

**Record of Work Experiences  
Trade Qualifier or Pre-Apprenticeship Credits**

**TOOL AND DIE MAKER**

**Note to Apprenticeship Applicants**

The work experiences on this form are for credit only and must have been performed prior to your registration as an apprentice.

**Applicant Information**

Name: _____			
<i>Surname</i>	<i>First</i>	<i>Initial</i>	
Address: _____ / _____ / _____ / _____			
<i>P. O. Box/Street</i>	<i>City/Town</i>	<i>Province</i>	<i>Postal Code</i>
Telephone: (____) _____		Cell: (____) _____	
Email address: _____			

**Employer Information & Verification**

<b><u>Note to Employer</u></b>			
By completing the section below you are confirming that the hours indicated for the applicant are specific to employment in the <b><u>Tool and Die Maker Occupation.</u></b>			
Verified By: _____			
<i>Company Name</i>			
Address: _____ / _____ / _____ / _____			
<i>P. O. Box/Street</i>	<i>City/Town</i>	<i>Province</i>	<i>Postal Code</i>
Telephone: (____) _____		* CRA Business #: _____	
		<i>9 Digits</i>	
_____ <i>Employer or Representative Signature</i>		_____ <i>Employer or Representative (Print)</i>	
Date of applicant's employment from: _____ / _____ / _____		to: _____ / _____ / _____	
<i>Month Day Year</i>		<i>Month Day Year</i>	
Total Hours of Employment the applicant worked in the <b><u>Tool and Die Maker Occupation:</u></b>			
_____ Hours			
* CRA - Canadian Revenue Agency			

Please check the appropriate box:

<b>Trade Qualifiers</b> <input type="checkbox"/>	The <u>signature of the Journeyperson</u> following each of the required skills acknowledges the applicant has met the competencies in each of the skill areas according to the Industry Standard associated with this occupation.
<b>Pre- Apprenticeship Credits</b> <input type="checkbox"/>	The <u>signature of the Journeyperson</u> following each of the required skills acknowledges the applicant has performed in each of the skill areas appropriate for this occupation.

- The Occupational Advisory Committee in the Tool and Die Maker Occupation has identified the work experiences or skills listed below as those required for the occupation.
- Journeypersons must be certified in the occupation stated by this document. A Journeyperson in another occupation may sign certain sections if the skills are common to both occupations.

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
<b>Safety</b>		
Recognize potential health and safety hazards		
Recognize hazardous materials in accordance with WHMIS		
Handle hazardous materials in accordance with WHMIS		
Comply with government safety standards and regulations		
Wear protective equipment and clothing		
Operate emergency safety equipment		
Maintain good housekeeping		
Use and maintain tools and equipment in safe manner		
Report injuries to supervisor		
Give hand signals		
Apply basic first aid		
Observe environmental protocol		
Recognize pressure capacities and hazards		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Comply with safety precautions while solving initial setups		
<b>Planning, Preparation, and Verification</b>		
Determine dimensions		
Identify tolerances		
Compare drawing information to measurements and features on the work piece		
Prepare sketches of mechanical components and assemblies		
Determine materials to be used		
Determine most current revision of drawing		
Read geometric dimensioning and tolerance symbols		
Assess engineering drawings for feasibility		
Identify and verify ferrous metals		
Identify and select non-ferrous metals and alloys		
Identify and select non-metallic materials		
Mark work piece for identification		
Assess suitability of specified materials		
Identify and select hardware and standard components		
Read and interpret specifications from engineering drawings.		
Calculate layout dimensions and reference points		
Calculate angles, arcs and locations from reference points		
Select layout on work piece		
Perform layout on work piece		
Verify layouts		
Select and use simple measuring tools and equipment		
Select and use precision measuring tools		
Select and use fixed and adjustable		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
gauges		
Calibrate precision measuring tools such as micrometers, verniers, and height gauges		
Measure parts using CMM		
Clean measuring tools		
Store measuring tools		
Inspect surface finishes		
Measure parts using optical and laser measuring equipment		
Select and apply lubricants		
Select and apply coolants		
Select and apply compounds		
Mix coolants and lubricants		
Prioritize the sequence of operations		
Select cutting tools and equipment		
Select work holding devices		
Select drills		
Select counterbores, countersinks, and spot facers		
Select machine reamers		
Select taps and dies		
Select single and multi-point cutting tools		
Select single and multi-point forming tools		
Select tool holders and adaptors		
Select boring bars		
Select deburring tools		
<b>Drilling Machine Operations</b>		
Plan sequence of drilling operations		
Select drilling machines		
Select and install drills		
Select and install tool holders		
Align and clamp work pieces, jigs, and fixtures with drill spindle		
Select speeds, feeds and depth of cuts		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Drill holes		
Ream holes		
Countersink holes		
Counterbore holes		
Spot face holes		
Tap work pieces		
Lap and hone holes		
Use drilling accessories		
Troubleshoot drills		
Perform preventative maintenance		
<b>Lathe Operations</b>		
Plan sequence of lathe operations		
Select lathe		
Select tooling		
Install tooling		
Align and secure work piece, work holding devices, jigs, and fixtures		
Align work piece between center		
Mount and adjust steady and follower/traveling rests		
Select speed feeds and depth of cuts		
Face external shapes and surfaces		
Turn external shapes and surfaces		
Perform forming cutting operations		
Knurl work pieces		
Drill work pieces		
Ream work pieces		
Bore internal surfaces and shapes		
Face internal surfaces		
Recess internal surfaces		
Undercut diameters and shoulders		
Turn eccentrics		
Part off work pieces		
Turn internal tapers		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Turn external tapers		
Cut internal threads		
Cut external threads		
Cut special thread forms		
Wind springs		
Use lathe accessories		
Perform trepanning operations		
Perform reliving operations		
Perform spinning operations		
Troubleshoot machining problems		
Perform preventative maintenance		
Troubleshoot lathe problems		
<b>Milling Operations</b>		
Plan sequence of milling operations		
Select milling machines		
Align vertical milling machine head		
Align and secure work pieces		
Select and secure work holding devices		
Select and secure jigs and fixtures		
Select and install arbors		
Select and install tool holders		
Select and install cutters		
Establish work piece datum		
Select speeds, feeds and depth of cuts		
Mill surfaces		
Mill shapes		
Mill using indexing heads		
Mill using rotary tables		
Drill holes		
Ream holes		
Bore holes		
Counterbore holes		
Countersink holes		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Spot faces holes		
Machine cavities		
Machine angles and radii		
Machine keyways		
Machine slots		
Machine dovetails		
Mill gears and racks		
Mill helical contours		
Perform gang milling		
Perform straddle milling		
Perform final part inspection		
Trepan holes		
Use milling accessories		
Troubleshoot milling operations		
Perform preventative maintenance		
<b>Sawing Operations</b>		
Select power saws		
Select saw blades		
Install new blades		
Cut and join saw blades		
Set up work pieces		
Select speeds, feeds, and depth of cut		
Straight cut material to desired dimensions		
Set up and cut angles		
Cut profiles		
Use new accessories		
Troubleshoot sawing operations		
Perform preventative maintenance of power sawing equipment		
<b>Grinding Operations</b>		
Plan sequence of grinding operations		
Select grinder		
Select grinding wheels		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Mount and balance grinding wheels		
Dress grinding wheels		
Align and secure work piece and work holding devices		
Align grinder heads, tables and fixtures		
Select speeds, feeds, and depth of cuts		
Grind parts between centers		
Parallel grind internal surfaces and shapes		
Plunge grind internal diameters		
Plunge grinds internal shoulders		
Face grinds internal shoulders		
Cut off parts		
Grind surfaces and shapes.		
Grind blind holes		
Taper grinds internal contours and shapes		
Taper grinds external contours and shapes		
Grind cutting tools		
Grind relief's		
Perform precision grinding		
Grind threads		
Check operation of dust extraction system		
Troubleshoot grinding problems		
Perform preventative maintenance		
Troubleshoot grinding equipment		
<b>Numerical Control (NC)/ computer Numerical Control (CNC) Operations</b>		
Analyze drawings for CNC operations		
Interpret tooling and set-up instruction sheets		
Load and verify programs		
Select tooling and tool holders		
Inspect tooling and tool holders		
Install tooling and tool holders		
Install, align, and orient work holding devices to program specifications		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Enter offset data		
Establish work piece coordinates and tool length measurements		
Analyze drawings for CNC operations		
Develop work process plans		
Perform calculation for parts geometry		
Select programming codes		
Establish feeds, speeds, and depth of cuts		
Establish tool offsets		
Write programs		
Load programs		
Establish and maintain program storage systems		
Interpret engineering drawings		
Load CAD/ CAM software		
Initialize CAD/CAM software		
Create standard tooling library		
Update standard tooling library		
Input part profile using points, lines, circles and arcs		
Input tool path		
Input work piece material		
Select and input tooling		
Establish tooling offsets and registers		
Select speed and feed for tooling and material combination		
Define roughing cycles		
Define finishing cycles		
Run NC/CNC programs through protocol interpreter/post processors		
Direct transfer programs to NC/CNC machines		
Print tooling lists, process sheets and tool path plots		
Transfer program to storage media		
Perform dry run cycles		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Respond to alarm codes		
Inspect material dimensions		
Load work pieces		
Produce test parts		
Inspect test parts		
Adjust tooling and offsets		
Edit and optimize programs		
Perform preventative maintenanc		
<b>Boring</b>		
Plan sequence of boring operations		
Plan sequence of facing operations		
Select boring mills and machines		
Align and secure work piece, work holding devices, jigs and fixtures		
Select tool holders and cutters		
Select arbour and cutters		
Install arbour and cutters		
Select speed, feed and depth of cuts		
Drill holes		
Ream holes		
Counterbore holes		
Countersink holes		
Spot faces holes		
Bore holes		
Perform facing operation		
Bore using rotary table		
Bore using indexing heads		
Machine cavities		
Machine angles and radii		
Machine keyways		
Machine slots		
Machine dovetails		
Cut grooves in internal bores		
Trepan holes		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Use boring accessories		
Troubleshoot boring and facing problems		
Troubleshoot boring and facing machines		
Perform preventative maintenance		
<b>Other Machining Processes</b>		
Plan sequences of EDM operations		
Select EDMs		
Align and secure work pieces, work holding devices, jigs and fixtures		
Select and install electrodes		
Select currents		
Select metal removal rates		
Select flushing devices		
Load programs		
Machine work pieces using EDM's		
Remove broken taps and fasteners using EDMs		
Cut work pieces using EDM's		
Troubleshoot EDM operations		
Perform preventative maintenance		
<b>Bench Work and Die Development</b>		
Clean and maintain hand and power tools		
Ream holes		
Cut thread with taps and dies		
Cut material to size		
File shapes and surfaces		
Remove damaged and broken fasteners		
Repair internal and external damaged threads		
Deburr parts		
Polish and buff parts		
Lap surfaces		
Hone holes		
Hand grinds parts		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Scrape parts		
Engrave parts		
Etch parts		
Demagnetize parts		
Dismantle components		
Clean components		
Inspect components		
Apply protective coatings		
Repair and replace components		
Identify and store components		
Fit and assemble parts		
Check and align clearance		
Spot and transfer hole position		
Drill, ream and dowels alignment holes		
Identify and select joining techniques		
Prepare material for joining		
Join material using adhesives		
Solder material		
Perform brazing operations		
Perform gas fusion welding		
Perform electric arc welding		
Perform tungsten inert-gas (TEG) welding operations		
Spray coats metal		
Select molding compound		
Mix molding materials		
Pour and apply molding materials		
Strip and finish components		
Interpret tool and die assembly drawings		
Develop a sequence and coordinate operations		
Select materials and standard die components		
Perform layout of die parts		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Fabricate, assemble and fit parts		
Check progression of tooling		
Check alignments		
Check stock guides		
Check spring pressures		
Select and install sensory devices		
Conducts die tryouts		
Analyze and correct die faults		
Align and install material feeding devices		
Interpret jigs, fixture and tooling drawings		
Select materials for standard jigs, fixtures and tooling parts		
Perform layout of jigs, fixtures and tooling		
Fabricate, assemble, align and fit jigs, fixtures and tooling		
Conduct tryouts of jigs, fixtures and tooling		
Analyze and correct jigs, fixtures and tooling		
Interpret blueprints for tooling assemblies		
Select hardware and components for tooling assemblies		
Assemble, align and fit tooling assemblies		
Conduct tryouts of tooling assemblies		
Analyze and correct tooling assembly faults		
Set up and operate pressed		
Prepare and form initial blank		
Tool proofs form station		
Finalize blank		
Prepare and finalize cutting steels		
Inspect part produced by die		
Develop and organize prototype build plan		
Build prototype-tooling aids		

Skills Required For Certification	Journeyperson Signature	Verified By Applicant
Manufacturers prototype		
<b>Metallurgy and Materials</b>		
Request testing of materials		
Test metals for surface cracks		
Perform hardness test		
Request heat treatment		
Select heating mediums		
Operate heating furnaces		
Select quenching mediums		
Temper materials		
Anneal materials		
Stress relief materials		
Normalize material		
Carburize and case harden material		



**For Office Use Only**

Credit: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

month / day / year

**Note To Trade Qualifier Applicants**

If employer verification is not possible please contact the nearest Institutional and Industrial Education Office to discuss available options.

**Contact Information**

email: [app@gov.nl.ca](mailto:app@gov.nl.ca)

Toll-Free Telephone: 1-877-771-3737

