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CASE STUDY

Pilbara Rail Repair Team ~ Page 1

Client:

Rail repairs and maintenance team in the Pilbara region of WA



Time Period:

Discussions started around October 2018, with prototypes, testing and trialling happening through to May 2019. The final design, with identification plates and stencilling, was rolled out in February 2020.

Products:

18230005 Custom WERKS® Brake Component Storage Box





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Challenge:

Our client needed a fleet of storage and transport units for train parts and components throughout the Pilbara. These units would be used for storage in the workshops, then used for transport from mine sites to repair workshops. They would be travelling hundreds of kilometres and used in harsh environments - certainly not a plastic crate task!

Previously, the parts and components were transported in or on whatever was available - pallets, stillages, crates etc. This was inefficient and the lack of clear labelling made it difficult to keep track of the items.

We needed to be in this for the long haul to get it right.





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Solution:

We started out with a simple design based on the WERKS® 325mmH Bolt On Pallet Cage. Modifications included cladding the outside of the cage and installing two pull-out platforms, accessed from front and rear via the swinging gates.



After testing this out with the client, and the concept being approved, a test run of ten storage boxes was rolled out in December 2018. These had full steel frames, drawers at front and rear, latch lockable doors at front and rear, provision for stacking and forklift/pallet jack pockets. One of the major benefits of this concept is the ease of access to contents, reducing the risk of strain injuries from reaching and lifting.





Solution (continued):

Come May 2019, we were proceeding with the next stage of this project. With trials on site completed, we were armed with feedback and constructive criticism to fuel us on our quest for the best. We fabricated another 13 trial units based on the feedback we had received - safety is always a key priority for a new design, and here are the safety concerns we addressed:

1. Sharp edges - 'safe rolled edges' created on the drawers
2. Visibility hazard when doors open - hinges fitted to doors allow 270° opening, doors sit flat against side of box when open
3. Inefficient drawer locking - single centre-bolt mechanism allows easy operation by one person; two pull handles reduces strain risk
4. Doors didn't seal closed - doors now sit flat against frame, keeping moisture and dust out
5. Damage to contents and divider system - use timber for a malleable, yet strong, divider system that is easy to swap out
6. Theft, misplacement and misuse - identification plates fitted to each storage box with load rating details





Solution (continued):

The 13 'final' trial units were used extensively throughout the rail repair network, and with a few final safety improvements added to the design, fabrication of 54 units began in November 2019.

Further safety improvements:

7. Fabrication integrity - re-shaped sheet top with locating flanges welded directly onto corner posts, increasing strength and durability
8. Theft, misplacement and misuse - identification and load guide stencilling on every side of the storage box

Functionality features:

1. Nylon bushes on hinges improve longevity for harsh environments where dirt and dust is inevitable
2. Base is manufactured to be compatible with pallet racking, and allow safe stacking
3. In-built fork pockets allow transport by forklift or pallet jack
4. Three-point locking system on doors with centre spring bolt, top and bottom slide pins
5. Ergonomic access to contents via full-extension drawers on both sides of storage box, which can still be accessed while stacked





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Final Rollout:

Despatch of 54 units to the Pilbara in February 2020, with custom identification and load guide stencilling to fit the purpose/usage field of each storage box.

