

ONTARIO COLLEGE OF TRADES
ORDRE DES MÉTIERS DE L'ONTARIO

Apprenticeship
Training Standard
Log Book

General Machinist

429A

What Is This About?

The Apprenticeship Training Standard Log Book identifies all the skills associated with your trade in Ontario. It is written in statements that describe how you, the apprentice, must perform each skill in order to be considered competent in that skill.

Training As An Apprentice

- ✔ Notify Ministry of Advanced Education and Skills Development (MAESD) staff **immediately** of any changes to contact information or training agreement, especially if you change sponsors.
- ✔ Review the Log Book regularly with your trainer and sponsor to track your progress.
- ✔ Keep an accurate record of the hours you work.
- ✔ Attend classroom training when it is offered.
- ✔ Apply for the financial incentives for which you are eligible.
- ✔ Pay your annual membership fee to the Ontario College of Trades and keep your membership in good standing.



Completing Your Log Book

There are two types of signatures required in your Log Book:

Skill Confirmation

You and your trainer sign off each required skill to confirm that you have demonstrated competency in that skill.

Skill Set Confirmation

After you and your trainer have signed off all the required skills in a skill set, **your sponsor** signs the signature box at the end of each skill set to confirm your competency in the skill set.

Shaded boxes in your Log Book mean the skills are optional and do not have to be confirmed by your trainer or sponsor. However, you are encouraged to complete them as part of your training.

Changing Sponsors

- ✔ Contact MAESD immediately if you change sponsors as you will need to sign a new Registered Training Agreement.
- ✔ Record your original Sponsor's information in Sponsor Record #1 (the sponsor who has signed your initial Registered Training Agreement).



This document is the property of the apprentice named inside and represents the official record of your training. For information about completing your apprenticeship, see inside of back cover.



ONTARIO COLLEGE OF TRADES
ORDRE DES MÉTIERS DE L'ONTARIO

Apprentice Name: _____

Address: _____

Phone Number: _____

Email Address: _____

Trade: _____

Ministry of Advanced Education and Skills Development Registered Training Agreement #:

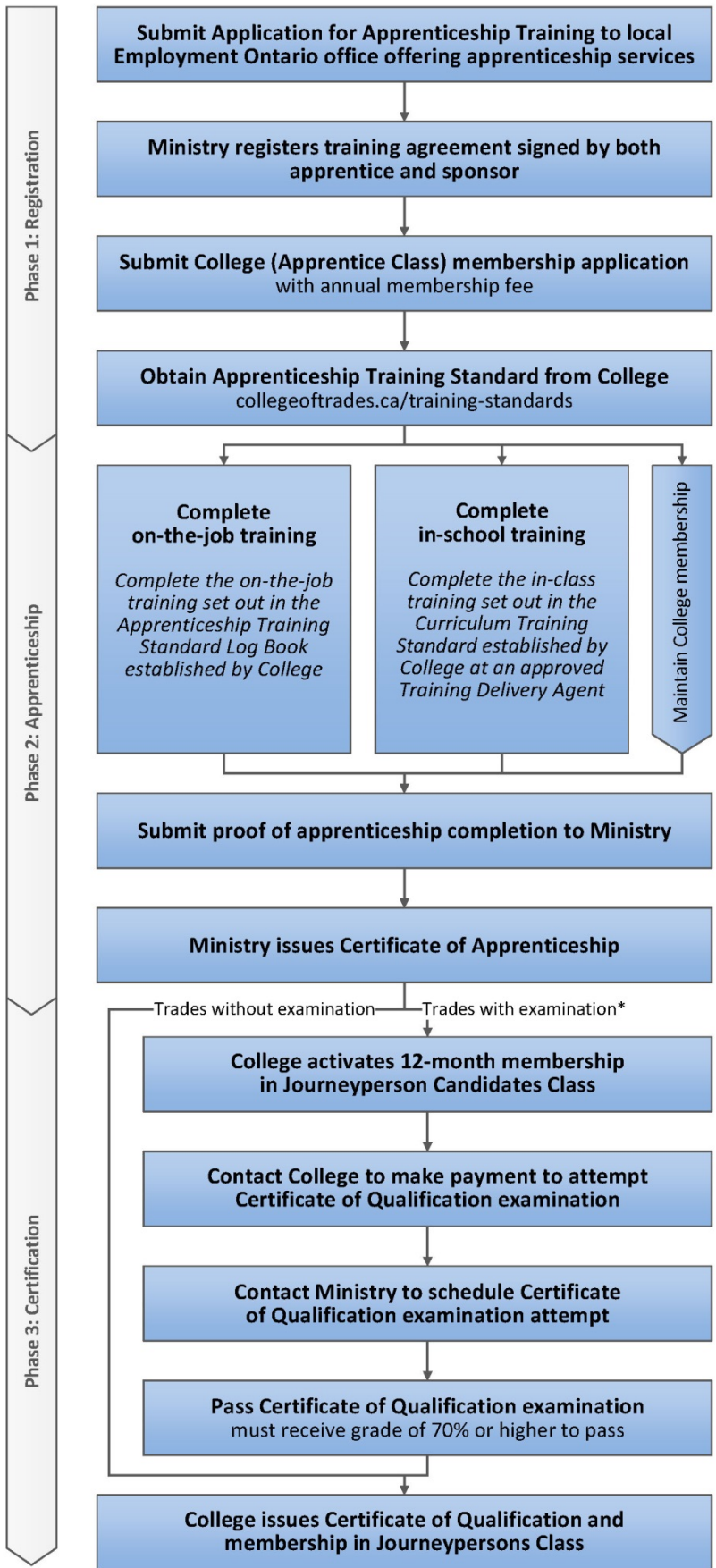
OCOT Membership #:

This document is the property of the Apprentice named herein and represents the official record of their training.

If you have questions about the use of this Training Standard Log Book or about your Apprenticeship program, contact your Apprenticeship office (see Appendix D in this book) or the Employment Ontario hotline at: 1-800-387-5656.

You must become a member of the College of Trades Apprentices Class and maintain your membership in good standing while you complete your training. For more information on membership, please visit the College of Trades website at: collegeoftrades.ca

Apprenticeship Pathway to a Certificate of Qualification



LEGEND

Ontario College of Trades → **College**
 Ministry of Advanced Education and Skills Development → **Ministry**

Apprentices eligible to apply for apprenticeship grants (Red Seal trades), incentives and loans

Sponsor eligible to apply for the Apprenticeship Training Tax Credit (in specific trades) and other incentives

For information on the proof of completion required for your trade, contact your local Employment Ontario office offering apprenticeship services <http://services.findhelp.ca/eo/tcu/appoff>

Download the College's Exam Preparation Guide to help prepare to attempt the Certificate of Qualification examination collegeoftrades.ca/resources/exam-process

If the exam is failed, another attempt may be scheduled 15 days after previous exam date. An exam fee is required for each attempt. The exam results letter shows areas of strength and weakness to help prepare for the next attempt

Apprentice eligible to apply for Apprenticeship Completion Bonus

Sponsor eligible to apply for Apprenticeship Completion Employer Bonus

* For a list of trades subject to a certification examination, visit: collegeoftrades.ca/resources/exam-process

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Ministry of Advanced Education and Skills Development Apprentice’s Appendices

- Instructions for Apprenticeship Program Completion(Appendix A)
- Apprentice Completion Form(Appendix B)
- Skill Set Completion for Sponsors..... (Appendix C)
- Ministry of Advanced Education and Skills Development Apprenticeship Offices (Appendix D)

Any updates to this publication are available on-line; to download this document in PDF format, please follow the link: collegeoftrades.ca.

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Revised 2016 (V300)

TERMS AND CONDITIONS AS PER REGISTERED TRAINING AGREEMENT

The Apprentice agrees:

- to inform the Ministry of Advanced Education and Skills Development of any change to their contact information or change in sponsor within 7 days;
- to follow the Sponsor's and Trainer's lawful instructions and make every effort to acquire the skills identified in the Apprentice Training Standard Log Book (Log Book) for the Trade which is part of the apprenticeship program established by the Ontario College of Trades for the trade;
- to obtain written verification from the Sponsor and the Trainer(s) that the requirements in the Log Book for the trade have been met.

The Sponsor agrees:

- to ensure that the Apprentice is provided with the training required as part of the apprenticeship program established by the College of Trades for this trade;
- to ensure that the Trainer(s) verifies, in writing, when each skill identified in the Log Book for the trade has been successfully completed by the Apprentice;
- to review the progress of training with the Apprentice, and with the Trainer(s) where the Sponsor and the Trainer are not the same party.

RESOURCE	LINK
Red Seal Program	red-seal.ca
Ministry of Advanced Education and Skills Development	tcu.gov.on.ca
Employment Ontario	tcu.gov.on.ca/eng/employmentontario.ca
Service Canada	servicecanada.gc.ca
Ontario College of Trades and Apprenticeship Act, 2009	<i>Ontario College of Trades and Apprenticeship Act, 2009</i>
Ontario Ministry of Labour – Health and Safety Partners	labour.gov.on.ca
College of Trades Appointments Council	cot-appointments.ca
Ontario Skills Passport (Essential Skills)	skills.edu.gov.on.ca
Exam Preparation Guide	collegeoftrades.ca

INTRODUCTION TO THE LOG BOOK

On April 8th, 2013, the Ontario College of Trades (College) became responsible for the development and maintenance of Log Books in the Province of Ontario.

Please refer to the College of Trades website for the most accurate and up-to-date information: collegeoftrades.ca

This Log Book is intended to be used by the Apprentice and Sponsor as an official record of training. The completion of this document is necessary to complete your apprenticeship and receive your Certificate of Apprenticeship.

The Log Book identifies skills required for this trade and its related training program. It has been written in statements which describe how you, the Apprentice, must perform each skill in order to become competent in your trade.

The Trainer and Apprentice are required to sign off and date each skill after the Apprentice has proven competence in these skills. However, if a skill is shaded, it is optional and does not need to be signed off.

This on-the-job Log Book is a document issued to Apprentices who sign a Registered Training Agreement in the Province of Ontario. It is designed to record an Apprentice's acquired skills and time worked for the trade to which they are registered. This Log Book is developed by the Ontario College of Trades and used by the Ministry of Advanced Education and Skills Development.

This Apprenticeship Log Book for General Machinist was developed in consultation with representatives from industry and may include members from a related Trade Board/Working Committees.

The information presented in this standard is, to the best of our knowledge, current at time of printing and is intended for general application.

ROLES AND RESPONSIBILITIES

Ontario College of Trades

Under the [Ontario College of Trades and Apprenticeship Act, 2009 \(OCTAA\)](#), the College of Trades is responsible for:

- Establishing and maintaining qualifications for membership;
- Issuing Certificates of Qualification and Statements of Membership;
- Maintaining a [Public Register](#) of members;
- Receiving and investigating complaints, and determining disciplinary action;
- Establishing Apprenticeship Programs, Training Standards and Scopes of Practice for each trade;
- Conducting Trade Equivalency Assessments;
- Determining Journeyman-to-Apprentice ratios;
- Addressing compliance with legislation (OCTAA) and regulations; and,
- Promoting the skilled trades and conducting research.

For any matters related to your membership in the Apprentices class, you must contact the College of Trades directly at: (647) 847-3000 or toll free at: 1(855) 299-0028.

Ministry of Advanced Education and Skills Development

Is responsible for:

- Registering Training Agreements;
- Approving which persons may provide apprenticeship training;
- Approving Training Delivery Agents;
- Issuing Certificates of Apprenticeship;
- Administering Certificate of Qualification examinations;
- Promoting skilled trades and apprenticeship;
- Conducting policy development, evaluation and research; and,
- Passing regulations.

For any matter related to your Registered Training Agreement or completing your apprenticeship, you must contact your Local Apprenticeship Office at the Ministry of Advanced Education and Skills Development.

Roles and Responsibilities of the Apprentice

An Apprentice is an individual who has entered into a Registered Training Agreement with a Sponsor to receive training in a trade as part of an apprenticeship program established by the College of Trades.

As an Apprentice, you have certain roles and responsibilities to follow throughout your apprenticeship training:

Steps:

1. You must become a member of the College of Trades Apprentices Class and maintain your membership in good standing while you complete your training. For more information on membership, please visit the College of Trades website at: collegeoftrades.ca
2. As an Apprentice, you are responsible for completing skills or skill sets in this Log Book and ensuring that they are dated and signed by both you and your Trainer.
3. You must also ensure your Skill Set Completion Form is completed and signed by your current Sponsor once you have demonstrated competence in all the mandatory skills in this Log Book. Once this is done, we recommend you submit the Log Book to your local Ministry of Advanced Education and Skills Development office.
4. You are responsible for informing the staff at your local Ministry of Advanced Education and Skills Development office regarding changes to the following:
 - Your Sponsor's address;
 - Your name and address; and/or,
 - Your Sponsor, including starting employment with a new Sponsor.
5. You must present the Apprentice Completion Form (Please refer to Appendix B), once all unshaded skills and skill sets have been completed within this document, along with your authorized Log Book to your local Ministry of Advanced Education and Skills Development office.

Roles and Responsibilities of Sponsors and Trainers

Log Books identify the on-the-job skills required for a trade and its related training program.

This Log Book has been written in concise statements which describe how well an Apprentice must perform each skill in order to become competent. Competence means being able to perform to the required standard.

By using this Log Book, Trainers will be able to ensure that the Apprentice is developing skills detailed for the trade.

Trainers and Apprentices are required to sign off and date the skills following each successful acquisition.

The detailed content listed for each skill is not intended to represent an inclusive list; rather, it is included to illustrate the intended direction for the skill acquisition.

The Trainer must provide their signature based on their assessment and professional judgment that the apprentice is competent in the skills described above. The Trainer's signature is not a general warranty or guarantee of the apprentice's future conduct.

Sponsors participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.

SAFETY

Safe working procedures and conditions, accident prevention and the preservation of health are of primary importance for apprenticeship programs in Ontario. These responsibilities are shared and require the joint efforts of government, sponsors, employers, employees and the public. Therefore, it is imperative that all parties become aware of circumstances that may lead to injury or harm. Safe learning experiences and environments can be created by controlling the variables and behaviours that may contribute to or cause an accident or injury.

It is generally recognized that a safe attitude contributes to an accident free environment. Everyone will benefit as a result of a healthy attitude towards prevention of accidents.

A worker is possibly exposed to more hazards than any other person in the work force and, therefore, should be familiar with and apply Occupational Health and Safety Act and Regulations dealing with personal safety and the personal safety rules applying to each task.

Legal and Administrative Aspects of Safety:

Accident prevention and the provisions of safe working conditions are the responsibilities of an employer and employee.

Employer's Responsibilities - The employer is responsible for:

- Providing and maintaining safety equipment and protective devices;
- Ensuring proper safe work clothing and personal protective equipment (PPE) is worn;
- Enforcing safe working procedures;
- Providing safeguards for machinery, equipment and tools;
- Observing all accident prevention regulations; and,
- Training employees in the safe use and operation of equipment.

Employee's Responsibilities - The employee is responsible for:

- Working in accordance with the safety regulations pertaining to the job environment;
- Working in such a way as not to endanger themselves or fellow employees and the public.

Workplace Health and Safety's Responsibilities:

- Workplace Health and Safety (Ontario's Ministry of Labour) will conduct periodic inspections of the workplace to ensure that safety regulations for industry are being observed.

APPRENTICESHIP PROGRAM SUMMARY

Scope of Practice

The Scope of Practice for the trade of General Machinist is set out in section **18** of Ontario Regulation **276/11** under OCTAA and reads as follows:

The scope of practice for the trade of General Machinist includes the following:

1. Reading and interpreting complex engineering drawings and work process documentation.
2. Cutting, shaping and finishing metal to make precision machine parts.
3. Building precision parts using metal cutting machines and equipment, including saws, drills, grinders, lathes and mills.
4. Performing work-in-process measuring and checking using specialized and precision tools and equipment. O. Reg. 276/11, s. 18.

While the Log Book draws on the scope of practice regulation (Section 18 of Ontario Regulation 276/11 under OCTAA). The Log Book does not purport to add to or modify the scope of practice as provided in regulation.

Program Guidelines

On-the-Job Training Duration

Industry has identified **7,280** hours as the duration necessary for any Apprentice to become competent in the skills required. There may be circumstances in which the duration varies from this guideline.

Classroom Training Duration

Industry has identified **720** hours of in-school training as the duration necessary for an Apprentice to complete the in-school curriculum for this program.

Journeyman to Apprentice Ratio

Ratio information is current at time of printing. Please check the Ontario College of Trades website for current information on Regulation 104/14 at www.collegeoftrades.ca/regulation

While some of the trades regulated under OCTAA are subject to Journeyman to Apprentice ratios (ratios) set out in regulation, this trade is not one of them. Instead, industry has recommended a Journeyman to Apprentice ratio guideline of 1 Journeyman to 1 Apprentice as the ratio necessary for an Apprentice to be properly trained on the job in this program.

Ratio information is current at time of printing. Please check the Ontario College of Trades website for current information on ratios, please visit <http://www.collegeoftrades.ca/public/journeyman-to-apprentice-ratios>

Compulsory and Voluntary Classification

Regulations under OCTAA set out the regulated trades in Ontario and the classification of each trade as either “compulsory” or “voluntary.” The trade of General Machinist is VOLUNTARY.

Eligibility for Apprenticeship Program Completion

The Apprentice must:

- Achieve competency in all mandatory (unshaded) skills as identified in the Log Book
- Complete the in-school training as outlined in the approved Curriculum Standard

It is the responsibility of an Apprentice to maintain a training record in the form of an Ontario College of Trades Apprenticeship Training Standard Log Book. The Sponsor and Trainer are required to sign off when competencies in the trade are achieved.

Essential Skills

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways.

A series of tools endorsed by the Canadian Council of Directors of Apprenticeship (CCDA) have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- Understand how essential skills are used in the trades;
- Learn about individual essential skills strengths and areas for improvement, and,
- Improve essential skills and increase success in an apprenticeship program.

A link to the complete essential skills profile for Red Seal trades can be found at red-seal.ca.

TRAINING THE APPRENTICE

Tips for Apprentices

Remember, it takes time to learn. The following is a list of additional tips and tools to help make the most of your apprenticeship training:

- Practice safe work habits;
- Use your Apprenticeship Log Book as a journal to keep track of the skills you have achieved;
- Listen to the suggestions of your Trainer;
- Discuss your training needs with your Sponsor;
- Review your training plan with your Training Consultant, Trainer, or Sponsor;
- Ask your Trainer questions if you are unsure of any skill you need to perform or any tools or equipment you need to use to perform your duties;
- Show enthusiasm and develop good work habits; and,
- Upon demonstration of competency, ensure that you and your Trainer sign off the individual skills. Once a 'set of skills' have been signed off, ensure your Sponsor signs off this area as well.

Sponsor

Sponsors are responsible for ensuring all terms are met as per the Registered Training Agreement. They are named on the Registered Training Agreement as the entity responsible for ensuring Apprentices receive the training required as part of an apprenticeship program. As a signatory to this agreement, they are designated as the 'Signing Authority' for the Apprentice's Skill Set Completion Form, and are required to attest to successful achievement by signing the appropriate box at the completion of each skill set.

Tips for Sponsors

- Select Trainers with good communication skills and who work well with others;
- Ensure that the Apprentice always works under the direction of or has access to a qualified Trainer;
- Encourage Trainers to take upgrading courses (e.g. Train the Trainer, Mentor, Coach, etc.);
- Encourage safe work habits;
- Provide time for the Trainer to demonstrate skills to the apprentice;
- Provide opportunities and time for the Apprentice to learn the trade;
- Ensure that the Apprentice receives the varied on-the-job trade training experience outlined in this document;
- Set out clear expectations, and recognize good performance;
- Involve both the Apprentice and Trainer in developing the training plan and observe frequently;
- Provide constructive feedback and conduct regular performance reviews involving the Apprentice and Trainer;
- Use the Log Book as a monitoring tool and a part of regular performance evaluations;
- Complete the Skill Set Completion Form once the Apprentice has demonstrated competency in the skills.

Trainer

A Trainer is an individual who oversees the performance of a task and sets the workplace expectations and practices for the Apprentice. In compulsory trades, a Trainer must hold a valid Certificate of Qualification and be a member of the College of Trades Journeypersons Class.

In voluntary trades, a Trainer is an individual who holds one of the following:

- A valid Certificate of Qualification and is a member of the College of Trades Journeypersons Class; or,
- Holds a Statement of Membership in the College of Trades Tradespersons Class; or,
- Holds a Certificate of Qualification previously issued by Ministry of Advanced Education and Skills Development; or,
- Holds a Certificate of Apprenticeship in the trade; or,
- Has completed both the workplace-based training (competencies and/or hours as applicable) and classroom training components of the trade's apprenticeship program; or,
- Has workplace experience equivalent to the apprenticeship program (eligible to apply to College membership in the Journeypersons or Tradespersons Classes) or has the skills outlined in the Log Book.

Tips for Trainers

Trainers are responsible for ensuring the Apprentice is developing the skills outlined in this document. Here is a list of tips and tools to help Trainers in their supervision of Apprentices:

- Demonstrate model safe work habits;
- Provide opportunities and time for the Apprentice to learn the trade;
- Treat Apprentices fairly and with respect;
- Review the Log Book with the Apprentice and develop a training plan;
- Set out clear expectations and recognize good performance;
- Ensure that the Apprentice receives on-the-job trade training experience as outlined in this document;
- Encourage and respond to all questions;
- Be patient;
- Explain, show and demonstrate the skill;
- Provide continuous feedback;
- Sign off skills when your Apprentice demonstrates competency, and,
- Use the Log Book as a guide to evaluate competence in each skill area. By using the Log Book, Trainers will be able to ensure that the Apprentice is developing skills outlined in this document.

NOTICE OF COLLECTION OF PERSONAL INFORMATION

1. At any time during your apprenticeship training, you may be required to show this Log Book to the Ministry of Advanced Education and Skills Development. You will be required to submit the signed Apprenticeship Completion form to the Ministry of Advanced Education and Skills Development in order to complete your program. The Ministry of Advanced Education and Skills Development will use your personal information to administer and finance Ontario's apprenticeship training system, including confirming your completion and issuing your Certificate of Apprenticeship.
2. The Ministry of Advanced Education and Skills Development will disclose information about your program completion and your Certificate of Apprenticeship to the Ontario College of Trades, as it is necessary for the College of Trades to carry out its responsibilities.
3. Your personal information is collected, used and disclosed by the Ministry under the authority of the *Ontario College of Trades and Apprenticeship Act, 2009*.
4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Advanced Education and Skills Development
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
TTY: 1-866-533-6339 or 416-325-4084.

COMPETENCY ANALYSIS PROFILE

General Machinist 429A

SKILL SETS

SKILLS

PROTECT SELF AND OTHERS	Identify health and safety hazards in the workplace	Identify and locate workplace safety features	Wear, adjust, and maintain personal protective equipment	Wear, adjust, and maintain respiratory protectors	Practice safe work habits
5230.0	5230.01	5230.02	5230.03	5230.04	5230.05
	Follow fire procedures	Operate emergency safety equipment	Practice industrial hygiene	Practice housekeeping in the workplace	Conduct pre-operational check of equipment
	5230.06	5230.07	5230.08	5230.09	5230.10
	Report injuries	Follow procedures for applying first aid	Lock out mechanical equipment to ensure zero energy	Handle designated substances	Inspect and operate lifting equipment
	5230.11	5230.12	5230.13	5230.14	5230.15

PLAN AND PREPARE FOR MACHINING JOB	Read and interpret working drawings	Perform calculations for machining operations	Read and interpret work-process documentation	Verify workpiece material	Identify and select cutting fluids
5231.0	5231.01	5231.02	5231.03	5231.04	5231.05
	Identify and select machines	Identify and check machine controls and systems	Identify and select tooling	Identify and prepare cutting tools	Select and calibrate measuring instrument and checking devices
	5231.06	5231.07	5231.08	5231.09	5231.10
	Select machine speeds and feeds	Lay out features of working drawings	Select work-holding devices	Pick up datum/starting position	Select and inspect lifting and rigging equipment
	5231.11	5231.12	5231.13	5231.14	5231.15
	Communicate with co-workers				
	5231.16				

PERFORM WORK-IN- PROCESS DIMENSIONAL OR SURFACE VERIFICATION	Check straight cuts	Check shapes	Check threads	Check holes	Check tapers
5232.0	5232.01	5232.02	5232.03	5232.04	5232.05
	Check hardness	Maintain material identification	Deburr workpiece	Check surfaces	Perform inspection
	5232.06	5232.07	5232.08	5232.09	5232.10
	Complete work documentation				
	5232.11				

PERFORM BENCHWORK	Hand-file	Hand-saw	Hand-drill holes	Hand-thread	Hand-ream
5233.0	5233.01	5233.02	5233.03	5233.04	5233.05
	Repair threads	Hand-finish	Hand-broach	Operate heating equipment	Refurbish machines and components
	5233.06	5233.07	5233.08	5233.09	5233.10
	Practice housekeeping	Complete work documentation			
	5233.11	5233.12			

PERFORM POWER SAWING	Select and visually inspect blade	Lay out features of working drawings	Locate and position workpiece in saw	Select speeds and feeds of saw	Install and test-run blade
5234.0	5234.01	5234.02	5234.03	5234.04	5234.05

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Check cut-off 5234.06	Cut shapes using a vertical bandsaw 5234.07	Cut squared and angled surfaces using a power cut-off saw 5234.08	Maintain material identification 5234.09	Deburr workpiece 5234.10
Practice housekeeping 5234.11	Complete work documentation 5234.12			

PERFORM DRILLING USING DRILL PRESS/MACHINE 5235.0	Select drill press/machine tooling 5235.01	Prepare cutting tools for drills 5235.02	Locate and position workpiece in drill press/machine 5235.03	Set up tooling in drill press/machine 5235.04	Select speeds and feeds of drill press/machine 5235.05
	Centre-drill a layout punch mark 5235.06	Drill a hole 5235.07	Chamfer a hole 5235.08	Ream a hole 5235.09	Machine thread a hole 5235.10
	Spotface a hole 5235.11	Counterbore a hole 5235.12	Countersink a hole 5235.13	Deburr workpiece 5235.14	Perform inspection 5235.15
	Practice housekeeping 5235.16	Complete work documentation 5235.17			

PERFORM MACHINE GRINDING 5236.0	Select grinding wheel 5236.01	Select feed rate and depth of cut 5236.02	Check condition of grinding wheel 5236.03	Dress grinding wheel 5236.04	Locate and position workpiece in grinder 5236.05
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Surface grind workpiece 5236.06	Hone holes 5236.07	Lap workpiece 5236.08	Grind inside and outside diameters (ID/OD) 5236.09	Grind tools and cutters 5236.10
Check ground surfaces 5236.11	Perform inspection 5236.12	Practice housekeeping 5236.13	Complete work documentation 5236.14	

PERFORM LATHE WORK 5237.0	Select lathe cutting tools 5237.01	Prepare lathe cutting tools 5237.02	Locate and position workpiece in lathe 5237.03	Set up lathe cutting tools 5237.04	Select speeds and feeds of lathe and depth of cut 5237.05
	Perform a trial cut 5237.06	Establish a reference or starting point (datum) 5237.07	Face a surface 5237.08	Turn an external diameter 5237.09	Drill a hole 5237.10
	Bore an internal diameter 5237.11	Ream a hole 5237.12	Tap a hole 5237.13	Turn an internal or external thread 5237.14	Cut a taper 5237.15
	Knurl cylindrical surface patterns 5237.16	Groove and part-off 5237.17	Deburr workpiece 5237.18	Perform inspection 5237.19	Practice housekeeping 5237.20
	Complete work documentation 5237.21				

GENERAL MACHINIST

PERFORM MILLING	Select milling cutting tools	Prepare milling cutting tools	Set-up and maintain milling adjustable support tools	Set-up milling cutting tools	Select speeds and feeds of mill
5238.0	5238.01	5238.02	5238.03	5238.04	5238.05
	Perform fly-cutting	Face-mill	Machine steps, cut-outs, angles and open slots	Machine a pocket or slot	Machine a hole
	5238.06	5238.07	5238.08	5238.09	5238.10
	Bore holes	Deburr workpiece	Perform inspection	Practice housekeeping	Complete work documentation
	5238.11	5238.12	5238.13	5238.14	5238.15

PERFORM CNC MACHINING	Identify and select CNC machining process	Prepare CNC set-up sheet	Input program data to machine memory	Determine tool path and calculate coordinates	Identify and select CNC cutting tools and tooling
5239.0	5239.01	5239.02	5239.03	5239.04	5239.05
	Set up CNC cutting tools	Identify, select, and set machine parameters	Position and align workpiece in CNC machine	Verify part program at CNC machine controls	Store and record verified program
	5239.06	5239.07	5239.08	5239.09	5239.10
	Monitor CNC machining process	Perform inspection	Practice housekeeping	Complete work documentation	
	5239.11	5239.12	5239.13	5239.14	

LIST OF TRAINERS

TRAINER'S NAME (Please print)	TRAINER'S SIGNATURE

U5230.0 PROTECT SELF AND OTHERS

GENERAL PERFORMANCE OBJECTIVE

Protect self and others by: identifying health and safety hazards; identifying and locating workplace safety features; wearing, adjusting, and maintaining protective clothing, equipment, and respiratory protectors; practicing safe work habits, industrial hygiene, and good housekeeping; handling designated substances; following fire procedures and first aid procedures; operating safety equipment, lifting devices, and material handling equipment; reporting injuries; conducting pre-operational check of equipment; and, locking out equipment.

SKILLS

U5230.01 Identify health and safety hazards in the workplace, so that the potential for personal injury, damage to equipment or the environment is prevented, corrective action is taken and hazards are reported, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.02 Identify and locate workplace safety features, such as fire extinguishers, fire alarms, muster points, power cut-offs and emergency exits, so that the potential for personal injury, damage to equipment or the environment is prevented, corrective action is taken and hazards are reported, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.03 Wear, adjust, and maintain personal protective equipment such as eye, ear, hand, and foot protectors to ensure correct fit and optimum protection for the wearer and the task being performed, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.04 Wear, adjust, and maintain respiratory protectors to ensure correct fit and optimum protection, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.05 Practice safe work habits by staying outside guards and barricades, wearing required clothing (not loose or torn), confining long hair, and removing jewellery, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.06 Follow fire procedures such as locating and assessing the severity of the fire, taking appropriate action, suppressing minor fire, activating alarm, hot work permitting and reporting, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature	◇ College of Trades I.D./CofQ # or other qualification as applicable
(mm/dd/yy)	Apprentice Print Name	Apprentice Signature	College of Trades ID

U5230.07 Operate emergency safety equipment such as fire extinguishers, respirators, barrier creams, automatic external defibrillators (AED) and fire blankets, ensuring that procedures are carried out in a safe and efficient manner, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5230.08 Practice industrial hygiene by wearing required clothing and using eye wash or showering to avoid contamination or injury, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5230.09 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.10 Conduct pre-operational check of equipment by checking that guards and safety devices are in place, secured, and not damaged, by checking machine for damaged or worn parts and frayed wires, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.11 Report injuries to supervisor or first aid personnel promptly and clearly, ensuring that the injured person is attended to and information is reported accurately, so that future recurrence of similar accidents is prevented, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.12 Follow procedures for initiating first aid to treat conditions such as sudden illness, burns, cuts, abrasions, sprains, chemical inhalations, falls, and contaminants in eyes, so that the condition of the victim is stabilized and prepared for further first aid treatment, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.13 Lock out mechanical equipment to ensure zero energy for repair or maintenance by shutting down and tagging machine or manufacturing process to ensure that no materials can enter the equipment being repaired or maintained, no damage is caused to the machine, and accidents are prevented, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

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U5230.14 Handle designated substances using specified handling and storage equipment, so that the operator is protected from injury, the environment from contamination, and safe procedures are followed, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5230.15 **Inspect and operate lifting equipment** such as hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, or equipment, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5230: PROTECT SELF AND OTHERS		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5231.0 PLAN AND PREPARE FOR MACHINING JOB

GENERAL PERFORMANCE OBJECTIVE

Plan and prepare for machining job by: reading and interpreting working drawings; performing calculations; reading and interpreting work-process documentation; verifying workpiece material; identifying and selecting cutting fluids, machines, machine controls and systems, tooling, measuring or checking devices, work-holding devices, and lifting or rigging equipment; identifying and preparing cutting tools; selecting and calibrating measuring instruments and checking devices, selecting speeds and feeds; laying out features of the working drawing; picking up datum/starting position; and, communicating with co-workers.

SKILLS

U5231.01 **Read and interpret working drawings** to identify dimensions, tolerances and geometric dimensioning and tolerancing (GD & T), machine surface designations and allowances, type and features of workpiece material, and any other information needed to plan the machining job, in accordance with company standards/procedures and job documentation.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.02 Perform calculations for machining operations such as determining speeds and feeds, calculating cutting tool positions, checking workpiece alignments, and calculating dimensions to be measured and verified, using both Metric and Imperial System, so that all required specifications and parameters are correctly determined to machine the workpiece, in accordance with working drawings, job specifications and Machinery's Handbook.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.03 Read and interpret work-process documentation to identify required machines, job operation, sequencing of job, method of machining and set-ups, and any other information needed to plan the machining job, in accordance with company standards/procedures and job documentation.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

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U5231.04 Verify workpiece material for correct size and type by checking colour codes, lettering, or numerical stamps to ensure that the workpiece selected, in accordance with working drawings and job instruction sheets.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.05 Identify and select cutting fluids using manuals, charts, working drawings, and material safety data sheets, ensuring that the cutting fluid selected is the correct one to maximize machining without damage to workpiece, cutting tool, or machine, in accordance with manufacturer's and/or company specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.06 Identify and select machines such as conventional and numerically controlled saws, drills, lathes, grinders, and vertical or horizontal mills, using information from working drawings and work process documentation, to ensure that the machine selected is the correct one for the application, in accordance with manufacturer's and/or company specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.07 Identify and check machine controls and systems such as locating and identifying switches, buttons, levers, controls, and safety devices, to ensure that all controls are operational and functioning, in accordance with manufacturer’s specifications and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5231.08 Identify and select tooling required to cut the workpiece by using information in working drawings and job instructions, to ensure that tooling selected is the correct size and type for the application, in accordance with manufacturer’s and/or company specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5231.09 Identify and prepare cutting tools by sharpening or replacing tools so that the cutting shape and angle are prepared for optimum cutting and personal safety, in accordance with manufacturer’s specifications, Machinery’s Handbook, working drawings, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5231.10 Select and calibrate measuring instruments and checking devices such as micrometers, verniers, bore gauge, go/no go gauge, dial test indicator, ensuring that instruments and devices selected are capable of measuring to obtain the dimensions and tolerances, in accordance to working drawings, job specifications, and process layout.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.11 Select machine speeds and feeds using speed and feed charts and in accordance with size, type, and hardness of workpiece materials and cutting tool material, so that the machines perform optimum cutting without damage to workpiece, cutting tools, or machines and ensures personal safety, in accordance with manufacturer's specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.12 Lay out features of working drawings on to the workpiece using precision measuring instruments and layout equipment such as scribe, center punch, vernier height gauge, surface plate, combination set, and layout medium or dyes, so that the completed layout, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.13 Select work-holding devices such as vises, clamps, jigs, chucks, face plates, centers, steady rest, tailstocks, and mandrels, ensuring that the work-holding device selected is the correct one to safely and securely position and locate the workpiece in the machine, in accordance with job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.14 Pick up datum/starting position using layout lines, tooling balls, or edge of the part and required tools such as pointer, wiggler, indicator, and edge finder to identify and locate the datum/starting position, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5231.15 Select and inspect lifting and rigging equipment such as hoists, overhead cranes, chain falls, lift pins, cables, eye bolts, and chains, ensuring that equipment is selected, in accordance with company standards/procedures for safe and handling/moving of materials and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

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U5231.16 Communicate with co-workers to identify previous job operations, availability of tools, parts, and machinery, scheduling requirements, and any other information needed to plan and prepare for the machining job, ensuring that the information communicated is accurate, in accordance with company standards and procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5231: PLAN AND PREPARE FOR MACHINING JOB		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5232.0 PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION

GENERAL PERFORMANCE OBJECTIVE

Perform work-in-process dimensional or surface verification by: checking straight cuts, shapes, threads, holes, tapers, and hardness; maintaining material identification; deburring workpiece; checking surfaces; performing inspection; completing work documentation.

SKILLS

U5232.01 Check straight cuts by using precision measuring instruments such as micrometer, verniers, calipers, squares, straight edge, dial indicator, and surface comparator, to ensure that the accurate size, finish, parallelism, and squareness of straight cuts, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.02 Check shapes by using precision measuring instruments and checking devices such as radius gauges, squares, surface comparator, and verniers, to ensure that the profile and finish of the cut shape, in accordance with working drawing and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.03 Check threads by using precision measuring instruments, checking devices, and various checking methods such as 3-wire method, thread micrometer, thread gauge, and plug or ring gauges, to ensure that the accuracy of pitch, thread geometry, and size of cut threads, in accordance with the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.04 Check holes by using precision measuring instruments and checking devices such as dial indicators, inside micrometers, bore gauges, plug/pin gauges, telescopic gauges, surface comparators, and verniers, to ensure that the accuracy of the diameter, depth, concentricity, position, and finish of cut holes, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.05 Check tapers using precision measuring instruments and checking devices such as taper gauge, sine bar, micrometer, and vernier to ensure that the accuracy of the angle, taper/foot, and diameter of the cut tapers, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.06 Check hardness using various types of hardness testers, manual methods and comparison charts to ensure that the hardness level of the workpiece materials, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.07 Maintain material identification by marking or stamping workpiece and completing shop documentation, to facilitate traceability of the final product or work-in-process and to maintain inventory control, in accordance with company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.08 Deburr workpiece using files, scrapers, emery cloth, sanders, and hand or pedestal grinders to remove excess material and to ensure safe handling, in accordance with working drawings, and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.09 Check surfaces using surface comparators such as profilometers and comparative gauges, to ensure that surface is finished, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.10 Perform inspection using precision measuring instruments and checking devices such as inside, outside and depth micrometers, coordinate measuring machine (CMM), vernier height gauges or indicators, gauge blocks, and pin gauges to ensure that the tolerances and dimensions of the workpiece conform to the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5232.11 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets, to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5232: PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5233.0 PERFORM BENCHWORK

GENERAL PERFORMANCE OBJECTIVE

Perform benchwork by: hand-filing; hand-sawing; hand-drilling holes; hand-tapping threaded holes; hand-reaming; repairing threads; hand-finishing; hand broaching; operating heating equipment and refurbishing machines; practicing good housekeeping; and completing work documentation.

SKILLS

U5233.01 Hand-file using files such as flat, needle, bastard, rat-tail, lathe, and half-round to remove excessive material so that workpiece is filed, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.02 Hand-saw to cut workpiece to specified lengths, select blade for material type and thickness, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.03 Hand-drill holes using power drill and drill bits so that the size of the drilled holes, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.04 Hand-thread using taps, T-handle, tapping block and hand dies, so that the depth and squareness of threads, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.05 Hand-ream using straight, spiral-fluted, tapered and line reamers to remove excessive material, so that the diameter and depth of reamed hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

U5233.06 Repair threads using hand taps and dies, thread files, thread inserts, die nuts to repair or clean damaged threads, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.07 Hand-finish by grinding, lapping and honing using pneumatic or electric hand grinders and hones to remove excess material, so that the workpiece is ground, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.08 Hand-broach using broaches, plugs, shims and presses, so that the workpiece is broached to produce internal contour, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.09 Operate heating equipment such as oxy-fuel torches, induction heaters and ovens, to facilitate cutting, bending, forming, fitting and repairing, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.10 Refurbish machines and components by disassembling, repairing and reassembling using hand tools such as wrenches, hex keys, snap ring pliers, pullers, presses and adhesives/fasteners, in accordance with working drawings, equipment manuals and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.11 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5233.12 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets, to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5233: PERFORM BENCHWORK		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5234.0 PERFORM POWER SAWING

GENERAL PERFORMANCE OBJECTIVE

Perform power sawing by: selecting and visually inspect blade; laying out features of the working drawings; locating and positioning workpiece in saw; selecting speeds and feeds; installing and test-running blade; checking cut-off; cutting shapes with vertical bandsaw; cutting squared and angled surfaces with a power cut-off saw; maintaining material identification; deburring workpiece; completing work documentation; practicing good housekeeping; and completing work documentation.

U5234.01 **Select and visually inspect blade** by considering material type and thickness and power saw type, in accordance with manufacturer’s or job specifications and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.02 **Lay out features of working drawings** on to the workpiece using precision measuring instruments and layout equipment such as scribe, centre punch, vernier height gauge, surface plate, combination set, and layout medium or dyes, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.03 **Locate and position workpiece in saw** to required operational clearances by setting up workholding devices such as clamps, nesting fixtures, vises, or roller supports, so that the workpiece is aligned, secured, and stable during sawing operations to ensure personal safety, in accordance with job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.04 Select speeds and feeds of saws using charts, considering size, type, hardness of workpiece material and blade composition, so that the saw performs optimally without damage to workpiece, cutting tools, or machines, and ensuring personal safety, in accordance with manufacturer’s specifications .

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.05 Install and test-run blade to check alignments and movements, so that the blade is installed to make the required cut, prevent machine or blade damage, in accordance with company standards/procedures to ensure personal safety.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.06 Check cut-off by measuring and checking a cut-off piece, to ensure that the angles, squareness, and length of the sawed piece conform to the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5234.07 Cut shapes using a vertical bandsaw using required sawing sequences, speeds, feeds, and cutting fluids, so that the profile, size, and dimensions of the cut shapes conform to the working drawings, and job specifications in accordance with company procedures to ensure personal safety.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5234.08 Cut squared and angled surfaces using a power cut-off saw using required sawing sequences, speeds, feeds, and cutting fluids, so that the squareness, angles, and size of cut surfaces conform to working drawings and job specifications, in accordance with company procedures to ensure personal safety.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5234.09 Maintain material identification by marking or stamping workpiece and completing shop documentation, to facilitate traceability of the final product or work-in-process and to maintain inventory control, in accordance with company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5234.10 Deburr workpiece using files, scrapers, emery cloth, sanders, and hand or pedestal grinders, to remove excess material and to ensure safe handling, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5234.11 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5234.12 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets, to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that data is recorded accurately and clearly, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5234: PERFORM SAWING		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5235.0 PERFORM DRILLING USING DRILL PRESS/MACHINE

GENERAL PERFORMANCE OBJECTIVE

Perform drilling using drill press/machine by: selecting drill/press machine tooling; preparing cutting tools; locating and positioning workpiece in drill press/machine; setting up tooling; selecting speeds and feeds of drill press/machine; center-drilling a layout punch mark; drilling, chamfering, reaming, machine threading, spotfacing, counterboring, and countersinking a hole and deburring workpiece; performing inspection; practicing good housekeeping; and completing work documentation.

SKILLS

U5235.01 Select drilling press/machine tooling such as drill bits, centre drills, reamers, taps, counterbores, countersinks, and spotfaces to ensure that tooling is the correct size, shape, type, and grade for the application, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5235.02 Prepare cutting tools for drills by sharpening or replacing tools, so that the cutting shape and angle is prepared for optimum cutting and personal safety, in accordance with job or manufacturer's specifications and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5235.03 Locate and position workpiece in drill press/machine to required operational clearances by setting up and securing workpiece with workholding devices such as drilling vises, clamps, jigs, angle plates, and chucks, so that the workpiece is aligned, secured, and stable during drilling, in accordance with job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.04 Set up tooling in drill press/machine to required operational alignments using holding devices such as drill chucks, taper sleeves, and tapping heads, to ensure that tooling is in position and held securely during drilling, in accordance with job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.05 Select speeds and feeds of drill press/machine using charts and formulas, considering size, type, hardness of workpiece material and cutting tool composition so that the tool performs optimal cutting without damage to workpiece, cutting tools, or machines, and ensuring personal safety, in accordance with manufacturer's specifications, company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.06 Centre-drill a layout punch mark using a drill press/machine, chuck, centre-drill, and cutting fluid, so that the punch mark is drilled, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.07 Drill a hole using a drill press/machine, drill bits, and cutting fluids, so that the size and depth of drilled hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.08 Chamfer a hole using a drill press/machine, countersinks, and cutting fluids to break sharp edges, so that the chamfered hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.09 Ream a hole using a drill press/machine, machine reamers, and cutting fluids, so that the diameter of the reamed hole, in accordance with working drawing or job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.10 Machine thread a hole using a drill press/machine, tapping heads, taps, and cutting fluids, so that the depth, size, pitch and the threaded depth of the hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.11 Spotface a hole using a drill press/machine, spot-facing tools, and cutting fluids so that the depth and diameter of the spot-faced hole, in accordance with working drawings or job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.12 Counterbore a hole using a drill press/machine, counter-boring tools, and cutting fluids, so that the depth and diameter of the counter-bored hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

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U5235.13 Countersink a hole using a drill press/machine, countersinks, and cutting fluids, so that the depth, diameter and angle of the countersink, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.14 Deburr workpiece using files, scrapers, emery cloth, sanders, and hand or pedestal grinders, to remove excess material and to ensure safe handling, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.15 Perform inspection using precision measuring instruments and checking devices such as inside and depth micrometers, telescoping gauges, vernier depth gauges or indicators, and pin gauges, to ensure that the tolerances and dimensions of the drilled workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.16 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5235.17 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately and clearly, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5235: PERFORM DRILLING USING DRILL PRESS/MACHINES

Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature
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U5236.0 PERFORM MACHINE GRINDING

GENERAL PERFORMANCE OBJECTIVE

Perform machine grinding by: selecting grinding wheels; selecting feed rate and depth of cut; checking condition of grinding wheel; dressing grinding wheel; locating and positioning workpiece; surface grinding workpiece; honing holes; lapping workpiece; grinding inside and outside diameters; grinding tools and cutters; checking ground surfaces; performing inspection; practicing good housekeeping; and completing work documentation.

SKILLS

U5236.01 Select grinding wheel using manufacturer’s wheel charts with consideration to workpiece material, to ensure that the wheel selected is the correct grade and size to finish, shape, and size workpiece so that the finish of the workpiece conforms to the working drawings and job specifications .

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5236.02 **Select feed rate and depth of cut** using manufacturer’s wheel charts with consideration to workpiece material and the finish of the workpiece, so that the machine performs optimal cutting without damage to workpiece, cutting tools, or machines, in accordance with the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5236.03 **Check condition of grinding wheel** for defects, cracks, or chips, and by taking corrective action or replacing if required, to ensure personal safety and to perform optimal cutting, in accordance with job and manufacturer’s specifications and Safety Legislation.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5236.04 **Dress grinding wheel** to specified profile using diamond or star-wheel dresser, to ensure personal safety and to perform optimal grinding in accordance with working drawings and job specification.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice’s College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice’s Sponsor

U5236.05 Locate and position workpiece in grinder to required operational clearances by setting up workholding devices such as angle plates, magnetic holders, vises, chucks, centres, jigs, V-blocks, or mandrels, so that the workpiece is aligned, secured, and stable during grinding operations in accordance with job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.06 Surface grind workpiece using surface grinders so that the finish, flatness, and size of ground surfaces conforms to working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.07 Hone holes using a honing machine and required attachments, so that the dimension and tolerance of honed hole conforms to working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.08 Lap workpiece by hand lapping or using a power lapping machine so that the finish and flatness of the lapped surface conforms to working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

⬠ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.09 Grind inside and outside diameters (ID/OD) using machine grinders such as cylindrical grinders, toolpost grinders and roll grinders, so that the dimensions and tolerances of ground ID/OD surfaces conform to working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

⬠ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.10 Grind tools and cutters using pedestal, surface, or tool and cutter grinders, so that the ground cutting edge of tools or cutters conforms to tool geometry standards to ensure optimal metal removal and finish.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

⬠ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.11 Check ground surfaces using surface comparators and profilometers to ensure that the surface is finished as specified in the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.12 Perform inspection using precision measuring instruments and checking devices such as inside, outside and depth micrometers, vernier height gauges or dial indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the ground workpiece conform to the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.13 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5236.14 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets, to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately and clearly in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5236: PERFORM MACHINE GRINDING		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5237.0 PERFORM LATHE WORK

GENERAL PERFORMANCE OBJECTIVE

Perform lathe work by: selecting, and preparing cutting tools; locating and positioning workpiece; setting up lathe cutting tools; selecting speeds and feeds and depth of cut; performing a trial cut; establishing a reference or starting point (datum); facing a surface; turning an external diameter; drilling, boring, reaming, and tapping a hole; turning an internal or external thread; cutting a taper; knurling cylindrical surface patterns; grooving and parting-off; deburring workpiece; performing inspection; practicing good housekeeping; and completing work documentation.

SKILLS

U5237.01 **Select lathe cutting tools** such as drill bits, boring, parting, threading, facing, or turning tool, to ensure that tool is the correct size, shape, type, and grade for the application, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.02 **Prepare lathe cutting tools** by sharpening or replacing, so that the cutting shape and angle is prepared for optimal cutting and personal safety, in accordance with manufacturer's specifications and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.03 **Locate and position workpiece in lathe** to required operational clearances by setting up and securing workholding devices such as chucks, face plates, centres, steady rest, or tail stock, so that the workpiece is aligned, secured, and stable during machining in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.04 Set up lathe cutting tools to required operational alignments using tool posts and tail stocks, to ensure that tools are in position and held securely during machining in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.05 Select speeds and feeds of lathe and depth of cut using charts and formulas with consideration to the diameter, type, and hardness of workpiece material, so that the lathe performs optimal cutting without damage to workpiece, cutting tools, or machine and ensuring personal safety in accordance with job and manufacturer's specifications, company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.06 Perform a trial cut to establish a reference surface and to check speeds and feeds to ensure that the lathe is set up in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.07 **Establish a reference or starting point (datum)** by zeroing out machine and ensuring that the datum is correctly located, in accordance with job specifications, working drawings, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.08 **Face a surface** using a cutting tool and by measuring or checking with vernier, straight edge, dial indicator or micrometer, so that the surface flatness and finished edge, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.09 **Turn an external diameter** using cutting tool and by measuring or checking with a vernier or micrometer, so that the turned diameter, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.10 Drill a hole using a centre-drill, drills, tail stock or tool post, so that the diameter and depth of the drilled hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.11 Bore an internal diameter using a boring bar mounted in a toolpost, so that the internal diameter and depth, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.12 Ream a hole using centre drill, drills, reamers, tail stock or tool post, and by measuring or checking with vernier, micrometer, and gauges, so that the depth and diameter of the reamed hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.13 Tap a hole using taps, tapping head, tail stock or tool post, so that the depth, diameter, and thread pitch of the tapped hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.14 Turn an internal or external thread using a cutting tool and by measuring or checking with 3-wire method, thread micrometers or thread gauges, so that the pitch, geometrical form, and dimensional tolerance of the turned thread, in accordance with working drawings and thread standards.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.15 Cut a taper by using the taper-turning attachment and compound rest method, and by offsetting the tail stock, by measuring or checking with protractors, micrometers, vernier height gauges, or templates, so that the size and angle of the turned taper, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.16 Knurl cylindrical surface patterns using knurling tools, so that the diameter, form, depth, and finish of knurled surface patterns, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.17 Groove and part-off using grooving or parting tools, so that the width, length, depth, profile and squareness of cuts conform to workings drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.18 Deburr workpiece using files, scrapers, emery cloth and sanders, to remove excess material and to ensure safe handling, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.19 Perform inspection using precision measuring instruments and checking devices such as inside, outside and depth micrometers, vernier height gauges or dial indicators, sine bars and gauges, to ensure that the tolerances and dimensions of the turned workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.20 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5237.21 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports, or procedure sheets to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately and clearly, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5237: PERFORM LATHE WORK

Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature
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U5238.0 PERFORM MILLING

GENERAL PERFORMANCE OBJECTIVE

Perform milling by: selecting milling cutting tools; preparing cutting tools; setting up and maintaining adjustable support tools; setting up milling cutting tools; selecting speeds and feeds; fly-cutting; face-milling; machining steps, cut-outs, angles, and open slots; machining a pocket or slot; machining and boring holes; deburring workpiece; performing inspection; practicing good housekeeping; and completing work documentation.

SKILLS

U5238.01 Select milling cutting tools such as end mills, face mills, shell cutters, slot drills, boring bars, profile cutters, slitting saws, and boring heads, to ensure that the tool is the correct size, shape, type, and grade for the application, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.02 Prepare milling cutting tools by sharpening or replacing, so that the cutting shape and angle is prepared for optimal cutting and personal safety, in accordance with manufacturer's specifications and company standards/ procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.03 Set-up and maintain milling adjustable support tools such as indexing heads, vises, angle plates, V-blocks, sine bars, and rotary tables, ensuring that the support tool is the correct one for the application and the workpiece is located and secured during machining, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.04 Set-up milling cutting tools to required operational alignments using arbours, collets, and drill chucks, to ensure the tools are in position and held securely during machining, in accordance with working drawings, job and manufacturer's specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.05 Select speeds and feeds of mill using charts and formulas with consideration to the size and type of cutter, depth of cut, and hardness of workpiece material, so that the mill performs optimal cutting without damage to workpiece, cutting tools, or machine and ensures personal safety, in accordance with job and manufacturer's specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.06 Perform fly-cutting using a single point tool bit, and cutting fluid, so that the size, shape, squareness, and flatness of the fly-cut workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.07 Face-mill using a multi cutting edge face mill, and cutting fluids, so that the size, shape, squareness, and flatness of the workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.08 Machine steps, cut-outs, angles, and open slots using an end mill, arbour and rotary cutters, and cutting fluid, so that the size, shape, and angle of the workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.09 Machine a pocket or slot using a slot drill, center cutting end mill, and cutting fluid, so that the size, shape, and angle of milled pockets or slots, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.10 Machine a hole using drill bits, reamers, slot drills, and cutting fluid, so that the diameter, depth, and tolerance of the hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.11 Bore holes using a boring bar, boring head, and cutting fluid, so that the diameter, finish, depth and location of the hole, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.12 Deburr workpiece using files, scrapers, emery cloth, sanders, and hand grinders, to remove excess material and to ensure safe handling, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.13 Perform inspection using precision measuring instruments and checking device instruments such as inside, outside and depth micrometers, vernier height gauges or dial indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the workpiece, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.14 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5238.15 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports or procedure sheets to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately and clearly, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5238: PERFORM MILLING		
Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature

U5239.0 PERFORM COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING

GENERAL PERFORMANCE OBJECTIVE

Perform CNC machining by: identify and selecting CNC machining process; preparing CNC set-up sheet; inputting program data; determining tool path and calculating coordinates; identifying and selecting cutting tools and tooling; setting up CNC tool offsets; identifying, selecting and setting machine parameters; positioning and aligning workpiece; verifying part program at CNC machining controls; storing and recording verified CNC program; storing and recording verified program; monitoring CNC machining process; performing inspection; practicing good housekeeping; and completing work documentation.

SKILLS

U5239.01 Identify and select CNC machining process to ensure that the process selected is the correct one to make the parts or components, in accordance with the working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.02 Prepare CNC setup sheet to identify and describe all pertinent information needed for set up of machine tools, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.03 Input program data to the machine memory using information from machine-tool manual and programming data, so that the data is input to machine the part, in accordance with working drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.04 Determine tool path and calculate coordinates to establish tool path such as entry and exit moves, in accordance with set up sheet, working drawings, and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.05 Identify and select CNC cutting tools and tooling such as tool holders, end and face mills, carbide insert tools, centre-drill, drill, taps, reamers, counter bores, and boring heads, to ensure that the tools and tooling selected are the correct ones to machine the workpiece, in accordance with the working drawings and set up sheets.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.06 Set up CNC tool offsets relative to pre-determined reference points and the tool sequencing as defined in the program, to ensure that tools are set up to machine the workpiece, in accordance with working drawings and/or CAD data, and job specifications.

(mm/dd/yy)	Trainer Print Name	◇Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

◇ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.07 Identify, select, and set machine parameters such as spindle feeds, table feeds, and power settings using charts and formulas, with consideration to the type, size, grade, and hardness of the material to be cut and the cutter type, so that the workpiece is machined efficiently and safely without damage to tooling, machine, or workpiece and ensures personal safety, in accordance with working drawings and/or CAD data, and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5539.08 Position and align workpiece in CNC machine to specified datums and alignments, using chucks, face plates, collets, vises, clamps, stops, and fixtures to locate and position the workpiece, avoid collisions, and, ensure maximum stability during machining, in accordance working drawings and/or CAD data, manufacturer's and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.09 Verify part program at CNC machine controls by performing a dry run; taking a test cut; interrupting machining; measuring and checking dimensions; making adjustments to machine feeds, speeds, and offsets; editing the program; taking a final cut; and, performing an inspection prior to the production run; to ensure that the dimensions, shape, and tolerances of the machined part, in accordance with working drawings and/or CAD data, and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.10 Store and record verified program on storage media for future use, so that programs can be retrieved and available for repeat machining jobs, in accordance with company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.11 Monitor CNC machining process by interrupting machining, measuring or checking dimensions, and making adjustments to machine feeds, speeds, and offsets to optimize tool condition and life, so that the dimensions, shape, and tolerances of the machined workpiece are maintained during machining, in accordance with working drawings and/or CAD data, and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.12 Perform inspection using precision measuring instruments and checking device instruments such as inside, outside and depth micrometers, vernier height gauges or dial indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the CNC machined workpiece, in accordance with working drawings and/or CAD data, and job specifications.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.13 Practice housekeeping in the workplace by cleaning up spills or leaks, keeping work area clean and clear of obstructions, and storing tools or equipment, so that the potential for accident or injury is prevented and tools or equipment are in place and available, in accordance with company standards/procedures and government regulations.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

U5239.14 Complete work documentation such as tracking sheets, sign-off sheets, work orders, inspection reports or procedure sheets to record the finalization of jobs and to facilitate traceability of work-in-process, ensuring that all data is recorded accurately and clearly, in accordance with working drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	Trainer Signature
(mm/dd/yy)	Apprentice Signature	Apprentice's College of Trades ID

♦ A Trainer may be a Supervisor or the competent employee designated by the Apprentice's Sponsor

SPONSOR CONFIRMATION FOR U5239: PERFORM COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING

Date Completed (mm/dd/yy)	Sponsor Name (Print)	Sponsor Signature
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DEFINITIONS

Apprentices Class

Individuals in this class:

- Hold one or more valid Registered Training Agreements with the Ministry of Advanced Education and Skills Development in either compulsory or voluntary trades;
- Hold a valid statement of membership with the Ontario College of Trades in the Apprenticeship class;
- Are subject to any ratios or wage rates that have been set out in regulation for their trade(s);
- Can remain in this class until they receive their Certificate of Apprenticeship;
- Can hold themselves out as Apprentices.

Certificate of Apprenticeship (C of A)

A certificate issued by the Minister of Training, Colleges and Universities to individuals who have demonstrated that they have completed an apprenticeship program in Ontario.

Certificate of Qualification (C of Q)

A certificate issued by the Registrar on behalf of the College of Trades to a Journeyperson. A Certificate of Qualification will serve as proof of having met any testing/program requirements and membership in the College's Journeypersons Class.

Competence

The ability of an individual to perform a skill repeatedly and without assistance in the workplace as set out in the Log Book.

Competency Analysis Profile (CAP Chart)

A chart that identifies the training needs of an individual trade and details the skills/skill sets that must be demonstrated during an apprenticeship program.

Competent Person

A competent person is defined by the *Occupational Health and Safety Act* as being a person who:

- Is qualified because of their knowledge, training and experience to organize the work and its performance;
- Is familiar with the *Occupational Health and Safety Act* and its regulations that apply to the work; and has knowledge of any potential or actual danger to health or safety in the workplace.

Competent Worker

A competent worker is defined by the *Occupational Health and Safety Act* as being a person who:

- Is qualified because of knowledge, training and experience to perform the work;
- Is familiar with the *Occupational Health and Safety Act* and with the provisions of the regulations that apply to the work; and
- Has knowledge of all potential or actual danger to health or safety in the work.

Sponsor

Means a person that has entered into a Registered Training Agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade as part of an apprenticeship program established by the College of Trades.

Sponsor of Record

Refers to the Sponsor documented as being signatory to the current training agreement or contract. In order for a Sponsor to be considered for the training of Apprentices, they must identify that the workplace has qualified Journeypersons or the equivalent on site, and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by the Industry representatives for the trade.

Incompetence

According to the *Ontario College of Trades and Apprenticeship Act, 2009*, a member of the College of Trades may be found to be incompetent by the College Of Trades Discipline Committee if the Committee feels that the member has displayed a lack of knowledge, skill or disregard for another person's welfare while practising their trade. If this happens, the individual may be found unfit to practice their trade and their Statement of Membership/Certificate of Qualification may be revoked, suspended, or be subject to terms, conditions or limitations.

Journeyperson

Compulsory Trades Journeyperson:

- Someone who holds a valid Certificate of Qualification in the trade and who is a member in good standing of the College of Trades Journeypersons Class for the same trade; or
- Someone who holds a valid Provisional Certificate of Qualification in the trade and who is a member in good standing of the College of Trades Journeypersons Class for the same trade.

Voluntary Trades Journeyperson:

- Someone who holds a valid Certificate of Qualification in the trade and who is a member in good standing of the College of Trades Journeypersons Class for the same trade; or
- Someone who holds a Certificate of Qualification in the trade that was issued by the Ministry of Advanced Education and Skills Development prior to April 8, 2013 (membership in the College of Trades is not required in this scenario).

Journeyperson Candidates Class

An individual who has completed an Ontario apprenticeship program (Certificate of Apprenticeship) in a voluntary or compulsory trade that has a Certificate of Qualification examination, but has not passed the Certificate of Qualification examination for their trade. There is a maximum time limit of one year to remain in the Journeyperson Candidates Class. Individuals in this class:

- are subject to any ratios and/or wage rates that have been set out for their trade(s), if they practise a compulsory trade.
- can continue to work legally in their trade if they are in a compulsory trade, as they prepare to write their examination (individuals in voluntary trades do not have to be members of the College of Trades to work legally); and can hold themselves out as Journeyperson Candidates (they are neither Apprentices nor Journeypersons).
- can remain in this class for a maximum of one year or until they pass the Certificate of Qualification exam and become members of the Journeypersons class. However, they can only remain in this class for a maximum of one year. After one year they can move into the Tradespersons Class if they are in a voluntary trade. If they are in a compulsory trade and have been in the Journeyperson Candidates Class for one year, they can no longer work legally in that trade until they pass the Certificate of Qualification examination.

Mandatory Skill

Status assigned to unshaded individual skills, skill sets or general performance objectives which must be signed off for the Apprentice to complete their program.

OCTAA

Ontario College of Trades and Apprenticeship Act, 2009

Optional Skill

Status assigned to shaded individual skills, skills sets or general performance objectives for which sign off is not required for the Apprentice to complete the program.

Ratios

For up to date information regarding Journeyperson to Apprentice ratios, please visit:

collegeoftrades.ca

Red Seal Program

The Interprovincial Standards Red Seal Program (also known as the Red Seal Program) was established more than 50 years ago to provide greater mobility across Canada for skilled workers and represents a standard of excellence for industry. Through the program, individuals are able to obtain a Red Seal endorsement on their provincial/territorial certificates by achieving 70% or higher on an interprovincial Red Seal examination. The Interprovincial Standards Red Seal Program acknowledges their competence and ensures recognition of their certification throughout Canada without further examination. There are currently over 50 Red Seal designated trades. The Red Seal Program is recognized as the interprovincial *standard of excellence* in the skilled trades. The Interprovincial Standards Red Seal Program is a partnership between the Government of Canada, the Provinces, the Territories and various stakeholders.

Sign off

Signature of the Sponsor of record, or an individual to whom that Sponsor has delegated signing authority, (e.g. Trainer) indicating an Apprentice's demonstration of competence.

Skill

Individual skill described in the Log Book (note: does not mean the larger skill groups referred to in the Log Book as Skill Sets, Training Units, or General Performance Objectives, but the individual skills that make up those groups).

Skill Sets

Group of individual skills found in the Log Book (may also be called Training Unit or General Performance Objective).

Skill Set Completion for Sponsors

Listing for all skill sets and includes space for sign off by Sponsor of record.

Supervisor

An individual who oversees the performance of a task and oversees the actions or work of others.

Trade Board

Under the *Ontario College of Trades and Apprenticeship Act, 2009*, the [College of Trades Appointments Council](#) (COTAC) may appoint a Trade Board for each designated trade, composed of Employee and Employer representatives from the industry. Trade Boards are responsible for advising and making recommendations to the College of Trades Divisional Boards on issues relating to their trade. When there is no appointed trade board for a trade, the respective sector Divisional Board will act as the default Trade Board for the trade.

Tradespersons Class

A Class of Membership for individuals who practise in a voluntary trade which may or may not have a Certificate of Qualification examination.

Individuals in this class:

Have been members of the Journeyperson Candidates Class or are not eligible for Journeyperson Candidates Class and have been assessed to have experience and/or qualifications that are equivalent to a Certificate of Apprenticeship in that trade

- Are preparing to write/have no plans to write/have not passed the available Certificate of Qualification exam for their trade(s);
- Can remain in this class indefinitely or until they pass the available Certificate of Qualification exam for their trade(s); and
- Can hold themselves out as tradespersons (they are neither apprentices nor journeypersons).

Note: Individuals in the Tradespersons Class are considered Journeypersons for the purpose of determining ratios for that trade.

Trainer

A qualified Trainer in a compulsory trade is a Journeyperson with a Certificate of Qualification. In a voluntary trade, a Trainer is an individual who is considered equivalent to a Journeyperson with a Certificate of Qualification.

READY TO WRITE YOUR EXAM?

Many of the skilled trades in Ontario have a final certification examination that you must pass to become certified in your trade. Passing the examination gives you the right to join the Journeypersons class of members at the Ontario College of Trades and receive a Certificate of Qualification in your trade.

There are two types of trade certification examinations in Ontario:

1. Provincial (Ontario) examinations - which lead to a Certificate of Qualification.
2. Red Seal examinations – which lead to a Certificate of Qualification with an Interprovincial Red Seal endorsement.

If a trade is designated as Red Seal in Ontario, you will be writing the Red Seal examination. To access the Red Seal preparation guide please visit: red-seal.ca

You will write an Ontario-only examination when your trade is not designated as Red Seal trade in Ontario.

Ontario's Exam Preparation Guide collegeoftrades.ca

Basic Examination Details for You to Know

You will have **up to four hours to write your examination**. If you need more time, you must ask for it when you schedule the examination, not on the day of your examination. You can leave the examination centre if you complete the examination in less than four hours. You need a mark of 70% to pass.

Exam questions are multiple choice with four options from which you must choose the correct answer. Your examination may have between 90 and 150 multiple choice questions.

Scheduling Your Examination

The examination scheduling process is currently outlined in detail on the College of Trades website: collegeoftrades.ca

Remember these 3 basic steps:

1. Confirm your eligibility to write the examination with the College of Trades.
2. Contact Client Services at the College of Trades to pay your examination fee.
3. Contact the local Ministry apprenticeship office to schedule your examination in their examination centre: <http://services.findhelp.ca/eo/tcu/appoff>

INSTRUCTIONS FOR RECORDING A CHANGE IN SPONSOR

1. Record your first sponsor's information in Sponsor Record #1 – this would be the sponsor who has signed your initial apprenticeship Training Agreement for this trade.
2. If you do change sponsors prior to completing this apprenticeship, please contact your local Ministry of Advanced Education and Skills Development Apprenticeship Office immediately to update your sponsor record.
3. Please make sure you do record all of the information regarding any additional sponsors of record towards your apprenticeship using the Sponsor Records on the following pages (if applicable).

You must fill out a CHANGE OF SPONSOR RECORD each time you change your sponsor.

SPONSOR RECORD #1

SPONSOR INFORMATION	
Apprentice Name	
Registered Training Agreement #	
Sponsor Name	
Address	
Telephone	
E-mail Address	

SUMMARY OF TRAINING	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed (e.g. UXXXX)	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed off.

****If you need additional copies of the Sponsor Record, please photocopy as needed or visit collegeoftrades.ca and search Sponsor Record Form.***

CHANGE OF SPONSOR RECORD #2

SPONSOR INFORMATION	
Apprentice Name	
Registered Training Agreement #	
Sponsor Name	
Address	
Telephone	
E-mail Address	

SUMMARY OF TRAINING	
Employment Start Date	
Employment End Date	
Total hours of training & instruction between dates of employment.	
Skill Sets Completed (e.g. UXXXX)	

As the Sponsor, I hereby confirm that the above information is true and accurate to the best of my knowledge.

Signature: _____ Date: (mm/dd/yy) _____

The Sponsor is required to sign off and date the skills after the Apprentice has proven competence in those skills. However, if a skill is shaded, it is optional and does not need to be signed off.

****If you need additional copies of the Sponsor Record, please photocopy as needed or visit collegeoftrades.ca and search Sponsor Record Form.***

INSTRUCTIONS FOR APPRENTICESHIP PROGRAM COMPLETION (Appendix A)

Once an Apprentice has completed all the classroom training and hours specified for the trade, and have acquired all the mandatory skills included in this Log Book:

1. The Apprentice and the Sponsor complete the Apprentice Completion Form and the Skill Set Completion for Sponsors Form located on the following pages.
2. They sign the forms and submit them to their local Ministry of Advanced Education and Skills Development apprenticeship office. To find the closest office, check the contact information at <http://services.findhelp.ca/eo/tcu/appoff> or call the Employment Ontario toll free number at (1-800-387-5656).
3. Since this trade is competency based, all mandatory skills in the Log Book must be signed off. If the Sponsor is completing the Apprentice before the industry recommended training hours are done, Ministry staff may request further information regarding the Apprentice's on-the-job training. An example of a request would be a letter from the Sponsor confirming the Apprentice worked for some time in the trade before the initial Training Agreement was registered, thereby acquiring some skills beforehand.

If Apprentices are submitting the completion request form and supporting documentation to their local Ministry of Advanced Education and Skills Development apprenticeship office by mail, fax, or email (as a scanned document), they should not include their Log Book; if they are presenting this form in person at the local apprenticeship office, they should bring their Log Book with them.

After Ministry staff verifies all the information in the completion request, they may contact either the Apprentice or the Sponsor for further information or documentation. Once the completion has been confirmed, the Ministry will issue a Certificate of Apprenticeship to the Apprentice.

The Ontario College of Trades will receive notification of this completion, and complete the individual's membership in the Apprentices class for the trade. If the Apprentice has completed a program in a compulsory trade, the College of Trades will automatically register the Apprentice as a member of the Journeyperson Candidates class so the Apprentice can continue to work legally for one year while preparing for the certification examination. If an apprentice completes their apprenticeship in a voluntary trade **and** there is no Certificate of Qualification exam, they can apply for membership in the Journeypersons Class at the Ontario College of Trades. If there is a Certificate of Qualification exam, they must write and pass the exam in order to enter the Journeypersons Class at the Ontario College of Trades.

For permission to schedule an exam once completion is confirmed by the Ministry, the individual must first contact the College of Trades Client Services Department at 647-847-3000 or toll free at 1-855-299-0028 to pay the certification examination fee.

APPRENTICE COMPLETION FORM (Appendix B)

Please fill out both sides of this form, including the Skill Set Completion for Sponsors (see back of form). Once both sides are completed, submit the form to your local Ministry of Advanced Education and Skills Development apprenticeship office (find contact information at <http://services.findhelp.ca/eo/tcu/appoff> or by calling Employment Ontario at (1-800-387-5656).

APPRENTICE INFORMATION	
Name (print)	
Client ID # Issued by Ministry	
Telephone Number(s)	

SPONSOR INFORMATION	
Legal Name	
Address	
Telephone Number(s)	
Sponsor's Signing Authority (<i>print name</i>)	
E-mail Address	

PROGRAM INFORMATION			
Trade Name			
Number of hours required as per Training Agreement (<i>for hours-based trades only</i>)			
Hours completed? (<i>documentation attached</i>)	Yes ()	No ()	Not applicable ()
Classroom training completed or exempt?	Yes ()	No ()	Not applicable ()

I hereby confirm that the information submitted on both sides of this form is true and accurate.

X _____
Apprentice's Signature Date

X _____
Signature of Sponsor's Signing Authority Date

SKILL SET COMPLETION FOR SPONSORS (Appendix C)

You will find the skill set numbers and titles in the Log Book's Table of Contents. By signing off each skill set in the table below, you are providing final confirmation, as the Apprentice's Sponsor, that the Apprentice has demonstrated competency in all the mandatory skills included in the skill set.

SKILL SET #	SKILL SET TITLE	SIGNING AUTHORITY SIGNATURE
5230	PROTECT SELF AND OTHERS	
5231	PLAN AND PREPARE FOR MACHINING JOB	
5232	PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION	
5233	PERFORM BENCHWORK	
5234	PERFORM POWER SAWING	
5235	PERFORM DRILLING USING DRILL PRESS/MACHINE	
5236	PERFORM MACHINE GRINDING	
5237	PERFORM LATHE WORK	
5238	PERFORM MILLING	
5239	PERFORM COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING	

MINISTRY OF ADVANCED EDUCATION AND SKILLS DEVELOPMENT USE ONLY:

Sponsor verified as most recent sponsor of record: Yes () No ()
 Documentation to support completion of hours attached: Yes () No ()
 Completion of classroom training verified: Yes () No ()

Staff Name _____ Signature _____ Date _____

**MINISTRY OF ADVANCED EDUCATION AND SKILLS DEVELOPMENT
APPRENTICESHIP OFFICES IN ONTARIO (Appendix D)**

Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	Mississauga (City of) 905-279-7333	The Emerald Centre, 10 Kingsbridge Garden Cir Ste 404, Mississauga, ON L5R 3K6
Belleville 613-968-5558	135 North Front St, Belleville, ON K8P 3B5	North Bay 705-495-8515	200 First Ave West, North Bay, ON P1B 3B9
Brantford 519-756-5197	505 Park Rd North Suite 201, Brantford, ON N3R 7K8	Ottawa 613-731-7100	Preston Square, 347 Preston St 3rd Flr, Ottawa, ON K1S 3H8
Chatham 519-354-2766	870 Richmond St West 1st Floor, Chatham, ON N7M 5J5	Owen Sound 519-376-5790	1450 1st Ave West Suite 100, Owen Sound, ON N4K 6W2
Cornwall 613-938-9702	132 Second St East Ste 202, Cornwall, ON K6H 1Y4	Pembroke 613-735-3911	615 Pembroke St East, Pembroke, ON K8A 3L7
Dryden 807-223-4632	Provincial Government Building, 479 Government St, Dryden, ON P8N 3K9	Peterborough 705-745-1918	901 Lansdowne St West, Peterborough, ON K9J 1Z5
Durham 905-433-0595	78 Richmond Street West, Unit 100, Oshawa, ON L1G 1E1	Sarnia 519-542-7705	Bayside Mall, 150 Christina St North, Sarnia, ON N7T 7W5
Elliot Lake 705-848-4661	50 Hillside Dr North, Elliot Lake, ON P5A 1X4	Sault Ste. Marie 705-945-6815	477 Queen St East 4th Flr, Sault Ste Marie, ON P6A 1Z5
Fort Frances 807-274-8634	922 Scott St 2nd Flr, Fort Frances, ON P9A 1J4	St Catharines 905-704-2991	Garden City Tower, 301 St Paul St 10th Flr, St Catharines, ON L2R 7R4
Hamilton Central 905-521-7764	Ellen Fairclough Bldg, 119 King St West 8th Flr, Hamilton, ON L8P 4Y7	Sudbury 705-564-3030	159 Cedar St Ste 506, Sudbury, ON P3E 6A5
Kapuskasing 705-337-4381	Ontario Government Complex, 122 Government Rd West, Kapuskasing, ON P5N 2X8	Thunder Bay 807-346-1550	189 Red River Rd Suite 103, Thunder Bay, ON P7B 1A2
Kenora 807-468-2879	227 1/2 Second St South, Kenora, ON P9N 1G4	Timmins 705-235-1950	Ontario Government Complex, 5520 Highway 101 East Wing B, South Porcupine, ON P0N 1H0
Kingston 613-548-1151	Cornell Corporate Centre, 299 Concession St Ste 201, Kingston, ON K7K 2B9	Toronto Central 416-326-5800	625 Church St 1st Fl, Toronto, ON M7A 2B5
Kitchener 519- 653-5758	4275 King St East Ste 200, Kitchener, ON N2P 2E9	Windsor Central 519-973-1441	Roundhouse Centre, 3155 Howard Ave 2nd Fl, Ste 200, Windsor, ON N8X 4Y8
London 519-675-7788	1200 Commissioners Rd E Unit 72, London, ON N5Z 4R3		

For current office listings, please visit: <http://services.findhelp.ca/eo/tcu/appoff>

Completing Your Apprenticeship Program

Once your sponsor agrees that your hours are complete and you are competent in the required skills, and you have completed all the levels of classroom training required for your trade:

- ✔ Check the Ontario College of Trades Public Register to make sure your Apprentices class membership is still active:
<https://tmsportal.collegeoftrades.ca/web/ocot-public-services-v3/public-registry>
- ✔ Follow the completion instructions on the Completion Form (Appendix A) in the Log Book.
- ✔ Answer any questions that MAESD staff may have, and provide any additional completion documentation they may require.
- ✔ Once they confirm completion, MAESD will issue you a Certificate of Apprenticeship and notify the Ontario College of Trades of your completion.

After Your Apprenticeship

If you are in a trade with a certification exam, the College of Trades will **automatically** complete your membership in the Apprentices class and activate your 12-month membership in the Journeyperson Candidates class. This change will be reflected on your account with the College as well as on the College's Public Register.

Membership in the Journeyperson Candidates class will allow you to continue practising in a compulsory trade for 12 months while you prepare for and write your exam; if you are in a voluntary trade, it is your automatic approval to challenge the certification exam.

The College will send you a Journeyperson Candidates class welcome letter within 3 weeks of completion that outlines any/all of your future requirements for membership and examination as appropriate (different situations for voluntary and compulsory trades).

If you complete an apprenticeship program for which there is no exam, you can submit an application to become a member of the College's Journeypersons class on the basis of having earned a Certificate of Apprenticeship in the trade.

Preparing For Your Exam

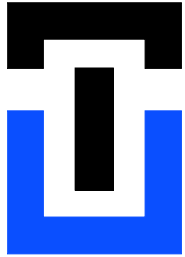
Find out if your trade has a Certificate of Qualification exam at:

www.collegeoftrades.ca/wp-content/uploads/tradesOntarioTradesCodes_En.pdf

For permission to schedule an exam once completion is confirmed by MAESD, you must first contact the College's Client Services Department at 647-847-3000 or toll free at 1-855-299-0028 to pay the certification exam fee. Once you have paid, contact your local MAESD Apprenticeship office to book your exam.

Download Ontario College of Trades exam preparation guide at:

www.collegeoftrades.ca/resources/exam-process and/or view the exam preparation guide for Red Seal trades at: www.red-seal.ca/w.2lc.4m.2@-eng.jsp



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