

# NTN's Sealed Ball Bearings Reduce Cost to Operate Wire Braiding Equipment

A leading global supplier of equipment for the industrial and hydraulic hose industry was experiencing problems with the bearings it was using in its wire braiding machine. The bearings originally used in the machine were discontinued and the replacement bearings they received from a low cost country manufacturer were failing every *four months* from fatigue flaking due to extreme misalignment and contamination. The customer reached out to NTN's engineering and sales support team for help identifying a solution to the problem.

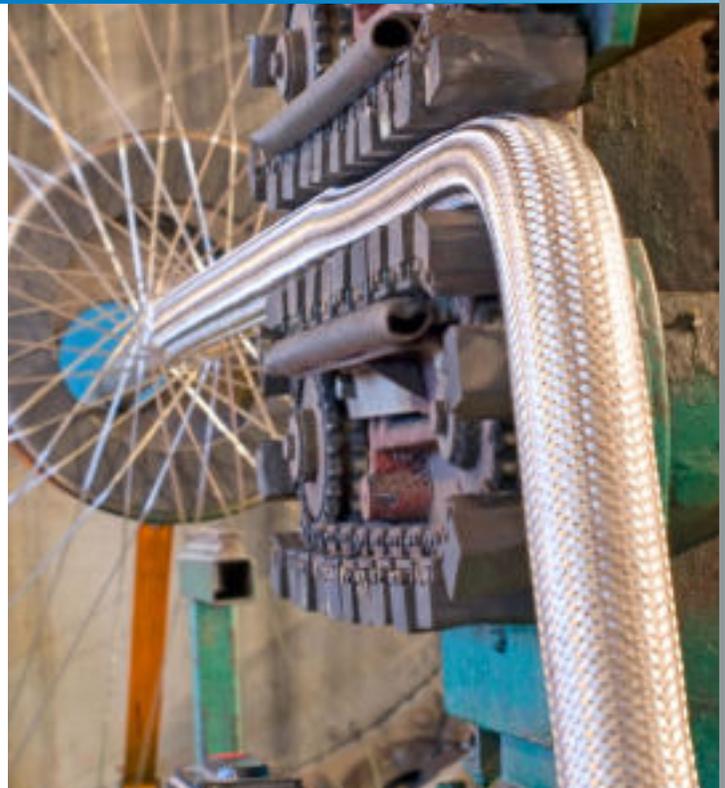
NTN's team analyzed the failed bearings and determined the current bearing being used had two times as much radial clearance as the original bearing designed for the application. Being a single bearing support, the increase in radial clearance decreased the system stiffness and allowed the bearing to operate in a misaligned position. Additionally, because of the high misalignment, the single-lip seal on the failed bearings lost contact with the inner ring, thus allowing contamination to freely enter the bearing.

## The NTN Solution

Using the information from the analysis in concert with the requirements of the application, NTN Engineering recommended a bearing with a tighter clearance range to help reduce the potential for misalignment within the application. Furthermore, NTN implemented our standard double-lip contact seals which, due to having dual lips, maintain better contact with the sealing surfaces than single-lip seals, especially in misaligned conditions.

## The Result

NTN's specially designed lasted *12 months*; a 200% increase in bearing life! The decrease in bearing spend and maintenance cost enjoyed by the customer after switching to the NTN bearing resulted in a cost savings of over *\$100,000*.



## VALUE ADDED BREAKDOWN

**REDUCED ACQUISITION COST**

**\$69,888**

**MAINTENANCE REDUCTION**

**\$30,240**

**DOCUMENTED COST SAVINGS**

**\$100,128**

CS-1330



**ANNUALIZED  
COST SAVINGS  
\$100,128**

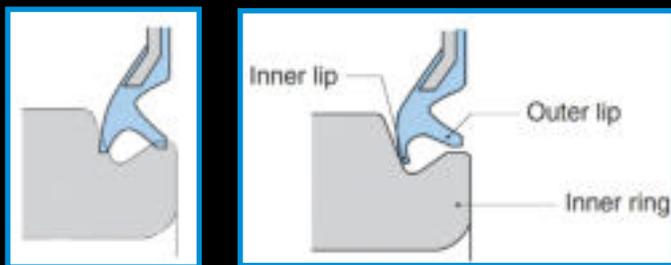
# NTN SEALED BALL BEARINGS

## 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. Should the inner lip wear, the contact pressure will decrease; however, the outer lip will get closer to the inner ring. In effect, a constant degree of sealing will be maintained; and, as a result, bearing service life will be noticeably lengthened.



## Beyond Bearings

Training. Installation Support.  
Trouble-shooting. And more.

When you choose NTN, your team is equipped with all the necessary tools and resources to get the job done right. From installation to problem-solving, we'll be there with the hands-on support you need to take on your toughest challenges. This includes extra services such as:



### Technical Training Unit

On-site, mobile training unit offering specialized, hands-on instruction from NTN engineers



### Product Training School

Three days of in-depth instruction from NTN engineers at headquarters  
([go.ntnamericas.com/trainingschool](http://go.ntnamericas.com/trainingschool))



### eKnowledge

WEB-BASED TRAINING PROGRAM

Six online product training modules covering different bearing types and nomenclature  
([www.ntnamericas.com/eknowledge](http://www.ntnamericas.com/eknowledge))



### NTN Bearing Finder

Customizable search tool featuring exhaustive data sets, comprehensive part interchanges and interactive CAD drawings  
([bearing.nder.ntnamericas.com](http://bearing.nder.ntnamericas.com))

## We can help untangle your production problems.

We're here to help you achieve your productivity and performance goals. For more information, contact your NTN Sales Representative or **call 1-888-412-4122**. For technical questions, **email [techsupport@ntn.ca](mailto:techsupport@ntn.ca)**.

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