

### Now and Tomorrow Excellence in Everything We Do

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**Essential Skills and Apprenticeship** 

# Essential Skills for Success as an Industrial Mechanic (Millwright)

Industrial Mechanics (Millwrights) use Essential Skills to complete trade-related tasks. Use this fact sheet to:

- learn how Essential Skills are used on the job;
- find out the skills you need to succeed in your trade; and
- help prepare yourself for your career.



## Reading



- Read notes from co-workers, such as descriptions of work completed.
- Read directions on product labels for safe handling, usage and first aid procedures.
- Read memos and notices from supervisors, co-workers and suppliers, such as notices about scheduled power shutdowns.
- Read bulletins from regulatory organizations about changes to standards, regulations and code requirements.
- Read manuals for operating, troubleshooting and repairing tools and equipment.

## Document Use

• Look for caution and warning signs to identify hazards in work areas.



- Scan labels for information, such as part, model and serial numbers.
- Locate data in lists, tables and schedules, such as to find out what tools and parts are needed to assemble machinery.
- Fill in forms, such as purchase orders.
- Interpret schematic drawings.
- Retrieve data from scale drawings, such as to identify the locations of machinery to be installed and serviced.



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Numeracy	<ul> <li>Measure using rulers, tapes, thermometers and scales.</li> </ul>
	<ul> <li>Compare measurements such as width, height, temperature, pressure and rotations per minute on a variety of parts and specifications to make sure the are within an acceptable range.</li> </ul>
	<ul> <li>Estimate time required to complete installation and repair tasks.</li> </ul>
	<ul> <li>Adjust and align machinery and equipment according to specifications.</li> </ul>
	<ul> <li>Use specialized measuring tools such as vernier callipers, micrometers, ang finders, feeler gauges and dial indicators.</li> </ul>
	<ul> <li>Calculate loads, capacities and dimensions for mechanical components and systems.</li> </ul>



- Write brief text entries in forms and logbooks, such as observations of equipment performance.
- Write incident reports in forms that describe malfunctions, breakdowns and accidents that identify potential causes and effects.
- Write maintenance and repair procedures.

## Oral Communication



- Talk to suppliers and contractors about equipment specifications, deliveries, service times and price quotes.
- Discuss work orders, equipment malfunctions and job task coordination with co-workers.
- Communicate with supervisors about work progress and seek their guidance and approvals.
- Discuss issues such as safety, productivity, major repairs and policy changes at meetings with co-workers, supervisors, engineers and clients.
- Teach practices and procedures to co-workers, apprentices and clients.

## Working with Others



- Work independently.
- Form teams with co-workers, clients and contractors when installing and overhauling large pieces of equipment or completing industrial systems.
- Participate in discussions about work processes or product improvement.
- Demonstrate how to perform tasks to other workers.
- Orient or train new employees.
- Monitor the work performance of others.

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Thinking	• Determine whether to refurbish, repair or replace worn and defective parts.
	<ul> <li>Assess whether designs meet technical specifications, performance requirements and regulations.</li> </ul>
	<ul> <li>Plan job tasks based on work assignments and follow planned work schedules to coordinate work with co-workers and contractors.</li> </ul>
	<ul> <li>Take necessary steps when parts needed for maintenance and repairs are unavailable, such as fabricating replacement parts or obtaining approvals to use non-standard parts.</li> </ul>
	<ul> <li>Select materials and methods to maintain, repair and improve industrial equipment and systems.</li> </ul>
	<ul> <li>Evaluate the safety of work environments.</li> </ul>
	<ul> <li>Use a number of sources to find technical information needed to troubleshoot faults with machinery and systems.</li> </ul>
Computer Use	<ul> <li>Use databases, such as maintenance and financial systems databases.</li> </ul>

- Use computer-assisted design, manufacturing and machining programs.
- Use email to communicate with supervisors, clients and suppliers.
- Use handheld devises such as vibration data collectors and analyzers.



# **Continuous** Learning



- Read manuals and bulletins to stay aware of new developments in the industry.
- Learn informally by exchanging information with co-workers and suppliers.
- Attend training workshops on new equipment and safety procedures.
- Take courses to learn and improve technical skills.

# For more information on Essential Skills and related resources, visit

# For more information on the Interprovincial Standards Red Seal Program, visit

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