

Sugar 10T Bogie Cane Bins

Location	North Queensland, Australia
Platform	Sugar Cane Transportation
Conditions	Under-performing / low-capacity Cane Bins
Solution	Redesigned larger capacity Bogie 10T Cane Bins

Situation

Tully Sugar has a fleet of old deteriorating 4-ton low-capacity cane bins that require replacement. Due to lower capacity than desired by the mill and frequent failures in service these cane bins require replacement to meet production, capacity, maintenance and safety requirements.

Failures are occurring where the bins lose their headstock ends while being towed, potentially causing costly and dangerous derailments. The lower bin capacity (approx. 7.5 tons) is causing production issues as the tippler fits 2 x 4-ton units and the volume of cane tipped from the current bins per cycle does not meet the intended crushing rate of the mill, therefore creating slowdowns and inefficiency.

Solution

Bradken collaborated with this long-standing customer to design and manufacture a 10-ton capacity Bogie Cane Bin that has the same overall physical dimensions as the existing 2 x 4-ton units, however, it averages a higher carrying capacity of 10 tons compared to the 7.5 tons, allowing the mill to achieve their forecast crushing rate, as well as improving efficiency and safety on the rail network. The old-style pin and link couplers were also replaced with a more efficient product, the BK49 auto coupler further improving operational efficiency.

Results

- Bradken has supplied 835 x 10 Ton Bogie Cane Bins and there are a further 500 Cane Bins required to complete the stage replacement program over upcoming years in collaboration with the customer.
- Less derailment and safety incidents are being recorded in the field as well as increased efficiency and reliability overall of the bin fleet.
- The mill crushing rate is being achieved consistently with the improved productivity benefits of higher capacity bins and product reliability.
- Reduced maintenance of the bin fleet as the older units are phased out.

Results Summary

- Increased capacity improving production levels and consistency
- Reduced manual handling, improving safety both on-site and rail network.
- Productivity increase with fewer changeouts.
- Reduced maintenance costs and time.



Older 4Ton cane bin units



New 10Ton Cane Bins in operation



New 10Ton Cane Bins in operation