Precision Machining/ Millwright / OYAP

Career Opportunities

MACHINISTS

Machinists set up and operate a variety of machine tools to cut or grind metal, plastic or other materials to make or modify parts or products with precise dimensions. They are employed by machinery, equipment, motor vehicle, automotive parts, aircraft and other metal products manufacturing companies and by machine shops. The most important Essential Skills for this occupation are: Data Analysis, Document Use, Measurement and Calculation, Numerical Estimation, Scheduling or Budgeting and Accounting.

TOOL AND DIE MAKERS

Tool and die makers make, repair and modify custom-made, prototype or special tools, dies, jigs, fixtures and gauges using various metals, alloys and plastics which require precise dimensions. They are employed primarily in manufacturing industries such as automotive, aircraft, metal fabrication, electrical machinery and plastics, and in tool and die, mould making and machine shops. This unit group includes metal pattern makers and metal mould makers. The most important Essential Skills for this occupation are: Critical Thinking, Data Analysis, Document Use, Measurement and Calculation, Numerical Estimation.

MILLWRIGHT

Millwrights organize and carry out the installation of new equipment in many different kinds of automation centres and high-tech facilities. For example, suppose that a car manufacturer decides to use a new robot on the assembly line. When the robot arrives at the factory, millwrights plan how to move it into its proper position. They study blueprints and drawings to determine the safest and most efficient means for moving the robot. With the help of cranes, hoists, pulleys, and forklifts, the robot is manoeuvred into position.

It may also be the millwright's responsibility to get the new piece of machinery functioning properly. This can involve a number of tasks, including making sure that the machine is level (sometimes with the help of lasers), using grouting and bolts to secure the machine, and working with electricians and plumbers to provide the necessary power and water for the robot to run. In these situations, millwrights must be able to follow the machine manufacturer's instructions closely to ensure that it is set up exactly right.

Millwrights have to keep all of a factory's machines running properly. If a machine such as a lathe or drill press breaks down, a millwright diagnoses the problem and does the necessary repair work. Often this involves the use of screwdrivers, wrenches, and even welding torches. When a breakdown causes delays for a production line, millwrights are under intense pressure to complete the repairs as quickly as possible.

To help avoid emergency repair work, millwrights spend a lot of their time monitoring and maintaining the working machines. They must routinely clean, oil, and grease the machine parts. Computer diagnostic tools have become more common tools for millwrights, and as factory machines become more technologically advanced millwrights will be expected to know more about their electronic and computerized systems.

In addition to installing and repairing machinery, millwrights sometimes help with plant maintenance, for example, making and installing guardrails to prevent workers from falling, or installing fans to improve ventilation. They also rebuild broken-down machinery such as lathes, milling machines, and hydraulic pumps.

Other Related Career Pathways:

CNC Programmer/Operator, mechanical engineer, Metallurgist, Industrial Millwright, Welder/Fitter, Materials/Metallurgical Engineer, Mould & Pattern Maker, Stationery Engineer, Estimator, CAD/CAM Technician, Industrial Designer/Prototyping, Sales & Marketing, Instructor/Trainer.

Salaries

The salaries are between $40,000 - $100,000+ depending on your destination.

Interesting Facts

Ontario's Manufacturing Sector employs 1.1 million people, the second highest level in North America, after California

General Machinist or Industrial Mechanic/Millwright are 7280 hour apprenticeship (4 years)

Manufacturing account for 20% of all economic activity in Ontario

General Machinist, Tool & Die Maker, Industrial Mechanic/Millwright are all red seal trades. You can travel across Canada with these apprenticeships.

Ontario boast a diverse manufacturing base. The provinces largest manufacturing industries include automotive, primary and fabricated metals, food & beverage, and computer, telecommunication and electronics production. (Source: Canadian Manufacturers & Exporters)