

# NTN Sealed Ball Bearings Decrease Cost on Log Sorter

A Southeastern United States lumber mill was experiencing biweekly bearing failures on its log sorting line. In the log sorter, long conveyors are designed to move and sort logs according to size. The conveyor system contains 660 bogey wheels connected with a network of chains and sprockets. Each weekend 100 to 200 bogey wheels, each containing a deep groove ball bearing, need to be replaced, resulting in eight to ten hours of weekly maintenance. The regularly occurring bearing failures resulted in over \$158,000 in annual costs to maintain the application.

NTN's engineering and sales support team ran a diagnosis of the mill's sorting line and determined that the bearings were only lasting two weeks due to water and contamination ingress, which caused bearing components to corrode and seize.

## The NTN Solution

NTN's team recommended the implementation of our LLU sealed ball bearings as a replacement for the competitor's bearings with non-contact shields. NTN's LLU sealed ball bearings utilize double-lip contact seals to maintain better contact with the sealing surfaces, allowing for extended seal life and effectiveness. The improved sealing helps extend the life of the bearing by preventing contamination ingress and reducing grease washout.

## The Result

The NTN solution lasted four months - an increase in bearing life of 700%! Annual bearing failures fell from 15,840 to 1,980. The reduction in maintenance and bearing acquisition cost from switching to NTN LLU sealed ball bearings saved the mill \$100,980 in annual costs on the log sorter.



## VALUE ADDED BREAKDOWN

**REDUCED ACQUISITION COST**

**\$59,400**

**MAINTENANCE REDUCTION**

**\$41,580**

**DOCUMENTED COST SAVINGS**

**\$100,980**

CS-1746



# NTN SEALED BALL BEARINGS

## Grooved Type Sealing Figure for Excellent Performance (All Models)

A v-shaped groove is cut around the inner ring. Under centrifugal force, the outer surface of the 'v' acts to keep out dirt; the inner surface of the 'v' acts to seal in the grease.

## Double-Lip Seal Adjusts to Wear (LLU Spec)

The inner lip of a double-lip seal is pressed against the inside surface of the V-groove; the outer lip is spread open by the elastic force of rubber to create a small gap between the outer lip and the inner ring, creating a labyrinth effect (Figure 2). Should the inner lip wear, the contact pressure will decrease; however, the outer lip will get closer to the inner ring (Figure 1). In effect, a constant degree of sealing will be maintained; and, as a result, bearing service life will be noticeably lengthened.

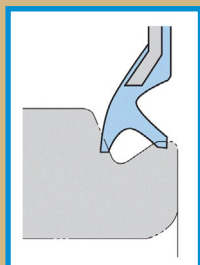


Figure 1

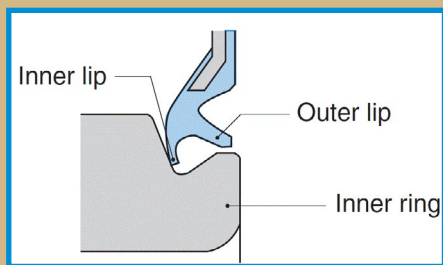


Figure 2

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NTN BEARING CORPORATION OF AMERICA  
1600 E. Bishop Court • Mount Prospect, IL 60056-7604  
Tel: 847-298-7500 • Fax: 847-294-1205 • [www.ntnamerica.com](http://www.ntnamerica.com)



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