

OCCUPATIONAL TOOLS AND EQUIPMENT LIST

WELDER



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

March 2013

Preface

This document is intended as a companion to the March 2013 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

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 and Early Childhood Development
Apprenticeship and Trades Certification Division
Tel: 709-729-2729 / 1-877-771-3737
Email: app@gov.nl.ca
Web: www.gov.nl.ca/atcd

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	

SECTION A: TOOLS AND EQUIPMENT REQUIRED BY STUDENT

Item	Units for Individual Students	Required for Entry (E) Advanced (A) Both (B)	Comments
Flathead Offset Screwdriver	1	B	
Flathead Screw-Holding Screwdriver	1	B	
Wrenches Adjustable	1	B	

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

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
FCAW equipment	8	2	B	Can be combination of DC constant voltage machines or DC constant current
Automatic Track cutters	2	8	B	Shop
Sub Arc Machine	1	15	B	Shop – option to rent or lease
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
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	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

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
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
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)
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 1/2" & Metric Equivalent
Socket Set (3/8" & 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

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
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
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)

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 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	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)
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 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
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
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)	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
Acetylene or Plasma)				
Friction Lighters	5	3	B	Tool Crib
Radiograph	1	15	B	Shop
Torches	5	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)