

# OCCUPATIONAL TOOLS AND EQUIPMENT LIST

## **Industrial Mechanic (Millwright)**



Government of Newfoundland Labrador  
Department of Education and Early Childhood Development  
Apprenticeship and Trades Certification Division

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## **Preface**

This document is intended as a companion to the March 2019 Plan of Training and the 2019 Atlantic Apprenticeship Curriculum Standard (AACS) for the Industrial Mechanic (Millwright) occupation. It identifies the necessary tools and equipment required by students and training institutions for the completion of apprenticeship training.

## **Acknowledgements**

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We offer you a sincere thank you.

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## **Note:**

The numbers suggested in the following Tool and Equipment List represent the required minimum. Please verify this list with your selected training institution.

**Tools and Equipment List**

**Industrial Mechanic (Millwright)**

<b>SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT</b>			
<b>Item</b>	<b>Units for Individual Students</b>	<b>Required for Entry (E) Advanced (A) Both (B)</b>	<b>Comments</b>
<b>Measuring and Layout Tools</b>			
Combination Square	1	B	
Measuring Tape, 12'	1	B	
Steel Ruler, 6"	1	B	
<b>Personal Protective Equipment</b>			
Coveralls	1	B	
Safety Glasses	1	B	
Hard Hat	1	B	
Safety Boots	1	B	

Note: If identifying sets, please include specific information.

<b>SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION</b>				
<b>Item</b>	<b>Units per 15 Students</b>	<b>Maximum Students per Unit</b>	<b>Required for Entry (E) Advanced (A) Both (B)</b>	<b>Comments</b>
<b>General / Hand Tools</b>				
Allen Key Set, Imperial	4	4	B	
Allen Key Set, Metric	4	4	B	
Abrasives, 100 Sheet set of each grit of 80, 120, 220, 320, 400 and crocus cloth	4	4	B	
Adjustable Wrench set	15	1	B	
SMAW Equipment, Booth	8	2	B	
Calculator	8	2	B	
“C” Clamp, 10 size set	2	8	B	
Cold Chisel Set, various size	4	4	B	
Conveyor Belt, 50ft	1	15	B	
Centrifugal Pump	5	3	B	
Cleaning Agents	As required		B	
Cutting Fluids	As required		B	
<b>Coolants</b>	As required		B	
Drill Bit Set, Imperial	As required		B	
Files, set	As required		B	
File Cards	As required		B	
Grease gun	4	4	B	
Grinders	8	2	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Hacksaw	4	4	B	
Hammer, Ballpeen	6	3	B	
Hammer, Claw	4	4	B	
Hammer, Soft Face	4	4	B	
Hammer, Rubber	4	4	B	
Hammer, Slag	4	4	B	
Heat Gun	3	5	B	
Honing Stone	6	3	B	
Hydraulic Filters and Seals	As required		B	
Gaskets	As required		B	
Jack Hammer	1	15	B	
Key Seater	1	15	B	
Lathe and attachments	1	15	B	
Milling Machine	1	15	B	
Lifting Bar	2	8	B	
Line Up Bar	4	4	B	
Locking Pliers	6	3	B	
Safety Locks	6	3	B	
Mallet	3	5	B	
Nibblers, 2 size set	1	15	B	
Lubricants / Oil	As required		B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Parallel Bars, set	2	8	B	
Oxy-fuel Equipment, set	6	3	B	
Pipe Cutter / Threader	1	15	B	
Pipe Wrenches, 6 size set	1	15	B	
Plastic Gauge, set	1	15	B	
Pliers, set	4	4	B	
Plumb Bob	4	4	B	
Pop Rivet Gun	2	8	B	
Pullers, assorted set	3	5	B	
Punch Set, assorted sizes	As required		B	
Seals	As required		B	
Sealants	As required		B	
Scrapers, 6 size set	2	8	B	
Shears	As required		B	
Socket Set, Metric	3	5	B	
Socket Set, Imperial	3	5	B	
Tap and Die Set	4	4	B	
Tap Extractor Set	2	8	B	
Taper Reamer Set	3	5	B	
Thread Chaser Set	3	5	B	
Threading Accessories	As required		B	
Tin Snips	6	3	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Aviation snips, set of 3 sizes	3	5	B	
Torque Wrench, Dial	1	15	B	
Torque Wrench, Beam	1	15	B	
Torque Wrench, Micrometer	1	15	B	
Twist Drill Bits (Straight & Taper Shank), Letter	1	15	B	
Twist Drill Bits (Straight & Taper Shank), Number	1	15	B	
Twist Drill Bits (Straight & Taper Shank), Fractional	1	15	B	
Tubing Bender	6	3	B	
Valves (Globe, Gate, Butterfly, Check, Knife, Needle, Diaphragm, Relief, Safety and Plug)	As required		B	
Vise ( 4" Machinist)	15	1	B	
Grinding Wheel Dresser - Diamond Point - Huntington - Star	1 of each	15	B	
Wrenches (Combination), set $\frac{1}{4}''$ – $1\frac{1}{2}''$	2	8	B	
Wrenches (Combination), Metric Set	2	8	B	
Adjustable Wrenches, set of 6-12	3	5	B	
Socket Set, Imperial	2	8	B	
Socket Set, Metric	2	8	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Impact Socket Set, Imperial	2	8	B	
Impact Socket Set, Metric	2	8	B	
Wire Brush	4	4	B	
<b>Power Tools</b>				
Angle Drill	1	15	B	
Band Saw	1	15	B	
Chop Saw	1	15	B	
Circular Saw	1	15	B	
Bench Grinders	4	4	B	
Grinders	4	4	B	
Impact Drill	3	5	B	
Impact Gun (Rivet)	3	5	B	
Impact Wrench	3	5	B	
Jig Saw	1	15	B	
Reciprocating Saw	1	15	B	
Portable Drill	1	15	B	
Powder Activated Tool	2	8	B	
Power Hack Saw	1	15	B	
Portable Pipe Bender	1	15	B	
Pipe Threader	1	15	B	
Jig Saw	1	15	B	
Tool Grinder (Silicon Carbide)	1	15	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
<b>Measuring and Layout Tools</b>				
Bore Gauge	1	15	B	
Vernier Calipers, Dial	2	8	B	
Vernier Calipers, Beam	15	1	B	
Chalk Lines	6	3	B	
Deflection Gauge	6	3	B	
Depth Gauge	6	3	B	
Dial Indicator	6	3	B	
Digital Vernier Calipers	2	8	B	
Divider	6	3	B	
Combination Set	4	4	B	
Combination Square	4	4	B	Supplement to student required item
Feeler Gauge, 4"	4	4	B	
Feeler Gauge 12"	4	4	B	
Gauge Blocks, Set	2	8	B	
Height Gauge	1	15	B	
Inside Calipers	1	15	B	
Outside Calipers	15	1	B	
Measuring Tape, 12'	4	4	B	Supplement to student required item
Measuring Tape, 100'	2	8	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Inside Micrometer	4	4	B	
Outside Micrometer	15	1	B	
Depth Micrometer	2	8	B	
Protractor	4	4	B	
Radius Gauge	2	8	B	
Steel Rule 6"	4	4	B	Supplement to student required item
Small Hole Gauge	2	8	B	
Surface Gauge	1	15	B	
Taper Gauge	4	4	B	
Telescoping Gauge	2	8	B	
Thread Gauge	4	4	B	
V-Blocks, Set	2	8	B	

**Information Materials**

Blueprints	As required		B	
Canadian Standards, set	1	15	B	
Canadian Welding Bureau, set	1	15	B	
Engineering Drawings	As required		B	
Materials Safety Data Sheets	As required		B	
OHS Act, copy	1	15	B	
Provincial Safety Act, copy	1	15	B	
National Building Code, copy	1	15	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Rigging & Hoisting Manuals	15	1	B	
Schematics		As required	B	
Sketches		As required	B	
Specifications		As required	B	
Technical Manuals		As required	B	
<b>Testing Equipment</b>				
Balancing machine	1	15	B	
Computer, PC	15	1	B	
Printers	2	8	B	
Auto CAD Software	15	1	B	
Dye Penetration Test Kit	1	15	B	
Fire Extinguisher Equipment		As required by code	B	
Laser Alignment Equipment	1	15	B	
Multi Tester	6	3	B	
Pressure/Vacuum Gauge	1	15	B	
Hydraulic Test Bench	1	15	B	
Pneumatic Test Bench	1	15	B	
Rockwell Hardness Tester	1	15	B	
Weight Scales	1	15	B	
Tachometer	1	15	B	
Theodolite	1	15	B	
Thermo Graphic Test Equipment	1	15	B	

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Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Transit Level	1	15	B	
PLC Controller	1	15	B	
Oscilloscope	1	15	B	
<b>Lifting Equipment</b>				
Air Jacks	1	15	B	
Air Tugger	1	15	B	
Block and Tackle	1	15	B	
Cable Hoist	As required		B	
Chains	As required		B	
Come-a-Long	2	8	B	
Dollies	1	15	B	
Gantry Crane	1	15	B	
Hydraulic Jack	1	15	B	
Ladders	2	8	B	
Scaffolding, levels	2	8	B	
Overhead Crane	1	15	B	
Eye Bolts (different types)	As required		B	
Shackles (different sizes)	As required		B	
Chain Slings	As required		B	
Synthetic Slings	As required		B	
Nylon Slings	As required		B	
Rope Slings	As required		B	

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Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Snatch Block, 3 size set	1	15	B	
Trolley	1	15	B	
Tirfir Jack	1	15	B	
Winch	1	15	B	
<b>Personal Protective Equipment</b>				
Welding Apron	15	1	B	
Welding Gloves	15	1	B	
Welding Goggles	15	1	B	
Safety Goggles	15	1	B	
Safety Face Shield	15	1	B	
Filter Mask	As required		B	
Dust Mask	As required		B	
Chemical Mask	As required		B	
Respirators	1	15	B	
Safety Glasses	4	4	B	Supplement to student required item
Hard Hat	4	4	B	Supplement to student required item
Safety Harness & Fall Arrest Gear	6	3	B	
Safety Vest	15	1	B	
Gloves, Leather	15	1	B	

**SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION**

Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
Gloves, Rubber, Surgical	As required		B	
Safety Hot Mitts, pair	2	8	B	
Hearing Protection, Muffs	6	3	B	
Hearing Protection, Ear Plugs	As required		B	

Note: If identifying sets, please include specific information.