

# GEARING

Ontario-based gear experts, Havlik Gear, are supplying some of the largest gears produced in North America.

# UP

When the world's largest mine operators need a custom gear made they can't exactly pick one up at the local Wal-Mart.

In fact, as gear diameters approach and even pass the 240 inch mark (six meters), there are only a small number of businesses in North America can tackle the job. That is where Havlik Gear, a division of Cambridge, Ont.'s, Havlik International enters the picture.

"We have the largest gear-cutting capacity in Canada by a fairly large margin," explained

general manger, Rob Borrelli.

With four generations of Havliks running the business over the past 120 years, the company's extensive expertise can provide the best solutions and quality products in areas such as mining, energy, transportation and many others requiring the creation of gearing products.

At Havlik Gear, which began in 1993, the main business emphasis is on open gearing, special gearing, replacement gearing, bevel and worm gearing, gear units and gear grinding of all sized gears.

The company has continued to grow over the past 15 years and now, thanks to the capacity and capability of their equipment and staff, they can create parts and products that no one else can.

"We definitely have the right combination of equipment to take on any gear creation project," said Borrelli.

In fact, the range of OD gear diameters that can be made starts at four inches and goes to a staggering 320 inches (eight meters). To create gears of this size, Havlik uses a Maag SH600735 gear shaper.

This machine has a maximum

Large diameter gears, such as the one shown below, pose no problem for Havlik Gear's equipment.





The company's new building (concept shown above) will house the new Kapp Niles ZP40 gear grinding machine.



face capacity of 52 inches (single helical/spur) and up to 100 inches (double helical). The maximum weight capacity is 60 tons.

Of the 20 or so machines currently being used, two others that stand out are the TOS KURIM FU (Q) 150 boring mills.

Equipped with multiple heads, an extremely long bed and a rotary table, these machines have a maximum workpiece diameter of 275.6 inches and the rotary table has dimensions of 78.7 by 98.4 inches and cross stroke 88.4 inches. With the stroke parameters in the axes of X=374 inches, Y=59 inches and Z=98 inches, being considered quite large, these machines enable Havlik to produce parts that were previously impossible.

These machines were purchased by Havlik International for the manufacturing of parts for Havlik Gear, and, at the same time, they are show pieces in the company's showroom. With these machines under power and working they can show customers the actual working capabilities.

One of the main technological advantages of these boring mills is the system of interchangeable spindle heads, which give the

FU (Q) 150 the flexibility and capability to work on an entire piece from roughing to high-speed finishing. This is especially beneficial in the creation of large molds and dies for the automotive industry.

## New Equipment, New Building

In addition to the recently installed boring mills, Havlik will soon install a new KAPP NILES ZP40 grinding machine.

The ZP40 was designed to profile grind spur and helical external and internal gears using dressable corundum or sintered

grinding wheels. This machine can also be set-up to accommodate application-specific requirements for maximum flexibility, high precision and optimum productivity. It can also accommodate shaft pinions, mating bull gears and internal ring gears.

The capacities of this machine are also quite large, with 160 inches OD possible and up to 60 inches of face grinding possible.

"This machine will also be able to achieve aerospace tolerances on large gears and do so faster than our current capability," said Borrelli.

This will reduce total machining time and allow the company to produce accurate parts more quickly, improving lead times and increasing throughput.

In order to house this new machine, Havlik is currently building a new 20,000 square foot structure, also in Cambridge, that is planned to open later this month. The new building will also house the company's corporate offices as well as the machine tool sales of Havlik International.

*For more information, visit [www.havlikinternational.com](http://www.havlikinternational.com).* ■

