

CANADA METAL (PACIFIC) LIMITED

PROCESS: HORIZONTAL TURNING CENTERS, AUTOMATION, LIGHTS-OUT PRODUCTION

COMPANY BACKGROUND

For over 100 years Canada Metal (Pacific) Limited has been engineering and providing non-ferrous metal products for industries such as marine, hydraulics, telecommunications, electronics, transportation and forestry. Specializing in gravity cast zinc and aluminum anodes for the commercial marine industry; they have become an international leader for companies seeking marine anodes. With nearly 225 employees worldwide, a 40,000 sq. ft. facility in Canada and a 45,000 sq. ft. facility in China, Canada Metal's machining offerings are diverse and of great magnitude. As they continue to grow, they are constantly expanding their machining capabilities by using the most innovative technology on the market.

CHALLENGE

One of Canada Metal's largest customers was looking to either upgrade their existing equipment or outsource production for a part that needed to be made in high volumes with repeatability being a critical factor in maintaining the quality of the part. Seeing this as an opportunity to bring in new business and to gain their customer's confidence, Canada Metal knew they had to invest in state-of-the-art technology to meet their customer's needs. Manual machining operations had to be minimized by enabling unattended/lights out mass production of this unique part.

ASSESSMENT

Despite already having nearly 20 high-tech turning, vertical and horizontal machining centers, Canada Metal realized that these machines were not suited for the job they had fought so hard to get. Their existing machines could produce the part but at a

much slower rate than they had hoped for: 43 second cycle time, 10-15 seconds for manual loading and unloading, and required 100% operator supervision. In addition to these setbacks, the process lacked consistency and repeatability.

To produce this part while meeting their customer's requirements and timeline, Canada Metal would need a machine solely dedicated to producing the part in significant lot sizes with reduced cycle time, reduced setup time, increased throughput and with less operator maintenance. They needed a durable, efficient, and accurate 2-axis lathe with a reliable robot – a fully automated machining cell.

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"This option [fully automated machining cell] has allowed us to secure added work with an existing customer and do so while being competitive, both stateside and overseas."

- Bill Jaklin Jr., Sales Manager, Canada Metal (Pacific) Limited



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SOLUTION

Ellison Technologies recommended the Mori Seiki DuraTurn 2050 CNC turning center with a FANUC M-10iA robot to satisfy Canada Metal's expansion needs. Ellison ran a thorough ROI, which revealed that this investment would pay for itself within 3 years. The DuraTurn 2050 horizontal turning center is a high-quality precision machine that is an easy to use, robust and reliable 2-axis lathe. The FANUC M-10iA robot coupled with the DuraTurn 2050 simplifies the machining process tremendously. The M-10iA is a compact 6-axis high performance industrial robot that performs at remarkable speeds. The engineers at Ellison Technologies custom designed these 2 machines to work seamlessly together for a fully automated manufacturing process.

END RESULT

Investing in the Mori Seiki DuraTurn 2050 and FANUC M-10iA robot demonstrated to Canada Metal's customers that they are continuously evolving with technology. In the end, they met the needs of one of their largest customers and are very happy with the results. They are now able to create the part in large volumes with high-quality repeatability and reliability. Soon enough, the operator will only tend to the machine 25% of the time, a significant decrease from 100% of the time.

BEFORE

- 43 second cycle time
- Operator inefficiency
- Labor intensive

AFTER

- 35 second cycle time
- Improved margins
- Improved operator productivity by 75%



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