

OCCUPATIONAL
TOOLS AND EQUIPMENT LIST

**Industrial Mechanic
(Millwright)**



Government of Newfoundland Labrador
Department of Education
Institutional & Industrial Education Division

September 2009

Preface

This document is intended as a companion to the September 2009 Plan of Training for the Industrial Mechanic (Millwright) occupation. It identifies the necessary tools and equipment required by apprentices and training institutions for the completion of apprenticeships.

Acknowledgements

Advisory committees, industry representatives, instructors and apprenticeship staff provided valuable input to the development of this document. Without their dedication to quality apprenticeship training, this document could not have been produced.

We offer you a sincere thank you.

Contact Information

Department of Education
Institutional and Industrial Training Section
Tel: 709-729-2729 / 1-877-771-3737
Email: app@gov.nl.ca
Web: www.gov.nl.ca/app

Note:

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

Tools and Equipment List Industrial Mechanic

SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT			
Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
General / Hand Tools			
Allen Key Set, Imperial	1	B	
Allen Key Set, Metric	1	B	
Adjustable Wrench Set	1	B	
Calculator	1	B	
“C” Clamp, 2 size set	1	B	
Cold Chisel, Set	1	B	
Files, set	1	B	
File Card	1	B	
Grease Gun	1	B	
Hack Saw	1	B	
Hammer, Ball Peen	2	B	Two sizes, unspecified
Hammer, Soft Face	1	B	
Hammer, Rubber	1	B	
Hammer, Slag	1	B	
Line Up Bar	1	B	
Pipe Wrench	2	B	Two sizes, unspecified
Pliers, set	1	B	
Plumb Bob	1	B	
Punch Set	1	B	
Scraper	2	B	

SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT			
Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
Wrenches (Combination), set ¼" – 1 ½"	1	B	
Wrenches (Combination), Metric Set	1	B	
Adjustable Wrenches, set of 6-12	1	B	
Socket Set, Imperial	1	B	
Socket Set, Metric	1	B	
Impact Socket Set, Imperial	1	B	
Impact Socket Set, Metric	1	B	
Wire Brush	1	B	
Measuring and Layout Tools			
Combination Square	1	B	
Feeler Gauge, 4"	1	B	
Feeler Gauge 12"	1	B	
Measuring Tape, 12'	1	B	
Protractor	1	B	
Steel Ruler, 6"	1	B	
Personal Protective Equipment			
Coveralls	1	B	
Safety Glasses	1	B	
Hard Hat	1	B	
Safety Boots	1	B	

Note: If identifying sets, please include specific information.

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
General / Hand Tools				
Allen Key Set, Imperial	3	5	B	
Allen Key Set, Metric	3	5	B	
Abrasives, 100 Sheet set of each grit of 80, 120, 220, 320, 400 and crocus cloth	4	4	B	
Adjustable Wrench set	3	5	B	
SMAW Equipment, Booth	8	2	B	
Calculator	3	5	B	
“C” Clamp, 10 size set	1	15	B	
Cold Chisel Set, various size	3	5	B	
Conveyor Belt, 50ft	1	15	B	
Centrifugal Pump	5	3	B	
Cleaning Agents	As required		B	
Cutting Fluids	As required		B	
Coolants	As required		B	
Drill Bit Set, Imperial	As required		B	
Files, set	3	5	B	
File Cards	3	5	B	
Grease gun	3	5	B	
Grinders	8	2	B	
Hacksaw	3	5	B	
Hammer, Ballpeen	3	5	B	
Hammer, Claw	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
Hammer, Soft Face	3	5	B	
Hammer, Rubber	3	5	B	
Hammer, Slag	3	5	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	3	5	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	
Parallel Bars, set	2	8	B	
Oxy-fuel Equipment, set	6	3	B	
Pipe Cutter / Threader	1	15	B	
Pipe Wrenches, 6 size set	2	8	B	
Plastic Gauge, set	1	15	B	
Pliers, set	3	5	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
Plumb Bob	3	5	B	
Pop Rivet Gun	2	8	B	
Pullers, assorted set	3	5	B	
Punch Set, assorted sizes	3	5	B	
Seals	As required		B	
Sealants	As required		B	
Scrapers, 6 size set	2	8	B	
Shears	As required		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	
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	

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
Valves (Globe, Gate, Butterfly, Check, Knife, Needle, Diaphragm, Relief, Safety and Plug)	As required		B	
Vise (4" Machinist)	16	1	B	
Grinding Wheel Dresser	1 each of Diamond Point, Huntington and Star	15	B	
Wrenches (Combination), set ¼" – 1 ½"	3	5	B	
Wrenches (Combination), Metric Set	3	5	B	
Adjustable Wrenches, set of 6-12	3	5	B	
Socket Set, Imperial	3	5	B	
Socket Set, Metric	3	5	B	
Impact Socket Set, Imperial	3	5	B	
Impact Socket Set, Metric	3	8	B	
Wire Brush	3	5	B	
Power Tools				
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	

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 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	
Measuring and Layout Tools				
Bore Gauge	1	15	B	
Vernier Calipers, Dial	2	8	B	
Vernier Calipers, Beam	16	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	3	5	B	
Feeler Gauge, 4"	3	5	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
Feeler Gauge 12"	3	5	B	
Gauge Blocks, Set	2	8	B	
Height Gauge	1	15	B	
Inside Calipers	1	15	B	
Outside Calipers	16	1	B	
Measuring Tape, 12'	3	5	B	
Measuring Tape, 100'	2	8	B	
Inside Micrometer	4	4	B	
Outside Micrometer	16	1	B	
Depth Micrometer	2	8	B	
Protractor	3	5	B	
Radius Gauge	2	8	B	
Steel Rule 6"	3	5	B	
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	

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
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	
Rigging & Hoisting Manuals	16	1	B	
Schematics	As required		B	
Sketches	As required		B	
Specifications	As required		B	
Technical Manuals	As required		B	
Testing Equipment				
Balancing machine	1	15	B	
Computer, PC	16	1	B	
Printers	2	8	B	
Auto CAD Software	16	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	

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
Tachometer	1	15	B	
Theodolite	1	15	B	
Thermo Graphic Test Equipment	1	15	B	
Transit Level	1	15	B	
PLC Controller	1	15	B	
Oscilloscope	1	15	B	
Lifting Equipment				
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	

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
Rope Slings	As required		B	
Snatch Block, 3 size set	1	15	B	
Trolley	1	15	B	
Tirfir Jack	1	15	B	
Winch	1	15	B	
Personal Protective Equipment				
Welding Apron	16	1	B	
Welding Gloves	16	1	B	
Welding Goggles	16	1	B	
Safety Glasses	3	5	B	
Safety Face Shield	16	1	B	
Filter Mask	As required		B	
Dust Mask	As required		B	
Chemical Mask	As required		B	
Respirators	1	15	B	
Safety Glasses	16	1	B	
Hard Hat	3	5	B	
Safety Harness & Fall Arrest Gear	6	3	B	
Safety Vest	16	1	B	
Gloves, Leather	16	1	B	
Gloves, Rubber, Surgical	As required		B	
Safety Hot Mitts, pair	2	8	B	
Hearing Protection, Muffs	6	3	B	
Hearing Protection, Ear	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
Plugs				

Note: If identifying sets, please include specific information.