

# OCCUPATIONAL TOOLS AND EQUIPMENT LIST

## METAL FABRICATOR (FITTER)



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

March 2022

## **Preface**

This document is intended as a companion to the March 2016 Plans of Training for the **Metal Fabricator (Fitter)** 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.

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## **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  
WELDER**

<b>SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT</b>			
<b>Item</b>	<b>Units for Individual Students</b>	<b>Required for</b> <b>Entry (E)</b> <b>Advanced (A)</b> <b>Both (B)</b>	<b>Comments</b>
<b>PROTECTIVE CLOTHING AND DEVICES</b>			
Safety Boots	1	B	
Hard Hat	1	E	Welders hard hat
Clear Safety Glasses	1	B	
Shade 4 Cutting Goggles	1	B	
Welding Shield	1	B	
Fire Resistant Coveralls	1	B	
HEPA filter ½ mask	1	B	Optional
Welding Gloves	1	B	
Work Gloves	1	B	
<b>HAND TOOLS</b>			
Measuring Tape	1	B	
Diagonal Side-Cutting pliers	1	B	
Linesman's Side Cutting Pliers	1	B	
Needle-Nose pliers	1	B	
Channel Lock (slip joint) pliers	1	B	
Robertson 1 Screwdriver	1	B	
Robertson 2 Screwdriver	1	B	

**SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT**

Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
Robertson 3 Screwdriver	1	B	
Phillips 1 Screwdriver	1	B	
Phillips 2 Screwdriver	1	B	
Flat Blade Screwdrivers (3 sizes)	1	B	
Flathead Offset Screwdriver	1	B	
Flathead Screw-Holding Screwdriver	1	B	
Wrenches Adjustable	1	B	
Combination Square, 12 in.	1	B	
Ball Peen Hammer	1	B	
Angle grinder, 5 in.	1	B	

<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>SHOP EQUIPMENT</b>				
AC-DC Constant Current / Constant Voltage Machines	15	1	B	15 sets of GTAW equipment or combination of DC constant voltage machines (Min 6)
DC Constant Potential Machines	15	1	B	Can be combination of DC constant voltage machines or DC constant current
GMAW equipment	15	1	B	Can be combination of DC constant voltage machines or DC constant current
GTAW equipment	15	1	B	Can be combination of DC constant voltage machines or DC constant current
Stationary Power Shears / Ironworker	1	15	B	Shop
FCAW equipment	15	1	B	Can be combination of DC constant voltage machines or DC constant current
Automatic Track cutters	4	4	B	Shop
Pedestal Drill Press	3	5	B	Shop
Plasma Arc Cutter	2	8	B	Shop
Crimper - oxy-acetylene	1	15	B	Tool Crib
Mini grinders	8	2	B	Tool Crib

**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
Air Compressor	1	15	B	Shop
Air Carbon Arc Assembly	1	15	B	Shop (Appropriate ventilation required)
Rod Oven	2	8	B	Shop
Plate Roller	1	15	B	
Press Brake	1	15	B	
<b>PROTECTIVE CLOTHING AND DEVICES</b>				
First Aid Kit	2	8	B	O.H. & S. Requirement
Safety Glasses	15	1	B	
Cutting Goggles (Shade 5)	15	1	B	
Welding Shields	15	1	B	
Grinding Shield	3	5	B	Shop
Hearing Protection (ear plugs)	15 sets	1	B	Tool Crib
Shower (Chemical Safety)	1	15	B	Per shop environment
Eye Wash Station(s)	2	8	B	Per shop environment
<b>HAND TOOLS</b>				
Allen Key Set	2 sets Imperial/metric	8	B	Metric & Imperial
Bolt Cutter	1	15	B	
Cold Chisel	8	2	B	Various sizes
Pry bar	1	15	B	Tool Crib
Drift Punch Set	2	8	B	Tool Crib (various sizes)
Files	15	1	B	Tool Crib (various sizes & cuts)

**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
Hack Saw & Blades	15	1	B	Tool Crib
Hammer - Ball-Peen	15	1	B	Tool Crib
Levels	2	8	B	Tool Crib (various sizes)
Hand/Manual Pipe Cutters	2	8	B	Tool Crib (Up to 2")
Tubing Cutting Tool	3	5	B	Tool Crib
Pipe Stand	2	8	B	Tool Crib
Screw Extractor Set	1	15	B	Tool Crib
Tap & Die Sets Metric & Imperial (various sizes)	8	2	B	Up to $\frac{1}{2}$ " & Metric Equivalent
Socket Set (3/8" & $\frac{1}{2}$ " drive)	1 set imperial 1 set metric	15	B	Tool up to 1-1/4"
Combination Wrench (Metric & Imperial)	2	8	B	
Pipe Wrench	2	8	B	14" - Tool Crib
Measuring Tape	3	-	B	2 in tool crib
Diagonal Side-Cutting pliers	3	-	B	2 sets in tool crib
Linesman's Side Cutting Pliers	3	-	B	2 sets in tool crib
Needle-Nose pliers	3	-	B	2 sets in tool crib
Channel Lock (slip joint) pliers	3	-	B	2 sets in tool crib
Robertson 1 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Robertson 2 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib

<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>
Robertson 3 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Phillips 1 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Phillips 2 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Flat Blade Screwdrivers (3 sizes)	3	-	B	2 sets of each size screwdriver, tool crib
Flathead Offset Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Flathead Screw-Holding Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Wrenches Adjustable	3	-	B	15 - 6" or 15 - 12". 2 of various sizes, tool crib
C Clamp – 6, 8, 12	4 of each size	4	B	
Adjustable clamp	3	5	B	
Trammel Points	4	4	B	
Dividers	4	4	B	
Plate Grabs	1	15	B	
Slings, synthetic	4	4	B	
Slings, chain	1	15	B	
Square, 2 ft.	4	4	B	
Straight Edge, 1M	4	4	B	
<b>POWER TOOLS</b>				
Chop Saw	1	15	B	Shop

<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>
Grinder - Bench	1	15	B	Shop (pedestal or stationary)
Hand Power Drill (may be rechargeable)	3	5	B	Tool Crib – up to $\frac{1}{2}$ " capacity
Grinding Wheel Dresser	2	8	B	Shop
Pencil Grinder	1	15	B	
<b>MISCELLANEOUS</b>				
Sledgehammer	1	15	B	Tool Crib
Broom	8	2	B	Tool Crib
Magnets	2	8	B	Tool Crib
Pails (metal)	8	2	B	Tool Crib
Tip Cleaners	5 sets	3	B	Tool Crib
Come-Along	1	15	B	Tool Crib
Flashlight	2	8	B	Tool Crib
Extension Cords	6	3	B	Lengths as required
Pipe Vice	2	8	B	Shop - mounted
Bench Vice	15	1	B	Shop (6" – 8" minimum)
Chipping Hammers	15	1	B	Tool Crib
Wire Brushes	15	1	B	Tool Crib
Reamers (set)	1	15	B	Tool Crib
Chain Hoist	1	15	B	Tool Crib
Pin Punch (set)	2	8	B	Tool Crib
Layout Punch	15	1	B	Tool Crib

**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
Centre Punch	15	1	B	Tool Crib
Large Compass	8	2	B	Tool Crib
Large Protractor Set	8	2	B	Tool Crib
Hi-Lo Gauge	1	15	B	Tool Crib
Cam Gauge	1	15	B	Tool Crib
Plate Thickness Gauge	1	15	B	Tool Crib
Wire Gauge	1	15	B	Tool Crib
Plum Bob	1	15	B	Tool Crib
Hand Scribe	15	1	B	Tool Crib
Chalk Line	1	15	B	Tool Crib
Aviator Snip Set	15	1	B	Tool Crib
Tin Snips	15	1	B	Tool Crib
Cylinders (Oxygen and Acetylene)	5 sets	3	B	Shop
Regulators (Oxygen and Acetylene)	5 sets	3	B	Shop
Flashback Arrestors (Oxygen and Acetylene)	5 sets	3	B	Shop
Oxy Acetylene Carts	5	3	B	Shop
Pipe Beveller (Oxy Acetylene or Plasma)	2	8	B	Shop
Friction Lighters	5	3	B	Tool Crib
Torches	5	3	B	Shop
Check Valve (Oxygen and Acetylene)	5 sets	3	B	Shop

<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>
Hose	5	3	B	Shop
Welding Tips	5	3	B	Shop (1 set of tips required per cylinder setup)
Cutting Tips	5	3	B	Shop (1 set of tips required per cylinder setup)
Gouging Tips	5	3	B	Shop (1 set of tips required per cylinder setup)
Heating Tips	1	15	B	Shop (1 set of tips required per cylinder setup)