

OCCUPATIONAL TOOLS AND EQUIPMENT LIST

WELDER



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

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Preface

This document is intended as a companion to the 2009 Plan of Training for the **Welder** occupation. It identifies the necessary tools and equipment required by apprentices and training institutions for the completion of apprenticeships.

Acknowledgements

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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

SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT			
Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
PROTECTIVE CLOTHING AND DEVICES			
Safety Boots	1	B	
Hard Hat	1	E	Preferably welders hard hat
Safety Glasses	1	B	
Welding Gloves	1	B	
Work Gloves	1	B	
HAND TOOLS			
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 6 Screwdriver	1	B	
Robertson 8 Screwdriver	1	B	
Robertson 10 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	

SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT

Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
Wrenches Adjustable	1	B	

Note: If identifying sets, please include specific information.

SECTION B: TOOLS AND EQUIPMENT REQUIRED BY TRAINING INSTITUTION

SHOP EQUIPMENT				
Item	Units per 15 Students	Maximum Students per Unit	Required for Entry (E) Advanced (A) Both (B)	Comments
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	8	2	B	Can be combination of DC constant voltage machines or DC constant current
GMAW equipment	8	2	B	Can be combination of DC constant voltage machines or DC constant current
GTAW equipment	8	2	B	Can be combination of DC constant voltage machines or DC constant current
Stationary Power Shears / Ironworker	1	15	B	Shop
FCAW equipment	8	2	B	Can be combination of DC constant voltage machines or DC constant current
Automatic Track cutters	2	8	B	Shop

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
Sub Arc Machine	1	15	B	Shop – option to rent or lease
Pedestal Drill Press	3	5	B	Shop
Plasma Arc Cutter	1	15	B	Shop
Crimper - oxy-acetylene	1	15	B	
Mini grinders	8	2	B	Tool Crib
Air Compressor	1	15	B	Shop
Air Carbon Arc Assembly	1	15	B	Shop (Appropriate ventilation required)
Rod Oven	2	8	B	Shop
PROTECTIVE CLOTHING AND DEVICES				
First Aid Kit	2	8	B	O.H. & S. Requirement
Safety Glasses	3	-	B	
Goggles	15	1	B	
Welding Shields	15	1	B	
Grinding Shield	3	5	B	Shop
Hearing Protection (ear plugs)	15 sets	1	B	Tool Crib
Safety Harness	2	8	B	1 set to demonstrate & 1 set for application
Shower (Chemical Safety)	1	15	B	Per shop environment
Eye Wash Station(s)	2	8	B	Per shop environment
HAND TOOLS				
Allen Key Set	2 sets Imperial/metric	8	B	Metric & Imperial
Bolt Cutter	1	15	B	
Cold Chisel	8	2	B	Various sizes
Crimper – oxy-acetylene	1	15	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
Prybar	1	15	B	Tool Crib
Drift Punch Set	2	8	B	Tool Crib (various sizes)
Files	15	1	B	Tool Crib (various sizes & cuts)
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 ½" & Metric Equivalent
Socket Set (3/8" & ½" 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 6 Screwdriver	3	-	B	2 sets of each size screwdriver, 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
Robertson 8 Screwdriver	3	-	B	2 sets of each size screwdriver, tool crib
Robertson 10 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
POWER TOOLS				
Chop Saw	1	15	B	Shop
Grinder - Bench	4	4	B	Shop (pedestal or stationary)
Hammer Drill	1	15	B	Tool Crib
Power Drill (may be rechargeable)	3	5	B	Tool Crib – up to $\frac{1}{2}$ " capacity
Grinding Wheel Dresser	2	8	B	Shop
MISCELLANEOUS				
Sledgehammer	2	8	B	Tool Crib
Come-Along	1	15	B	Tool Crib
Flashlight	15	1	B	Tool Crib
Extension Cords	6	3	B	Lengths as required
Pipe Vice	2	8	B	Shop - mounted

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
Bench Vice	15	1	B	Shop (6" – 8" minimum)
Straight Edges	2	8	B	Tool Crib (1–6 foot / 1-4 foot)
Chipping Hammers	15	1	B	Tool Crib
Wire Brushes	15	1	B	Tool Crib
Reamers (set)	1	15	B	Tool Crib
Chain Hoists	1	15	B	Tool Crib
Pin Punch	15	1	B	Tool Crib
Layout Punch	15	1	B	Tool Crib
Centre Punch	15	1	B	Tool Crib
Bar Clamp	1	15	B	Tool Crib
C-Clamp	8	2	B	Tool Crib (various sizes)
2 foot Carpenter's Layout Square	8	2	B	Tool Crib
Large Compass	1	15	B	Tool Crib
Large Protractor Set	1	15	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
Hand Drill	2	8	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
Cylinders (Oxygen and Acetylene)	5 sets	3	B	Shop
Regulators (Oxygen and Acetylene)	5 sets	3	B	Shop
Friction Lighters	5	3	B	Tool Crib
Radiograph	1	15	B	Shop
Torches	5	3	B	Shop
Flashback Arrestors (Oxygen and Acetylene)	5 sets	3	B	Shop
Check Valve (Oxygen and Acetylene)	5 sets	3	B	Shop
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	5	3	B	Shop (1 set of tips required per cylinder setup)

Note: If identifying sets, please include specific information.