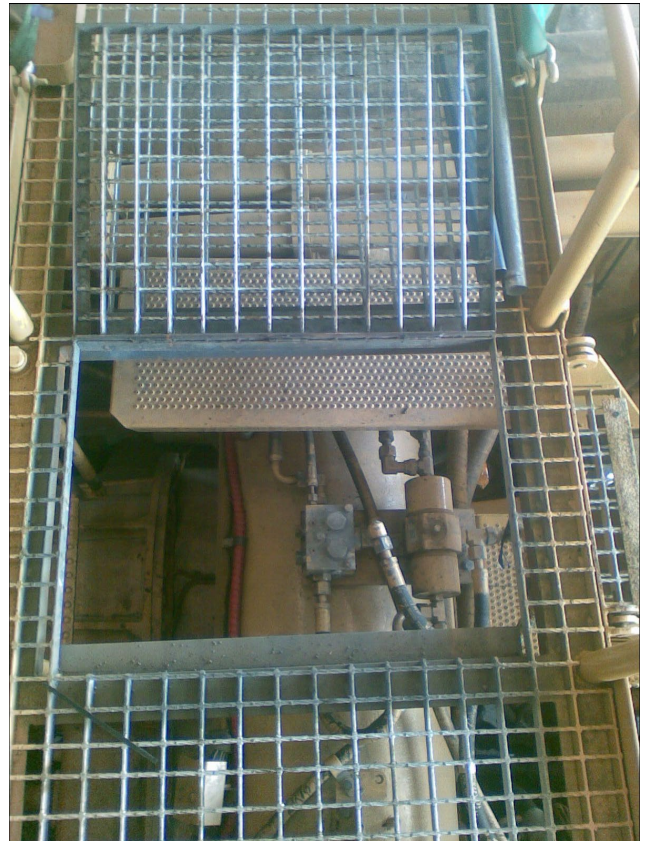
Above:- fold down steps (folded up on the left and folded down on the right) provide access from the platform to the rear of the truck





The above photo is of the platform in place across the chassis of the truck. The photo is taken looking to the rear of the truck (the truck's tray in this photo has been removed).

A fold up hatch in the centre of the platform also provides access to key truck components that would otherwise be inaccessible by the placement of the platform- below photos depict the hatch both closed (left) and open to expose truck components.



The design of the platform is uniquely put together to ensure it is able to be used on all CAT 797B rear dumps, taking into account subtle manufacturing differences in the trucks. The platform can be used to provide access from either side of the truck and also folds up for neater storage as shown below.



## Benefits/Effects

The platform provides an engineering control for falls from height when working in the rear chassis of a 797B Rear Dump. Safe and easy access is also provided with employees now able to "walk onto" the truck with minimal effort and safely carry any necessary tools into the work area

After the initial design concept by the engineer, a number of innovative safety features were instigated and put into the design by the team who eventually built the platform, including:

- The under platform access hatch;
- Ergonomically designed fold down steps and slide down ladder;
- The platform can be set up to access it from either side;
- The locking design for the fold out "wings" that locks the wings either stowed away or in position for use; and
- The platform neatly folds up for easier storage

All of these features demonstrate an "above expectations" commitment to improving safety in the workplace by the team and are evidence of employees identifying and implementing safety improvements in their workplace.

The initial vision, drive and support for resources for the project by line management actively displayed the fact that safety matters to the whole work site. The pride in work and commitment to safety by team members is clearly evident by the quality of the work produced and the innovative safety features in the final product that the employees produced.



The morale of the workforce has been lifted by the success of the project, and while it is hard to put forward tangible evidence of this on paper, other innovations have continued to flow from team members including a set of drop in solid edge protection rails for use in the field when accessing the rear of a CAT 797B rear dump. Again innovative features above the call of duty were displayed in the construction including a forklift moveable storage rack and a spring loaded access gate.



## Transferability Across Industry

The innovation is transferable to all sites that use Rear Dump haulers. The design can also be easily adapted to other truck models and sizes.

The platform has been nominated for the Anglo American Chief Executive Safety Awards and is currently in the final round for consideration of this award. Also the OEM has sent the innovation out to all other mine sites that use CAT trucks as a safety innovation.

## Innovation

The team was presented with a problem and has shown that with innovation, team work and dedication it is possible to engineer out hazards and improve safety at the workplace without spending a fortune. After coming up with the initial design concept, the team identified a number of issues and through each individual's commitment to safety and desire to ensure the safety of their team-mates came up with solutions as a team and drove this innovation from an idea to a solution. The true value and worth of a good team has been clearly displayed throughout this project.