

# INNER RING

# MAGAZINE

News and Technology from  
SKF Canada Ltd.

ISSUE #1 | 2017

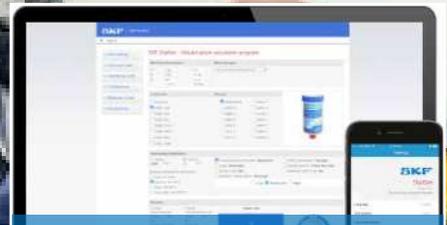
## Eight-tonne bearing

The largest ISO-dimension  
spherical roller bearing ever  
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Master application engineer



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# SKF®

# ELECTRIC CARS TODAY, WIND TOMORROW?

SKF provides vital parts to Chinook team for their wind powered racer at the annual Racing Aeolus in Den Helder, Netherlands

## Who are Chinook?

Created in 2009, Chinook is based in Montreal at the ÉTS (École de technologie supérieure/Superior Technology School) campus and is dedicated to design and build a vehicle able to use the energy of a headwind to propel itself forward. With sustainable design and innovation in mind, the team works hard to deliver each year a prototype for the Racing Aeolus event in Dan Helder, Netherlands.

2016 model on the track (below). Designed in Montreal, Canada.

Prototype for 2016 wind powered car design (right)



### The Vehicle

This year, the team integrated two new systems to the wind powered vehicle: an electronic assisted rear-wheel steering and a set of low wind blades. The rear steering system allows the car to remain in the line of wind at all times during the race. As for the new blade set, it has been designed to be more efficient for light winds. Fully mechanical, the Chinook draws its energy from a head wind that drives the wind turbine. The torque generated is then transferred by different gearboxes and transmission shafts to a 14-speed planetary transmission which increases the likelihood of multiplying the energy transferred to the wheels. Different mechanical systems such as wind turbine rotation, blade setting and shifting are controlled to obtain the best possible performance based on the data collected by the various sensors installed in the vehicle. All the data received and generated are then transferred via a CANBUS to the brain of the car, the black box Chinook. Finally, all the data is routed in real time to a fixed station which provides the team with an opportunity to analyze the performances and modify certain parameters in case of an emergency.



*Winner of the Gerard Broers Award as the most innovative vehicle at the Racing Aeolus 2016*

### The Race

Every year, the Dutch organization Wind Energy Events presents Racing Aeolus, an event where special cars use a headwind as the sole source of energy for propulsion. Wind-powered vehicles of various academic teams have to travel a distance of 600 meters as efficiently as possible, on the shore of the North Sea in Den Helder, Netherlands. The winner is determined by the ratio of the vehicle speed on the wind speed. Aside from the main event, the drag race and the innovation prize allow judges to determine which wind powered car is the most complete.

Team Chinook ÉTS completed the most laps of all teams and set an impressive 88% average of efficiency, going nearly 40 km/h. Despite not winning the tournament, team Chinook's wind-powered vehicle received the Gerard Boers Award for the most innovative vehicle in the 2016 Racing Aeolus.

"On behalf of Team Chinook, I would like to thank SKF for the support that they have given us for the past five years." – Nicolas Côté, Mechanic for Team Chinook

# SKF ONLINE

Learn how SKF products and know-how can help you get the most out of your machines with educational videos, online tools and more, anytime on our knowledge centre at SKF.CA



## SKF LubeSelect

A free tool to help you decide which SKF grease is right for you  
[goo.gl/8h6MLj](http://goo.gl/8h6MLj)

## A third of your bearings are failing early!

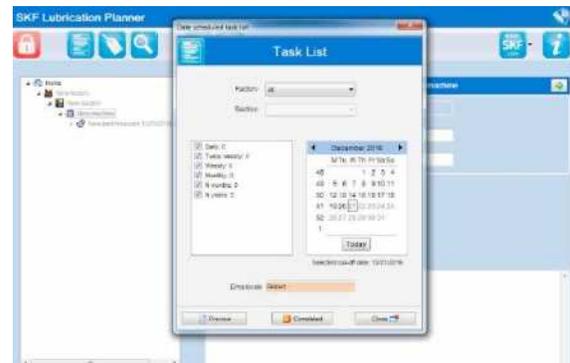
More than 36% of all premature bearing failures are the result of poor lubrication. SKF's diverse set of lubrication solutions can help you increase plant uptime, performance and productivity.

SKF offers specialized lubricants, state-of-the-art lubrication systems, dependable technical support, industry leading management programs and a wide array of knowledge – all from a single, reliable partner.



SKF DialSet: [goo.gl/NHYJlo](http://goo.gl/NHYJlo)

System 24 automatic lubricators setup tool



SKF Lubrication Planner: [goo.gl/YxiVBV](http://goo.gl/YxiVBV)

A tool to help you develop and follow up on lubrication plans

Inner Ring will feature a different section of the SKF Knowledge Centre in every issue.

Find these and many more at **SKF.CA**

# SKF supplies eight-tonne bearing for mining application



**This is the largest ISO-dimension spherical roller bearing ever produced by SKF**

SKF has manufactured and supplied its largest ever spherical roller bearing (bore diameter 1,25 metres/4.1 feet) to be used within the mining industry. The bearing was manufactured at SKF's factory in Gothenburg, Sweden.

"SKF is a world leader in spherical roller bearings, manufacturing bearings of all sizes and series – from the smallest, with a 20 mm bore size, to this large size bearing that weighs close to eight tonnes" says Petra Öberg Gustafsson, Product Line Manager for self-aligning rolling bearings at SKF.

The bearing is equipped with SKF SensorMount, a unique system that measures the actual mounting fit of the bearing onto the shaft. It helps avoid the risk of improper mounting, a major issue for large size bearings. The bearing weighs 7,780 kg (17,152 lbs). Each roller within it weighs 42 kg (93 lbs).

The bearing is of the upgraded SKF Explorer class with improved wear resistance, thanks to the patented material heat treatment process that nearly doubles service life in poor lubrication and contaminated conditions.

SKF was chosen to supply the bearing due to its Application Engineering expertise and support, and the knowledge and experience in manufacturing large size industrial bearings.

Daniel Ortega, Project Manager at the Gothenburg factory, says: "We have worked in close cooperation with the customer, in order to design an optimum 241/1250 bearing that is particularly suitable for applications in the mining industry. These applications have extreme operating conditions and are very demanding from a bearing service life perspective."

# Master your Pulp and Paper Practices with this new SKF publication

The challenge today is that the pulp and paper industry, globally, has become extremely competitive. Companies everywhere are trying to get the most from their machines. Whether mills are using state-of-the-art machines or older ones that have been in operation for decades, all are facing the challenge of developing new people or retaining the knowledge of those that are retiring. As a result, the knowledge of best practices related to maximizing bearing service life is not available in some regions and is being lost in others.

**SKF has a history of involvement in the pulp and paper industry, our new Pulp and Paper Practices collection is here to help, get yours today!**



SKF provides our customers with knowledge on how to increase service life by using the right techniques and tools. The intention with this publication is to do just that, starting with some techniques from the experts.

Everyone knows what results they want, but it is sometimes good to refresh our memory of how to achieve it and why it is so important.

**Download the Pulp and Paper Practices handbook for free at: [goo.gl/mNh9u8](http://goo.gl/mNh9u8)**  
**Or email [marketing.canada@skf.com](mailto:marketing.canada@skf.com) for a print copy**

The Pulp and Paper Practices handbook is a 168 page compilation of first 15 issues of SKF's technical newsletter for the pulp and paper industry. The compilation comprises all the newsletters published between January 2011 and September 2015. It includes contributions from a number of SKF employees on various topics including bearing mounting, lubrication, checking tapered seating geometry, remanufacturing and machine speed increase considerations.

SKF is known for having some of the most knowledgeable people in the industry and we will introduce a few of them to you. We encourage you to reach out to Martin and draw on his experience!

**Name:** Martin Duval

**Position:** Master application engineer, based in Montreal.

**Background:** Having the highest designation of application engineering, Martin is one of SKF's 42 Master application engineers across the globe. He holds 20 years of experience in the design and maintenance of rotating equipment; especially in the pulp and paper, mining, cement, energy, metal and railway industries, but also is an expert in root cause failure analysis and tribology. Martin knowledge is highly sought after as a developer and lecturer for the machine element course at the École Polytechnique de Montréal and the University of Sherbrooke and is also a popular trainer with SKF's Training Solutions.

**Trends:** A huge trend is that customers are more willing to buy quality products with innovative features that will reduce or eliminate certain maintenance costs and improve uptime over the service life of their equipment.

**Tips:** The approach to making a bearing application reliable does not only involve looking at the bearing component. An outstanding solution has to integrate the sealing and lubrication characteristics as well.

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## SKF SPOTLIGHT



# SKF EXPANDS ITS FAMILY

SKF Canada Limited integrates Kaydon & Cooper bearing brands

**SKF customers come from a wide range of industries, and have an even wider range of needs.**

Kaydon and Cooper bearing operations were acquired by SKF Group in 2013. Until now, the sales in the Canadian market place has been managed by the master distributor Cooper-Grainger Canada Inc / Technical Bearing Sales Ltd.

Starting Jan 2 2017, sales and technical support responsibility for Kaydon and Cooper bearing brands will be assumed by SKF Canada Limited.

This consolidation will benefit customers who can now turn to SKF for sales and technical support for an even wider product range, supported by a larger geographical presence.

SKF's value propositions of enhancing rotating equipment performance and product delivery, quality and price are both well supported by Kaydon and Cooper brands.

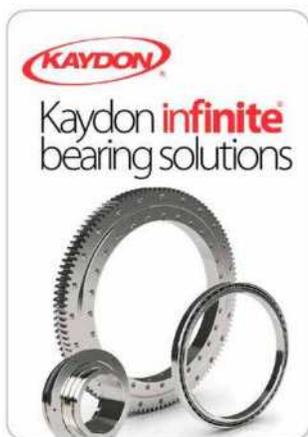
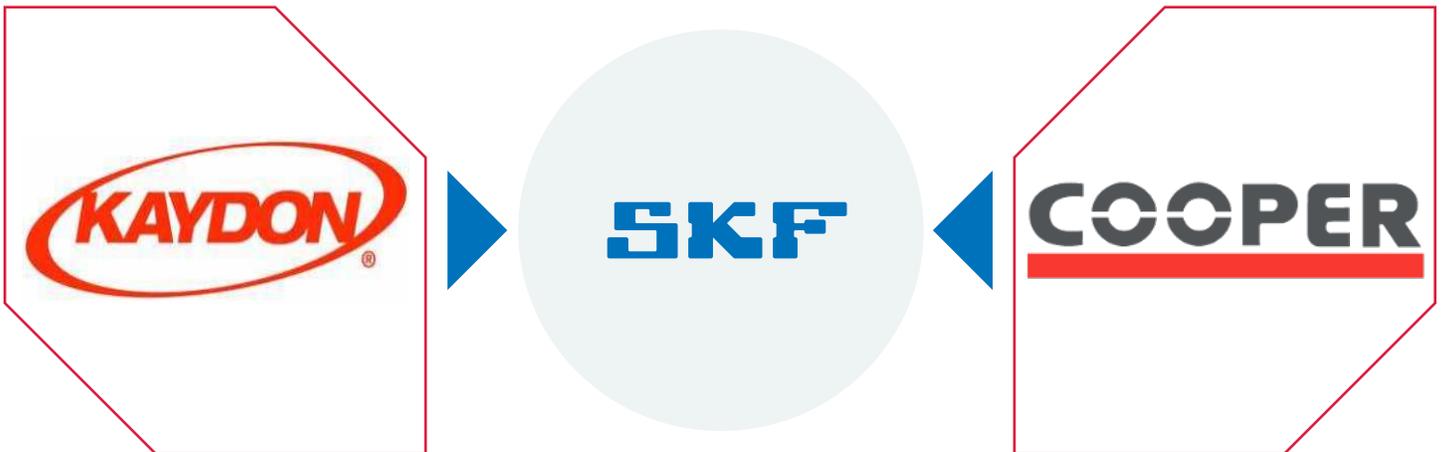
## What is Kaydon?

Kaydon Corporation is a leading designer and manufacturer of Kaydon thin section and slewing ring bearings and Cooper split roller bearings.

Specialty products include Kaydon custom balls, rings and seals,

Kaydon became part of SKF on October 16, 2013.

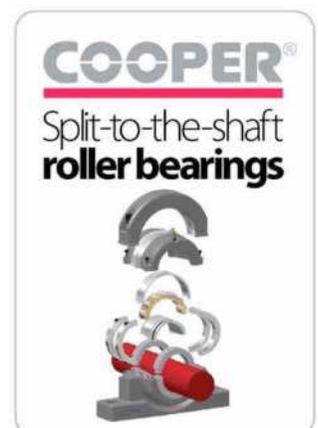
[www.kaydon.com](http://www.kaydon.com)



Kaydon's three core business areas are friction control products such as bearings, velocity control products and specialty products, including environmental services.

In 2016 Kaydon celebrated its 75th anniversary!

Cooper is a global company with representation in every continent and an international reputation for excellence in the design and manufacture of split bearings. In 1991 the Kaydon Corporation became Cooper's parent company.



# Featured products from SKF!

SKF has a unique understanding of rotating equipment and how machine components and industrial processes are interrelated. We provide a wide range of products and related technologies to OEM and aftermarket customers around the world, in every major industry, at each phase of the asset lifecycle.



## Cooper - Split bearings

Cooper split bearings combines two crucial elements of running cost-effective machinery: flexibility and reliability.

[goo.gl/RoXjya](http://goo.gl/RoXjya)



## Kaydon - Slewing ring bearings

Kaydon slewing ring bearing solutions are ideal for heavy-duty applications requiring significant load-carrying capacity and where precise positioning is critical.

[goo.gl/rj9QMz](http://goo.gl/rj9QMz)



## Kaydon - Thin section bearing

Reali-Slim bearings produce larger ratios of diameter to radial section, which lead to space and weight savings of up to 85 percent.

[goo.gl/73Adyk](http://goo.gl/73Adyk)

## Training Solutions

### Learn from the leaders of the field

Training is essential to the success of any business. In today's competitive world, keeping up with and deploying best practices is a must.

#### WE201 - Bearing Maintenance & Technology

Jan 18-19, 2017 - Toronto, ON

Jan 23-24, 2017 - Vancouver, BC

Jan 25-26, 2017 - Edmonton, AB

Mar 1-2, 2017 - Winnipeg, MB

#### WE204 - Root Cause Bearing Failure Analysis

Jan 30-31, 2017 - Montreal, QC\*

Feb 1-2, 2017 - Toronto, ON

SKF Training Solutions:  
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T: 403-519-1655  
E: [training.canada@skf.com](mailto:training.canada@skf.com)

\*indicates a French language course



### New for 2017!

Download the full 2017  
Training Solutions  
catalog. Link and QR  
code below.

[goo.gl/ZBWhSz](http://goo.gl/ZBWhSz)



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