ONTARIO COLLEGE OF TRADES

ORDRE DES MÉTIERS DE L'ONTARIO

Apprenticeship Training Standard Log Book

Pattern Maker

443A

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 Training, Colleges and Universities (MTCU) 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 MTCU 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 Training, Colleges and Universities 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

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

TERMS AND CONDITIONS AS PER REGISTERED TRAINING AGREEMENT

The Apprentice agrees:

- **to inform the Ministry of Training, Colleges and Universities 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 Training, Colleges and Universities	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	*Ontario College of Trades and Apprenticeship Act, 2009*
Ontario Ministry of Labour – Health and Safety Partners	labour.gov.on.ca
College of Trades Appointments Council	cot-appointments.ca
Essential Skills Ontario	essentialskillsontario.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 Certification 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 Training, Colleges and Universities.

This Apprenticeship Log Book for Pattern Maker 443A 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 Journeyperson-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 Training, Colleges and Universities
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 Training, Colleges and Universities.

Roles and Responsibilities of the Apprentice

An Apprentice is an individual who has entered into an 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 Training, Colleges and Universities office.

4. You are responsible for informing the staff at your local Ministry of Training, Colleges and Universities 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 Training, Colleges and Universities 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 tradesperson 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 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 Pattern maker is set out in section 32 of Ontario Regulation 276/11 under OCTAA and reads as follows:

1. Reading and interpreting complex engineering drawings, pattern drawings and work process documentation.

2. Designing and creating foundry patterns and core boxes from metal, wood, plastic and polystyrene for parts and components cast from metal.

3. Building precision pattern tooling using wood and metal cutting machines and equipment, including saws, drills, grinders, lathes, mills and electrical discharge machines.

4. Performing work-in-process measuring and checking using specialized and precision tools and equipment. O. Reg. 276/11, s. 32.

While the Log Book draws on the scope of practice regulation (Section 32 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.

Journeyperson to Apprentice Ratio
While some of the trades regulated under OCTAA are subject to Journeyperson to Apprentice ratios (ratios) set out in regulation, this trade is not one of them.

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 Pattern maker 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 industry and Ministry of Training, Colleges and Universities 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 SUMMARY SAMPLE

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; and,
- 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 Training, Colleges and Universities; 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.

A classroom instructor is not permitted to sign off the skills contained within this Log Book.

In this trade a trainer must be competent in the skill, but it is not mandatory to be a member of the College of Trades or have a Certificate of Qualification (CofQ).

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 Training, Colleges and Universities. You will be required to submit the signed Apprenticeship Completion form to the Ministry of Training, Colleges and Universities in order to complete your program. The Ministry of Training, Colleges and Universities 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 Training, Colleges and Universities 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 Training, Colleges and Universities
   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
Pattern Maker – 443A
(All unshaded skill sets must be demonstrated/completed)

SKILL SETS	***SKILLS***				
PROTECT SELF AND OTHERS **5501.0**	Identify health and safety hazards. 5501.01	Wear, adjust, and maintain personal protective equipment. 5501.02	Wear, adjust, and maintain respiratory protectors. 5501.03	Practise safe work habits. 5501.04	Follow fire procedures. 5501.05
	Operate emergency safety equipment. 5501.06	Practise industrial hygiene. 5501.07	Practise good housekeeping in the workplace. 5501.08	Conduct pre-operational check of equipment. 5501.09	Report injuries. 5501.10
	Follow procedures for applying first aid. 5501.11	Lock out mechanical equipment. 5501.12	Handle designated substances. 5501.13	Operate lifting equipment. 5501.14	
PLAN AND PREPARE FOR MACHINING JOB **5502.0**	Read and interpret engineering drawings. 5502.01	Perform calculations for machining operations. 5502.02	Read and interpret work-process documentation. 5502.03	Verify workpiece material. 5502.04	Identify and select cutting fluids. 5502.05
	Identify and select machines. 5502.06	Identify and check machine controls and systems. 5502.07	Identify and select tooling. 5502.08	Identify and prepare cutting tools. 5502.09	Identify and select measuring instruments and checking devices. 5502.10
	Select machine speeds and feeds. 5502.11	Lay out features of engineering drawings. 5502.12	Identify and select work-holding devices. 5502.13	Pick up datum/starting position. 5502.14	Identify and select lifting and rigging equipment. 5502.15
	Communicate with co-workers. 5502.16				

PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION **5503.0**	Check straight cuts. 5503.01	Check shapes. 5503.02	Check threads. 5503.03	Check holes 5503.04	Check tapers. 5503.05
	Check hardness. 5503.06	Maintain material identification. 5503.07	Deburr workpiece. 5503.08	Check surfaces. 5503.09	Perform final inspection. 5503.10
	Complete work documentation. 5503.11				
PERFORM BENCHWORK **5504.0**	Hand-file. 5504.01	Hand-saw. 5504.02	Hand-drill holes. 5504.03	Hand-tap threaded holes. 5504.04	Hand-ream. 5504.05
	Chase threads. 5504.06	Hand-grind. 5504.07	Practise good housekeeping. 5504.08		
PERFORM SAWING **5505.0**	Check fused/welded blade. 5505.01	Lay out features of engineering drawings. 5505.02	Locate and position workpiece in saw. 5505.03	Select speeds and feeds of saw. 5505.04	Install and test-run blade. 5505.05
	Check first cut-off. 5505.06	Cut shapes with a vertical bandsaw. 5505.07	Cut squared and angled surfaces with a power cut-off saw. 5505.08	Maintain material identification. 5505.09	Deburr workpiece. 5505.10
	Perform final inspection. 5505.11	Complete work documentation. 5505.12	Move workpiece. 5505.13	Practise good housekeeping 5505.14	

PERFORM DRILLING USING DRILL PRESS/ MACHINE **5506.0**	Select drill tooling. 5506.01	Identify and prepare cutting tools for drills. 5506.02	Locate and position workpiece in drill. 5506.03	Set up tooling in drills. 5506.04	Select speeds and feeds of drill. 5506.05
	Centre-drill a layout punch mark. 5506.06	Drill a hole. 5506.07	Chamfer a hole. 5506.08	Ream a hole. 5506.09	Machine-thread a hole. 5506.10
	Spot-face a hole. 5506.11	Counter-bore a hole. 5506.12	Counter-sink a hole. 5506.13	Maintain material identification. 5506.14	Deburr workpiece. 5506.15
	Perform final inspection. 5506.16	Move workpiece. 5506.17	Practise good housekeeping. 5506.18	Complete work documentation. 5506.19	
PERFORM MACHINE GRINDING **5507.0**	Select grinding wheel. 5507.01	Check condition of grinding wheel. 5507.02	Install grinding wheel. 5507.03	Locate and position workpiece in grinder. 5507.04	Surface grind workpiece. 5507.05
	Hone holes 5507.06	Lap workpiece 5507.07	Grind inside and outside diameters (ID/OD) 5507.08	Grind tools and cutters. 5507.09	Check ground surfaces. 5507.10
	Perform final inspection. 5507.11	Move workpiece. 5507.12	Complete work documentation. 5507.13	Practise good housekeeping 5507.14	

PERFORM LATHE WORK **5508.0**	Select lathe cutting tools. 5508.01	Identify and prepare lathe cutting tools. 5508.02	Locate and position workpiece in lathe. 5508.03	Set up lathe cutting tools. 5508.04	Select speeds and feeds of lathe. 5508.05
	Take a sizing (preliminary) cut. 5508.06	Establish a reference or starting point (datum). 5508.07	Face a surface. 5508.08	Turn an external diameter. 5508.09	Drill a hole. 5508.10
	Bore an internal diameter. 5508.11	Ream a hole. 5508.12	Tap a hole. 5508.13	Turn an internal or external thread. 5508.14	Produce a taper. 5508.15
	Knurl cylindrical surface patterns. 5508.16	Groove and part-off. 5508.17	Maintain material identification. 5508.18	Deburr workpiece. 5508.19	Perform final inspection. 5508.20
	Complete work documentation. 5508.21	Move workpiece. 5508.22	Practise good housekeeping. 5508.23		

PERFORM MILLING **5509.0**	Select milling cutting tools. 5509.01	Identify and prepare milling cutting tools. 5509.02	Set-up and maintain milling adjustable support tools. 5509.03	Set-up milling cutting tools. 5509.04	Select speeds and feeds of mill. 5509.05
	Perform fly-cutting 5509.06	Face-mill. 5509.07	Machine steps, cut-outs, angles, and open slots. 5509.08	Machine a pocket or slot. 5509.09	Machine a hole. 5509.10
	Bore holes. 5509.11	Maintain material identification. 5509.12	Deburr workpiece. 5509.13	Perform final inspection. 5509.14	Move workpiece. 5509.15
	Complete work documentation. 5509.16	Practise good housekeeping. 5509.17			

PERFORM NC/CNC MACHINING **5510.0**	Identify and select numerically controlled machining process. 5510.01	Identify, select, and set up NC/CNC cutting tools and tooling. 5510.02	Identify, select, and set machine parameters. 5510.03	Position and align workpiece in NC/CNC machine. 5510.04	Input and verify part program at NC/CNC machine controls. 5510.05
	Verify tool sequence, tool path & collision avoidance program. 5510.06	Monitor NC/CNC machining process 5510.07	Make adjustments to tooling and offsets 5510.08	Maintain material identification 5510.09	Perform final inspection 5510.10
	Move workpiece. 5510.11	Complete work documentation. 5510.12	Practise good housekeeping. 5510.13		

DEVISE AND DETAIL A PLAN FOR THE PATTERN-BUILDING PROCESS **5511.0**	Verify the features of the pattern. 5511.01	Develop and organize a pattern-build plan. 5511.02	Perform pattern-building related calculations. 5511.03	Sectionalize engineering drawings. 5511.04	Fabricate building aids and templates. 5511.05
	Layout template. 5511.06	Produce template(s). 5511.07			
PRODUCE PATTERN TOOLING, MASTER, MODELS, AND PROTOTYPES **5512.0**	Rough-cut workpiece. 5512.01	Assemble rough-cut sections. 5512.02	Surface the block faces. 5512.03	Lay out workpiece. 5512.04	Cut and finish material. 5512.05
	Assemble fabricated parts. 5512.06	Create parting or joint lines. 5512.07	Mark trim lines. 5512.08	Apply draft on master model or pattern surfaces. 5512.09	Create tooling holes. 5512.10
	Fabricate master model, prototype, or pattern. 5512.11	Finalize surface of master model, prototype, or pattern. 5512.12	Perform final inspection. 5512.13	Practise good housekeeping. 5512.14	
FABRICATE RESIN PATTERN TOOLING **5513.0**	Determine production method. 5513.01	Inspect surface finish of existing pattern tooling. 5513.02	Gel-coat pattern tooling. 5513.03	Fabricate support frame. 5513.04	Fabricate master pattern. 5513.05
	Apply lightener/filler blocks. 5513.06	Apply release agent. 5513.07	Prepare resin. 5513.08	Create resin pattern tooling. 5513.09	Apply lay-up reinforcing material. 5513.10
	Finalize reinforcing material. 5513.11	Extract existing pattern tooling. 5513.12	Final inspect surfaces of mould or pattern tooling. 5513.13	Practise good housekeeping. 5513.14	Complete work. 5513.15

PREPARE PRESSURE CAST MATCH PLATE **5514.0**	Inspect pressure cast match plate. 5514.01	Finish back face of the pressure cast cope and drag pattern. 5514.02	Surface the cast match plate. 5514.03	Drill mounting holes. 5514.04	Fabricate and install gating system. 5514.05
	Fasten wear plates or flask slides on cast match plate. 5514.06	Practise good housekeeping. 5514.07	Complete work documentation. 5514.08		
MOUNT SPLIT FOUNDRY PATTERN ON MOULDING PLATE **5515.0**	Lay out moulding plate. 5515.01	Match cope and drag pattern halves. 5515.02	Transfer and locate dowel holes. 5515.03	Fasten pattern to moulding plate. 5515.04	Communicate with co-workers. 5515.05
	Practise good housekeeping. 5515.06	Maintain material identification. 5515.07			

PRODUCE METAL OR RESIN-BOARD PRODUCTION PATTERN TOOLING **5516.0**	Inspect machining stock, tooling resin, or casting. 5516.01	Establish datums or centre lines. 5516.02	Manufacture pattern tooling from metal or tooling resin-board. 5516.03	Finish and polish surface of pattern tooling. 5516.04	Match pattern tooling halves. 5516.05
	Assemble pattern tooling. 5516.06	Communicate with co-workers. 5516.07	Complete work documentation. 5516.08	Practise good housekeeping. 5516.09	

BUILD FOUNDRY CHECKING FIXTURES AND GAUGES **5517.0**	Fabricate a core-setting jig. 5517.01	Fabricate locating or checking device. 5517.02	Fabricate a core-assembly fixture. 5517.03	Fabricate a go-no-go gauge. 5517.04	Fabricate a core-support fixture. 5517.05
	Perform final inspection. 5517.06	Practise good housekeeping. 5517.07			
PRODUCE A POLYSTYRENE PATTERN **5518.0**	Verify features of the polystyrene pattern. 5518.01	Devise and plan the construction of polystyrene pattern tooling. 5518.02	Sectionalize the engineering drawing. 5518.03	Perform polystyrene-building related calculations. 5518.04	Produce template(s). 5518.05
	Rough-cut, tape, and square-up foam blocks. 5518.06	Lay out foam material. 5518.07	Carve and shape polystyrene pattern tooling. 5518.08	Assemble fabricated parts. 5518.09	Finish the polystyrene pattern tooling. 5518.10
	Finalize surface of polystyrene pattern. 5518.11	Perform final inspection of polystyrene pattern. 5518.12	Complete work documentation. 5518.13		

U5501.0 PROTECT SELF AND OTHERS

GENERAL PERFORMANCE OBJECTIVE

Protect Self and Others by: identifying health and safety hazards; wearing, adjusting, and maintaining protective clothing, equipment, and respiratory protectors; practising safe work habits, industrial hygiene, and good housekeeping; handling designated substances; following company fire procedures and first aid procedures; operating safety equipment, lifting devices, and material handling equipment; reporting injuries; assisting in completion of written safety and injury reports; conducting pre-operational check of equipment; and, locking out and tagging equipment.

SKILLS

U5501.01 Identify health and safety hazards in the workplace, so that the potential for personal injury, damage to equipment or the environment is prevented, and corrective action is taken as defined in Safety Legislation or company standards/procedures and hazards are reported.

(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

U5501.02 Wear, adjust, and maintain personal protective equipment including eye, ear, hand, and foot protectors, to ensure correct fit and optimum protection for the wearer and the task being performed, in compliance with company standards/procedures and Safety Legislation.

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

U5501.03 Wear, adjust, and maintain respiratory protectors to ensure correct fit and optimum protection in compliance with company standards/procedures and Safety Legislation.

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

U5501.04 **Practise 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 Safety Legislation.

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

U5501.05 **Follow fire procedures** including (not limited to) locating and assessing the severity of the fire, taking appropriate action, suppressing minor fire, activating alarm, and reporting in accordance with company standards/procedures and Safety Legislation.

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

U5501.06 **Operate emergency safety equipment** including (not limited to) fire extinguishers, respirators, barrier creams, and fire blankets, ensuring that procedures are carried out in a safe and efficient manner in accordance with company standards/procedures and Safety Legislation.

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

U5501.07 **Practise industrial hygiene** by wearing proper clothing and using eye wash or showering to avoid contamination or injury in compliance with company standards/procedures and Safety Legislation.

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

U5501.08 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

U5501.09 **Conduct pre-operational check of equipment** by checking that guards and safety devices are in place, secured, and not damaged in compliance with company standards/procedures and Safety Legislation.

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

U5501.10 **Report injuries** to supervisor or first aid personnel promptly and clearly, ensuring that the injured person is attended to and information is reported precisely and accurately describing how incident occurred, so that future recurrence of similar accidents is prevented in compliance with company standards/procedures and Safety Legislation.

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

U5501.11 **Follow procedures for applying first aid** to treat conditions including (not limited to) sudden illness, burns, cuts, abrasions, sprains, chemical falls, inhalations, and contaminants in eyes, so that the condition of the victim is stabilized and prepared for further first aid treatment in compliance with Safety Legislation and company standards/procedures.

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

U5501.12 **Lock out mechanical equipment** 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 compliance with company standards/procedures and Safety Legislation.

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

U5501.13 **Handle designated substances** using specified handling and storage equipment, so that the operator is protected from injury, the environment is protected from contamination, and safe procedures are followed in compliance with Safety Legislation and company standards/procedures**.**

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

U5501.14 **Operate lifting equipment** including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, or equipment in compliance with Safety Legislation and company standards/procedures.

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

SPONSOR CONFIRMATION FOR U5501: PROTECT SELF AND OTHERS		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5502.0 PLAN AND PREPARE FOR MACHINING JOB

GENERAL PERFORMANCE OBJECTIVE

Plan and prepare for machining job by: reading and interpreting engineering 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 speeds and feeds; laying out features of the engineering drawing; picking up datum/starting position from layout lines; and, communicating with co-workers.

SKILLS

U5502.01 **Read and interpret engineering drawings** to identify dimensions and tolerances, machine surface designations and allowances, type of workpiece material, and any other information needed to plan the machining job in accordance with company standards/procedures 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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U5502.02 **Perform calculations for machining operations** including (not limited to) determining speeds and feeds, calculating cutting tool positions, checking workpiece alignments, and calculating dimensions to be measured and verified, and using both System International (S.I.) and Imperial System, so that all required specifications are correctly determined to machine the workpiece in accordance with engineering drawings and jobs specifications.

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

U5502.03 **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.

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

U5502.04 **Verify workpiece material** for correct size and type by checking colour codes, lettering, or numerical stamps to ensure that the workpiece selected conforms to engineering drawings and job instruction sheets.

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

U5502.05 **Identify and select cutting fluids** using manuals, charts, engineering 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 and ensures personal safety.

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

U5502.06 **Identify and select machines** including conventional and numerically controlled saws, drills, lathes, grinders, and vertical or horizontal mills, using information from engineering drawings and work process documentation to ensure that the machine selected is the correct one for the application and available to perform the job.

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

U5502.07 **Identify and check machine controls and systems** including 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

U5502.08 **Identify and select tooling** required to cut the workpiece by using information in engineering drawings and job instructions, to ensure that tooling selected is the correct size and type for the application and available to perform the job.

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

U5502.09 **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, engineering drawings, and company standards/procedures.

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

U5502.10 **Identify and select measuring instruments and checking devices**, ensuring that instruments and devices selected are capable of measuring to obtain the dimensions and tolerances specified in the engineering 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

U5502.11 **Select machine speeds and feeds** using speed and feed charts and in accordance with size, type, and hardness of workpiece materials, so that the machines perform optimum cutting without damage to workpiece, cutting tools, or machines and ensures personal safety.

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

U5502.12 **Lay out features of engineering drawings** on to the workpiece using precision measuring instruments and layout equipment including (not limited to) scriber, centre punch, vernier height gauge, surface plate, combination set, and layout medium or dyes, so that the completed layout conforms to engineering drawings or job specifications.

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

U5502.13 **Identify and select work-holding devices** including (not limited to) vises, clamps, jigs, chucks, face plates, centres, catch plates, 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 Safety Legislation, engineering drawings, and job specifications.

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

U5502.14 **Pick up datum/starting position** using layout lines, tooling balls, or edge of the part and required tools including (not limited to) pointer, wiggler, indicator, and edge finder to identify and locate the datum/starting position as specified in engineering drawings and job specifications.

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

U5502.15 **Identify and select lifting and rigging equipment** including (not limited to) hoists, overhead cranes, chain falls, lift pins, cables, eye bolts, and chains, ensuring that equipment is selected in compliance with Safety Legislation and company standards/procedures for the safe handling and moving of workpiece and materials.

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

SPONSOR CONFIRMATION FOR U5502: PLAN AND PREPARE FOR MACHINING JOB		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5503.0 **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 final inspection; and, completing work documentation.

SKILLS

U5503.01 **Check straight cuts** by using precision measuring instruments including (not limited to) micrometer, verniers, callipers, squares, straight edge, dial indicator, and surface comparator, to ensure that the accurate size, finish, parallelism, and squareness of straight cuts conform with engineering 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

U5503.02 **Check shapes** by using precision measuring instruments and checking devices including (not limited to) radius gauges, surface comparator, and verniers, to ensure that the profile and finish of the cut shape conform to engineering drawing and job specifications.

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

U5503.03 **Check threads** by using precision measuring instruments, checking devices, and various checking methods including (not limited to) 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 conform to the engineering drawings and job specifications.

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

U5503.04 **Check holes** by using precision measuring instruments and checking devices including (not limited to) dial indicators, bore gauges, plug gauges, telescopic gauges, surface comparators, and verniers, to ensure that the accuracy of the diameter, depth, concentricity, position, and finish of cut holes conform with engineering drawings and job specifications.

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

U5503.05 **Check tapers** using precision measuring instruments and checking devices including (not limited to) taper gauge, sine bar, micrometer, and vernier to ensure that the accuracy of the angle, taper/foot, and diameter of the cut tapers conform with engineering drawings and job specifications.

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

U5503.06 **Check hardness** using various types of hardness testers and comparison charts to ensure that the hardness level of workpiece materials conforms with engineering drawings and job specifications.

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

U5503.07 **Maintain material identification** by marking or stamping workpiece and completing shop documentation, to facilitate traceability of 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

U5503.08 **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 Safety Legislation, engineering drawings, and job specifications.

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

U5503.09 **Check surfaces** using surface comparators, to ensure that surface is finished in micro-inches or microns as specified in the engineering drawings and job specifications.

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

U5503.10 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the workpiece conform to engineering drawings and job specifications.

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

U5503.11 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

SPONSOR CONFIRMATION FOR U5503: PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5504.0 PERFORM BENCHWORK

GENERAL PERFORMANCE OBJECTIVE

Perform benchwork by: hand-filing; hand-sawing; hand-drilling holes; hand-tapping threaded holes; hand-reaming; chasing threads; hand-grinding; and, practising good housekeeping.

SKILLS

U5504.01 **Hand-file** using files including (not limited to) flat, needle, bastard, rat-tail, lathe, and half-round files to remove excessive material, so that the workpiece is filed in accordance with engineering 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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U5504.02 **Hand-saw** using cut-off saws to cut workpiece to specified lengths in accordance with engineering drawings and job specifications.

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

U5504.03 **Hand-drill holes** using power drill and drill bits, so that the size of the drilled holes conform with engineering drawings and job specifications.

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

U5504.04 **Hand-tap threaded holes** using taps, T-handle, and tapping block, so that the depth and squareness of tapped threads conform to engineering drawings and job specifications.

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

U5504.05 **Hand-ream** using straight or spiral-fluted reamers to remove excessive material, so that the diameter and depth of reamed hole conform to engineering drawings and job specifications.

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

U5504.06 **Chase threads** using hand taps and dies to repair and clean damaged threads, so that the chased threads conform with engineering drawings and job specifications.

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

U5504.07 **Hand-grind** using pneumatic or electric hand grinders to remove excess material, so that the workpiece is ground in accordance with engineering drawings and job specifications.

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

U5504.08 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5504: PERFORM BENCHWORK		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5505.0 **PERFORM SAWING**

GENERAL PERFORMANCE OBJECTIVE

Perform sawing by: checking fused/welded blade; laying out features of the engineering drawings; locating and positioning workpiece in saw; selecting speeds and feeds of saw; installing and test-running blade; checking first cut-off; cutting shapes with vertical bandsaw; cutting squared and angled surfaces with a power cut-off saw; maintaining material identification; deburring workpiece; performing final inspection; completing work documentation; moving workpiece; and, practising good housekeeping.

SKILLS

U5505.01 **Check fused/welded blade** to ensure that joined saw has a continuous cutting edge in accordance with manufacturer's or job specifications, company standards/procedures, and Safety Legislation.

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

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U5505.02 **Lay out features of engineering drawings** on to the workpiece using precision measuring instruments and layout equipment including (not limited to) scriber, centre punch, vernier height gauge, surface plate, combination set, and layout medium or dyes, so that the completed layout conforms to engineering drawings or job specifications.

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

U5505.03 **Locate and position workpiece in saw** to required operational clearances by setting up workholding devices including (not limited to) clamps, nesting fixtures, vises, and roller supports, so that workpiece is aligned, secured, and stable during sawing operations in accordance with Safety Legislation and job specifications.

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

U5505.04 **Select speeds and feeds of saw** using speed and feed charts and in accordance with the size, type, and hardness of workpiece material, so that the saw performs optimum cutting without damage to workpiece, cutting tools, or machine, and ensures personal safety.

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

U5505.05 **Install and test-run blade** to check alignments and movements so that the blade is installed to make the required cut, prevents machine or blade damage, and ensures personal safety in accordance with company standards/procedures and Safety Legislation.

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

U5505.06 **Check first 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 engineering drawings and job specifications.

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

U5505.07 **Cut shapes using a vertical bandsaw** and required sawing sequences, speeds, feeds, and cutting fluids, so that the profile, size, and dimensions of the cut shapes conform to the engineering drawings, job specifications, and Safety Legislation.

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

U5505.08 **Cut squared and angled surfaces using a power cut-off saw** and required sawing sequences, speeds, feeds, and cutting fluids, so that the squareness, angles, and size of cut surfaces conform to engineering drawings, job specifications, and Safety Legislation.

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

U5505.09 **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 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

U5505.10 **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 engineering drawings, job specifications, and Safety Legislation.

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

U5505.11 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the sawed workpiece conform to the engineering drawings and job specifications.

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

U5505.12 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

U5505.13 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, and equipment in compliance with Safety Legislation and company standards/procedures.

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

U5505.14 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5505: PERFORM SAWING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5506.0 PERFORM DRILLING USING DRILL PRESS/MACHINE

GENERAL PERFORMANCE OBJECTIVE

Perform drilling using drill press/machine by: selecting drill tooling; identifying and preparing drill cutting tools; locating and positioning workpiece in drill; setting up tooling; selecting speeds and feeds; centre-drilling a layout punch mark; drilling, chamfering, reaming, machine-threading, spot-facing, counter-boring, and counter-sinking a hole; maintaining material identification; deburring workpiece; performing final inspection; completing work documentation; moving workpiece; practising good housekeeping.

SKILLS

U5506.01 **Select drill tooling** including drill bits, centre-drill, reamers, taps, counter-bores, counter-sinks, and spot-faces by using information in engineering drawings and job specifications to ensure that tooling is the correct size shape, type, and grade for the application.

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

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U5506.02 **Identify and 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 specifications and company standards/procedures.

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

U5506.03 **Locate and position workpiece in drill** to required operational clearances by setting up and securing workpiece with workholding devices including (not limited to) drilling vises, clamps, jigs, angle plates, and chucks, so that the workpiece is aligned, secured, and stable during drilling in accordance with Safety Legislation and job specifications.

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

U5506.04 **Set up tooling in drills** to required operational alignments using holding devices including (not limited to) drill chucks, taper sleeves, and tapping heads, to ensure that tooling is in position and held securely during drilling in accordance with Safety Legislation and job specifications.

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

U5506.05 **Select speeds and feeds of drill** using speed and feed charts and in accordance with the size, type, and hardness of workpiece material, so that the drill performs optimum cutting without damage to workpiece, cutting tools, or machines, and ensures personal safety.

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

U5506.06 **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 engineering drawings and job specifications.

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

U5506.07 **Drill a hole** using a drilling machine, drill bits, and cutting fluid, so that the size and depth of drilled hole conform to the engineering drawing and job specifications.

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

U5506.08 **Chamfer a hole** using a drilling machine**,** countersinks, and cutting fluids to break sharp edges, so that the chamfered hole conforms to engineering drawings and job specifications.

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

U5506.09 **Ream a hole** using a drilling machine, reamers, and cutting fluid, so that the diameter of the reamed hole conforms to engineering drawing or job specifications.

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

U5506.10 **Machine-thread a hole** using a drilling machine**,** tapping heads, taps, and cutting fluid, so that the depth, size, and pitch of the threaded depth of the hole conform with engineering drawings and job specifications.

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

U5506.11 **Spot-face a hole** using a drilling machine, spot-facing tools, and cutting fluid, so that the depth and diameter of the spotfaced hole conform to engineering drawings or job specifications.

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

U5506.12 **Counter-bore a hole** using a drilling machine, counter-boring tools, and cutting fluid, so that the depth and diameter of the counter-bored hole conform to engineering drawings and job specifications.

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

U5506.13 **Counter-sink a hole** using a drilling machine, countersinks, and cutting fluid, so that the depth and diameter of the counter-sunk hole conform to engineering drawings and job specifications.

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

U5506.14 **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

U5506.15 **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 engineering drawings, job specifications, and Safety Legislation.

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

U5506.16 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the completed workpiece conform to the engineering drawings and job specifications.

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

U5506.17 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and/or chains, to remove, transport, and store materials, parts, and/or equipment, in compliance with Safety Legislation and company standards/procedures.

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

U5506.18 **Practise good 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 Safety Legislation.

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

U5506.19 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

SPONSOR CONFIRMATION FOR U5506: PERFORM DRILLING USING DRILL PRESS/MACHINE		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5507.0 **PERFORM MACHINE GRINDING**

GENERAL PERFORMANCE OBJECTIVE

Perform machine grinding by: selecting grinding wheels; checking condition of grinding wheel; installing grinding wheel; locating and positioning workpiece; surface grinding workpiece; honing holes on a honing machine; lapping workpiece; grinding inside and outside diameters; grinding tools and cutters; checking surfaces; performing final inspection; completing work documentation; moving workpiece; and, practising good housekeeping.

SKILLS

U5507.01 **Select grinding wheel** using information in engineering drawings, charts, and job specifications, to ensure that the wheel selected is the correct grade and size needed to finish, shape, and size the workface in accordance with the hardness and finish of material.

(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

U5507.02 **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 optimum cutting in accordance with job specifications and Safety Legislation.

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

U5507.03 **Install grinding wheel** to specified radii and tangents/angles, using diamond or star-wheel dresser to ensure personal safety and to perform optimum grinding, in accordance with Safety Legislation, company standards/procedures, and job specifications.

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

U5507.04 **Locate and position workpiece in grinder** to required operational clearances, by setting up workholding devices including (not limited to) angle plate, magnetic holders, vises, chucks, centres, jigs, V-block, and mandrels, so that workpiece is aligned, secured, and stable during grinding operations, in accordance with Safety Legislation and job specifications.

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

U5507.05 **Surface grind workpiece** so that the finish, flatness, and size of ground surfaces conform to engineering drawings and job specifications.

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

U5507.06 **Hone holes** using a honing machine and required attachments, so that the dimension and tolerance of honed hole conform to engineering drawings and job specifications.

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

U5507.07 **Lap workpiece** by hand grinding or using a power lapping machine, so that the finish and flatness of the lapped surface conform to engineering drawings and job specifications.

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

U5507.08 **Grind inside and outside diameters (ID/OD)** using machine grinders, so that the dimensions and tolerances of ground ID/OD surfaces conform to engineering drawings and job specifications.

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

U5507.09 **Grind tools and cutters** using pedestal, surface, or tool and cutter grinders, so that the ground cutting edge of tools and cutters conforms to tool geometry standards to ensure optimum metal removal and finish.

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

U5507.10 **Check ground surfaces** using surface comparators, to ensure that the surface is finished in micro-inches or microns as specified in the engineering drawings and job specifications.

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

U5507.11 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the ground workpiece conform to the engineering drawings and job specifications.

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

U5507.12 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, and equipment in compliance with Safety Legislation and company standards/procedures.

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

U5507.13 **Complete work documentation** including (not limited to) tracking sheets, required sign-offs, inspection reports, and procedure sheets, to record the finalization of the workpiece and to facilitate traceability of work-in-process, in accordance with engineering 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

U5507.14 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5507: PERFORM MACHINE GRINDING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5508.0 **PERFORM LATHE WORK**

GENERAL PERFORMANCE OBJECTIVE

Perform lathe work by: selecting, identifying, and preparing cutting tools; locating and positioning workpiece; setting up lathe cutting tools; selecting speeds and feeds of lathes; taking a sizing (preliminary) cut; establishing a reference or starting point (datum); facing a surface; turning an internal or external diameter; drilling, reaming, and tapping a hole; boring an internal diameter; turning an internal or external thread; producing a taper; knurling cylindrical surface patterns; grooving and parting-off; maintaining material identification; deburring workpiece; performing final inspection; moving workpiece; completing work documentation; and, practising good housekeeping.

SKILLS

U5508.01 **Select lathe cutting tools** including (not limited to) drill bits, boring, parting, threading, facing, and turning tools, by using information from engineering drawings and job instructions to ensure that the tools selected are the correct ones needed to cut the workpiece material.

(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

U5508.02 **Identify and prepare lathe cutting tools** by sharpening or replacing, so that the cutting shape and angle is prepared for optimum 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

U5508.03 **Locate and position workpiece in lathe** to required operational clearances by setting up and securing work-holding devices including (not limited to) chucks, face plates, centres, catch plates, steady rest, and tail stock, so that the workpiece is aligned, secured, and stable during machining in accordance with engineering drawings, job specifications, and Safety Legislation.

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

U5508.04 **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 job specifications.

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

U5508.05 **Select speeds and feeds of lathe** using speed and feed charts and in accordance with the size, type, and hardness of workpiece material, so that the lathe performs optimum cutting without damage to workpiece, cutting tools, or machine and ensures 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

U5508.06 **Take a sizing (preliminary) cut** to determine the reference workface and to check speeds and feeds to ensure that lathe is set up in accordance with job specifications and engineering drawings.

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

U5508.07 **Establish a reference or starting point (datum)** by zeroing out machine and ensuring that the datum is correctly located in accordance with job specifications, engineering drawings, and company standards/procedures

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

U5508.08 **Face a surface** using a lathe and single-point tool bit and by measuring or checking with vernier, straight edge, or micrometer, so that the surface flatness and finished edge conform to engineering drawings and job specifications.

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

U5508.09 **Turn an external diameter** using a lathe and single-point tool bit and by measuring or checking with a vernier and micrometer, so that the turned diameter conforms to engineering drawings and job specifications.

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

U5508.10 **Drill a hole** using a lathe, centre-drill, drills, and tailstock, so that the diameter and depth of the drilled hole conform to engineering drawings and job specifications.

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

U5508.11 **Bore an internal diameter** using on a lathe and boring bars mounted in a toolpost, so that the close-toleranced internal diameters conform to engineering drawings and job specifications.

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

U5508.12 **Ream a hole** using lathe, centre-drills, drills, reamers, and tail-stock and by measuring or checking with vernier, micrometer, and gauges, so that the depth and diameter of the reamed hole conform to engineering drawings and job specifications.

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

U5508.13 **Tap a hole** using a lathe, taps, tapping head, and tailstock, so that the depth, diameter, and thread pitch of the tapped hole conform to engineering drawings and job specifications.

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

U5508.14 **Turn an internal or external thread** using a lathe and single-point tool bit and by measuring or checking with thread micrometers and thread plug gauge (go-no-go), so that the pitch, geometrical form, and dimensional tolerance of the turned thread conform to engineering drawings and thread standards.

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

U5508.15 **Produce a taper** using a lathe, offset tailstock, and taper-turning attachment, or compound rest and by measuring or checking with protractors, micrometers, vernier height gauges, or templates, so that the size and angle of turned taper conform to engineering drawings and job specifications.

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

U5508.16 **Knurl cylindrical surface patterns** using a lathe and knurling tools, so that the diameter, form, depth, and finish of knurled surface patterns conform to engineering drawings and job specifications.

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

U5508.17 **Groove and part-off** using a lathe and grooving or parting tools, so that the width, length, depth, and square of cut-offs conform to engineering drawings and job specifications.

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

U5508.18 **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

U5508.19 **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 engineering drawings, job specifications, and Safety Legislation.

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

U5508.20 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the turned workpiece conform to the engineering drawings and job specifications.

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

U5508.21 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

U5508.22 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, and equipment in compliance with Safety Legislation and company standards/procedures.

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

U5508.23 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5508: PERFORM MACHINE GRINDING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5509.0 **PERFORM MILLING**

GENERAL PERFORMANCE OBJECTIVE

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

SKILLS

U5509.01 **Select milling cutting tools** including (not limited to) end mills, face mills, shell cutters, slot drills, boring bars, slitting saws, and boring head, by using information from engineering drawings and job instructions to ensure that the tools selected are the correct ones needed to mill the workpiece to 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

U5509.02 **Identify and prepare milling cutting tools** by sharpening or replacing tools, so that the cutting shape and angle is prepared for optimum 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

U5509.03 **Set-up and maintain milling adjustable support tools** including (not limited to) indexing heads, vises, angle plates, sine bars, and 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 job specifications and Safety Legislation.

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

U5509.04 **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 job specifications.

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

U5509.05 **Select speeds and feeds of mill** using speed an feed charts and in accordance with the size, type, and hardness of workpiece material, so that the milling machine performs optimum cutting without damage to workpiece, cutting tools, or machine and ensures personal safety.

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

U5509.06 **Perform fly-cutting** using a milling machine, single-point tool bit, and required cutting fluid, so that the size, shape, squareness, and flatness of the fly-cut workpiece conform to engineering drawings and job specifications.

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

U5509.07 **Face-mill** using a milling machine and multi-point tool bit, face mill and required cutting fluid, so that the size, shape, squareness, and flatness of the faced workpiece conform to engineering drawings and job specifications.

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

U5509.08 **Machine steps, cut-outs, angles, and open slots** using a milling machine, end mill, and required cutting fluid, so that the size, shape, and angle of the end-milled workpiece conform to engineering drawings and job specifications.

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

U5509.09 **Machine a pocket or slot** using a milling machine, slot drill, centre cutting end mill, and required cutting fluid, so that the size, shape, and angle of milled pockets or slots conform to engineering drawings and job specifications.

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

U5509.10 **Machine a hole** using a milling machine, drill bits, reamers, slot drills, and required cutting fluid, so that the diameter, depth, and tolerance of the milled hole conform to engineering drawings and job specifications.

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

U5509.11 **Bore holes** using a milling machine, boring bar, boring head, and required cutting fluid, so that the diameter, finish, depth and location of the bored hole conform to engineering drawings and job specifications.

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

U5509.12 **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

U5509.13 **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 engineering drawings, job specifications, and Safety Legislation.

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

U5509.14 **Perform final inspection** using precision measuring instruments and checking device instruments including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, and pin gauges, to ensure that the tolerances and dimensions of the milled workpiece conform to the engineering drawings and job specifications.

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

U5509.15 **Move workpiece** by operating lifting and rigging equipment including (not limited to) hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains to remove, transport, and store materials, parts, and equipment in compliance with Safety Legislation and company standards/procedures.

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

U5509.16 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

U5509.17 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5909: PERFORM LATHE WORK		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5510.0 **PERFORM NUMERICALLY CONTROLLED(NC)/COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING**

GENERAL PERFORMANCE OBJECTIVE

Perform Numerically Controlled (NC)/Computerized Numerically Controlled (CNC) machining by: identifying and selecting NC/CNC machining process; identifying, selecting, and setting NC/CNC cutting tools and tooling; selecting and setting machine parameters; positioning and aligning workpiece; inputting and verifying part program at NC/CNC machine; performing final inspection; completing work documentation; moving workpiece; maintaining material identification; and practising good housekeeping.

SKILLS

U5510.01 **Identify and select numerically controlled machining process** including Numerically Controlled (NC) and Computerized Numerically Controlled (CNC) machines, using information from the engineering drawings and job specifications to ensure that machining process selected is the correct one to make the parts or components.

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U5510.02 **Identify, select, and set up NC/CNC cutting tools and tooling** including (not limited to) tool holders, end and face mills, carbide insert tools, centre-drill, drill, taps, reamers, counter bores, and boring head, to pre-determined reference points and by using information from the engineering drawings, prepared sequence sheet, and tool lists, to ensure that the tools and tooling selected are the correct ones to machine workpiece efficiently and safely.

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U5510.03 **Identify, select, and set machine parameters** including spindle feeds, table feeds, and power settings using speed and feed charts and according to the type, size, grade, and hardness of the material to be cut, so that the workpiece is machined efficiently and safely without injury to operator or damage to tooling, machine, or workpiece in accordance with engineering drawings and job specifications.

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U5510.04 **Position and align workpiece in NC/CNC machine** to specified datums and required alignments, using chucks, face plates, collets, vises, clamps, stops, and fixtures to locate and position the workpiece, to avoid collisions, and to ensure maximum stability during machining in accordance with Safety Legislation and job specifications.

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U5510.05 **Input and verify part program at NC/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 conforms to the engineering drawings and job specifications.

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U5510.06 **Verify tool sequence, tool path, and collision avoidance program**, by performing a dry run and editing program as required, to ensure that workpiece is machined in accordance with CAD data, engineering drawings and job specifications.

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U5510.07 **Monitor NC/CNC machining process** by interrupting machining, measuring or checking dimensions, and making adjustments to machine feeds, speeds, and offsets, so that the dimensions, shape, and tolerances of the machined workpiece are maintained during machining in conformance with engineering drawings, CAD data, and job specifications.

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U5510.08 **Make adjustments to tooling and offsets** so that the displayed or modified offsets and tooling conform with CAD data, engineering drawings, and job specifications.

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U5510.09 **Maintain material identification** by marking or stamping workpiece and completing shop documentation, to ensure traceability of the final product or work-in-process and to maintain inventory control, in accordance with company standards/procedures.

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U5510.10 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, and gauge blocks to ensure that the tolerances and dimensions of the completed workpiece conform to the engineering drawings and job specifications.

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U5510.11 **Move workpiece** by operating lifting and rigging equipment including hoists, overhead cranes, chain falls, lift pins, eye bolts, slings, cables, and chains, to remove, transport, and store materials, parts, and equipment in compliance with Safety Legislation and company standards/procedures.

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

U5510.12 **Complete work documentation** including (not limited to) data sheets, tracking sheets, sign-off sheets, 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 engineering drawings, job specifications, and company standards/procedures.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5510.13 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5510: PERFORM NUMERICALLY CONTROLLED(NC)/COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5511.0 **DEVISE AND DETAIL A PLAN FOR THE PATTERN-BUILD PROCESS**

GENERAL PERFORMANCE OBJECTIVE

Devise and detail a plan for the pattern-build process by: verifying features of the pattern; developing and organizing a pattern-build plan; performing pattern-building related calculations; sectionalizing the engineering drawing; fabricating building aids for pattern-building process; creating pattern equipment layout; and, producing template(s).

SKILLS

U5511.01 **Verify features of the pattern** by reading and interpreting engineering drawings, mylars, data files, job specifications, allowance charts, and metal specifications to identify and determine: type of material; assembly process; pattern features; datum/centre lines; joint/parting lines; type of equipment; coreprints; draft; clearances; tolerances; loose pieces; errors; anomalies; omissions; job operations and sequencing; drawing revision level; and, type of pattern; ensuring that all the required pattern features are checked and identified.

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U5511.02 **Develop and organize a pattern-build plan** to identify and document: types of machines or tools; job operations; sequencing of jobs; machining processes; required tooling; and, assembly or construction details; so that all procedures, processes, and features of the proposed patterns conform with engineering drawings, bill of materials, schedule dates, and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5511.03 **Perform pattern-building related calculations** using conversion tables or charts, and material or product-specification tables or charts to correctly identify: draft; angles; casting weight; tolerances; allowances; shrinkage or contraction variables of materials; chords; and, tangencies; so that all pattern clearances, dimensions, tolerances, sizes, and shapes are accurately determined and documented in accordance with engineering drawings, job specifications, pattern sketches, and bill of material.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5511.04 **Sectionalize engineering drawings** to: determine the types, shapes, and sizes of the pattern equipment; identify the construction joints; and, assist in the fabrication of the pattern; so that the pattern components and features are correctly identified and sketched for shape, dimensions, tolerances, finishes, and assembly process in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5511.05 **Fabricate building aids and templates** for the pattern-building process so that the size, shape, and finish of the building aids are accurately produced in order to facilitate the pattern-building process as specified in engineering drawings, pattern sketches, and job specifications.

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U5511.06 **Layout template** on a smooth-faced, thin, flat, and rigid material, using required tools including (not limited to) protractors, scribers, combination square, and height gauges, so that the template layout conforms to the geometric features of engineering drawings, sketches, pattern, part prints, and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5511.07 **Produce template(s)** using prepared layout and required cutting tools, so that the template is the correct size and shape to be used for the checking and creation of the section profile in accordance with engineering drawings and job specifications.

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

SPONSOR CONFIRMATION FOR U5511: PROTECT SELF AND OTHERS DEVISE AND DETAIL A PLAN FOR THE PATTERN-BUILD PROCESS		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5512.0 PRODUCE PATTERN TOOLING, MASTER , MODELS, AND PROTOTYPES

GENERAL PERFORMANCE OBJECTIVE

Produce pattern tooling, master, models, and prototypes by: rough-cutting workpiece; assembling rough-cut sections; surfacing faces of block; laying out material; cutting and finishing material; assembling fabricated parts; creating parting/joint lines; marking trim lines; applying draft; creating tooling holes; finishing the master model/prototype or pattern; finalizing surface of master model/prototype or pattern; performing final inspection; practising good housekeeping.

SKILLS

U5512.01 **Rough-cut workpiece** using band saw, circular saws, sander, planer, joiner, or shaper, so that the workpiece is rough-cut to size and shape in accordance with engineering drawings, pattern sketch, reference materials, and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.02 **Assemble rough-cut sections** by glueing, clamping, and fastening rough-cut material using polyvinyl white glue, resin, clamps, and fasteners, so that the rough-cut pieces of tooling or model board are assembled in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.03 **Surface the block faces** using planer, sander, or milling machine, so that the X, Y, Z coordinates are established and the workpiece faces are parallel and square in accordance with engineering drawings and job specifications.

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

U5512.04 **Lay out workpiece** using layout tools including (not limited to) shrink rule, height gauge, scriber, marking gauge, square, dividers, verniers, and trammels, so that the surplus material is removed and the shape and size of the workpiece is layed out in accordance with engineering drawings and job specifications.

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

U5512.05 **Cut and finish material** by: cutting away surplus material; shaping the master pattern and parts; creating core prints; and, using gouges, chisels, hand planes, spoke shavers, wood rasps, and abrasives; so that the workpiece is prepared in accordance with layout, engineering drawings, and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.06 **Assemble fabricated parts** using screwdrivers, hammer, drills, brace and bits, clamps, adhesives, and fasteners, so that the parts are aligned, mated, and assembled in accordance with the layout, engineering drawings, and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.07 **Create parting or joint lines** by marking the workpiece using marking and measuring equipment, so that the parting or joint line is completed to allow the extraction of the finished part from the mould in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.08 **Mark trim lines** using gauge blocks, scriber, height gauge, marking gauge, square, dividers, verniers, trammels, surface tables, and angle blocks, so that the trim lines and tolerances are identified and marked in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.09 **Apply draft on master model or pattern surfaces** using planer, milling machines, sanders, lathes, gouge, chisel, spoke shave, and hand plane, so that required draft is added to facilitate the extraction of a master model or pattern from the mould in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.10 **Create tooling holes** by boring or reaming and adding bushings, so that the tooling holes are the correct size and location in accordance with engineering drawings and job specifications.

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

U5512.11 **Fabricate master model, prototype, or pattern** by following required procedures including (not limited to): applying fillets to inside corners; radiusing the outside corners; and, using corebox cutters, ball-nose cutters, fillet tools, fillet scraper, radius gauge, routers, lathes, and mills; so that the model, prototype, or pattern are built in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.12 **Finalize surface of master model, prototype, or pattern** by following required procedures including (not limited to): filling in irregularities with polyester compound; applying sanding sealer or paint; and, using spatula, brush, or spray; so that the surface is finished in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5512.13 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, inside/outside callipers, radius gauges, shrink rule, and tape measure, to ensure that the tolerances and dimensions of the completed pattern tooling, master models, or prototypes conform to engineering drawings and job specifications.

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

U5512.14 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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SPONSOR CONFIRMATION FOR U5512: PRODUCE PATTERN TOOLING, MASTER , MODELS, AND PROTOTYPES		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5513.0 FABRICATE RESIN PATTERN TOOLING

GENERAL PERFORMANCE OBJECTIVE

Fabricate resin pattern tooling by: determining resin pattern tooling production method; checking surface finish of existing pattern tooling; gel coating pattern tooling; fabricating support frame and master pattern; producing lightener/filler blocks; applying release agent; preparing resin; creating resin pattern tooling; applying lay-up reinforcing material; finalizing reinforcing material; extracting existing pattern tooling; final inspecting surfaces of mould or pattern tooling; practising good housekeeping; and completing work documentation.

SKILLS

U5513.01 **Determine production method** including hand lay-up, surface coat, back-fill, or poured resin process by reading and interpreting engineering drawings, ensuring that the process selected is the correct one for the size, mass, or application of resin pattern tooling and conforms with job specifications, reference materials, and Safety Legislation.

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

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U5513.02 **Inspect surface finish of existing pattern tooling** by visually or manually checking the surface to identify defects or faults including air pockets, sink holes, depressions, coarse spots, stress cracks, or soft spots, so that corrective action can be determined and taken to finish the surface smooth and free from defects or faults in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.03 **Gel-coat pattern tooling** by following required procedures including (not limited to): using required tools and equipment; mixing coating: brushing coatings or gel on the surface; sanding; and, checking readiness of coating; so that the surface is coated to avoid air entrapment and is applied in accordance with job specifications, manufacturer's recommendations, and Safety Legislation.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.04 **Fabricate support frame** by following required procedures and using hand or power tools, so that the completed frame is the size and shape required to form the outside of the mould as specified in engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.05 **Fabricate master pattern** by following required procedures including (not limited to): using hand, power, or machine tools; attaching metal hardware for bolting and dowelling; and, incorporating ribs and bosses; so that the master pattern is built to facilitate an even clearance of resin flow and is the size and shape for the production of an aluminium casting as specified with engineering drawings, job specifications, and reference materials.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.06 **Apply lightener/filler blocks** by identifying, selecting, shaping, and installing material, so that the lightener/filler blocks are suspended within the frame to maintain the space around the existing tooling as specified with engineering drawings, job specifications, and reference materials.

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U5513.07 **Apply release agent** by identifying, selecting, and applying substance using spray gun, brush, or cloths, so that coating is applied to facilitate the extraction of existing tooling from the pattern tooling in accordance with engineering drawings, job specifications, reference materials, and Safety Legislation.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.08 **Prepare resin** by: selecting resin and matching catalyst; weighing the resin and catalyst separately; and, mixing by hand or mechanically; so that the resin is mixed to the specified ratios in accordance with manufacturer's recommendations, reference materials, and Safety Legislation.

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U5513.09 **Create resin pattern tooling** by following required procedures including (not limited to): pouring resin into cavity ensuring that air is vented in a closed mould; checking that the resin comes above the joint surface in an open-face mould; finishing joint face by removing excess material from the face of the cured resin pattern tooling; and, using hand, power, or machine tools; so that the joint surface is smooth, flat, and dimensioned in accordance with engineering drawings and job specifications.

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U5513.10 **Apply lay-up reinforcing material** by following required procedures including (not limited to): identifying and selecting material; saturating material with back-up resin; placing material in full contact with surface of gel coating; and, overlapping joints in previous layer; so that the pattern tooling retains the original form and is durable, stable, fully cured, and the specified thickness in accordance with job specifications, manufacturer's recommendations, reference materials, and Safety Legislation.

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

U5513.11 **Finalize reinforcing material** by: following required application processes; identifying and selecting material and equipment; and, applying bulk filler, frame, cone, or cores; so that the pattern is reinforced and stable in accordance with job specifications, manufacturer's specifications, and engineering drawings.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.12 **Extract existing pattern tooling** by using compressed air, draw bar, bridges and levers, draw plates, lag bolts, and jacks, so that the mould retains its shape and size and is extracted without damage in accordance with engineering drawings, job specifications, and Safety Legislation.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5513.13 **Final inspect surfaces of mould or pattern tooling** by: visually or manually inspecting the surface; identifying defects or faults including air pockets, sink holes, depressions, coarse spots, stress cracks, or soft spots; and, determining and taking corrective actions; so that the surface is smooth and free from defects or faults in accordance with job specifications and engineering drawings.

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

U5513.14 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

U5513.15 **Complete work documentation** including (not limited to) tracking sheets, sign-off sheets, 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 engineering 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

SPONSOR CONFIRMATION FOR U5513: FABRICATE RESIN PATTERN TOOLING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5514.0 PREPARE PRESSURE CAST MATCH PLATE

GENERAL PERFORMANCE OBJECTIVE

Prepare pressure cast match plate by: inspecting pressure cast match plate; finishing the back face of the pressure cast cope and drag pattern; surfacing the cast match plate; drilling mounting holes; fabricating and installing gating system; fastening wear plates/flask slides on cast match plate; practising good housekeeping; and, completing work documentation.

SKILLS

U5514.01 **Inspect pressure cast match plate** by checking for defects including (not limited to) gas porosity, draws, sinks, mis-matches, cold shuts, and blow holes and by measuring plate for size and thickness, so that the cast match plate is parallel and flat, defects are identified, and corrective action is recommended in accordance with job specifications and engineering drawings.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5514.02 **Finish the back face of the pressure cast cope and drag pattern** by following required procedures and using a mill, so that the back face is finished parallel to the parting line in accordance with engineering drawings and job specifications.

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

U5514.03 **Surface the cast match plate** by following required procedures including (not limited to): checking draft angles; filing; sanding; polishing; scraping; and, using squares, straight edge, files, die grinders, abrasives, or scrapers; so that the surface is finished to allow for the extraction of the pattern tooling from the mould in accordance with engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5514.04 **Drill mounting holes** using drills, jigs, and fixtures, so that the mounting holes are the size and location specified in engineering drawings and job specifications.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5514.05 **Fabricate and install gating system** by following required procedures including (not limited to): laying out on plate; constructing runner bars, in-gates, sprues, filters, pouring basin, risers, feeders, slag trap, breakers, and chokes; installing gating on the plate; and, using hand, power, and machine tools; in accordance with engineering drawings, job specifications, and reference materials.

(mm/dd/yy)	Trainer Print Name	◊Trainer Signature
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U5514.06 **Fasten wear plates or flask slides on cast match plate** using bolts, screws, taps, drills, and countersinks so that wear plates or flask slides are installed to prevent metal wear and maintain alignment during the moulding process, in accordance with job specifications, engineering drawings, and reference materials.

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U5514.07 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

U5514.08 **Complete work documentation** including (not limited to) CAD data, tracking sheets, sign-off sheets, 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 engineering 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

SPONSOR CONFIRMATION FOR U5514: PREPARE PRESSURE CAST MATCH PLATE		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5515.0 MOUNT SPLIT FOUNDRY PATTERN ON MOULDING PLATE

GENERAL PERFORMANCE OBJECTIVE

Mount split foundry pattern on moulding plate by: laying out moulding plate; matching cope and drag pattern halves; transferring and locating dowel holes; fastening pattern to pattern plate; practising good housekeeping; completing work documentation; and, maintaining material identification.

SKILLS

U5515.01 **Lay out moulding plate** to identify pin centres, centre lines, and pattern locations by using height gauge, scriber, marking knife, trammels, dividers, and verniers, so that the pattern and gating can be mounted in accordance with engineering drawings and job specifications.

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

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U5515.02 **Match cope and drag pattern halves** by drilling and reaming dowel holes so that the profile surfaces are aligned, located, and positioned in accordance with engineering drawings, job specifications, and reference materials.

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

U5515.03 **Transfer and locate dowel holes** by marking the moulding plate using transfer screws, drills, reamers, wiggler, centre-finder, indicator, or transfer punches, so that the holes are positioned and aligned on the moulding plate in accordance with job specifications and engineering drawings.

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

U5515.04 **Fasten pattern to moulding plate** using bolts, screws, taps, drills, and countersinks, so that pattern is aligned, positioned, and secured for the moulding process in accordance with engineering drawings, job specifications, and reference materials.

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

U5515.05 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

U5515.06 **Complete work documentation** including (not limited to) CAD data, tracking sheets, sign-off sheets, 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 engineering 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

U5515.07 **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 and engineering drawings.

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

SPONSOR CONFIRMATION FOR U5515: MOUNT SPLIT FOUNDRY PATTERN ON MOULDING PLATE		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5516.0 PRODUCE METAL OR RESIN-BOARD PRODUCTION PATTERN TOOLING

GENERAL PERFORMANCE OBJECTIVE

Produce metal or resin-board production pattern tooling by: inspecting machining stock, tooling resin, or casting; establishing datums or centre lines; manufacturing pattern tooling from metal or tooling resin-board; finishing and polishing surface of pattern tooling; matching pattern tooling halves; assembling the pattern tooling; completing work documentation; practising good housekeeping; and maintaining material identification.

SKILLS

U5516.01 Inspect machining stock, tooling resin, or casting by checking for cracks, porosity, shrinks, blow holes, and surface finish and by measuring for machine allowances, size, and shape, so that defects are identified and corrective action is determined in accordance with engineering 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

U5516.02 Establish datums or centre lines by surfacing faces of the workpiece using milling machines, surface grinders, or lathes, so that datums are established and faces are parallel and square in accordance with engineering drawings, job specifications, and reference materials.

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

U5516.03 **Manufacture pattern tooling from metal or tooling resin-board** by following required procedures including (not limited to): identifying and selecting workpiece material; laying out workpiece; aligning and positioning workpiece in machines; assembling components; and, machining using mills, lathes, or surface grinders; so that the pattern tooling is fabricated in accordance with the model features, engineering drawings, CAD data, or job specifications.

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

U5516.04 **Finish and polish surface of pattern tooling** by following required procedures including (not limited to): checking draft angles; filing; sanding; polishing; scraping; and, using squares, straight edge, files, die grinders, abrasives, or scrapers; so that the surfaces are finished to facilitate the moulding process in accordance with CAD data, engineering drawings, and job specifications.

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

U5516.05 **Match pattern tooling halves** by drilling and reaming dowel holes and installing core box dowels, so that the profile surfaces are aligned, located, and positioned in accordance with engineering drawings, job specifications, and reference materials.

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

U5516.06 **Assemble pattern tooling** by following required procedures including (not limited to): fastening using dowels, screws, nuts, and bolts; fabricating and installing ejection system; mounting back plates, seals, vents, blow tube, blow aperture, gassing plate, and blow plates; and, using hand, power, or machine tools; so that the pattern tooling is assembled in accordance with engineering drawings, job specifications, and reference materials.

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

U5516.07 **Complete work documentation** including (not limited to) CAD data, tracking sheets, sign-off sheets, 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 engineering 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

U5516.08 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5516: PRODUCE METAL OR RESIN-BOARD PRODUCTION PATTERN TOOLING		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5517.0 BUILD FOUNDRY CHECKING FIXTURES AND GAUGES

GENERAL PERFORMANCE OBJECTIVE

Build foundry checking fixtures and gauges by: fabricating a core-assembly fixture; fabricating a locating or checking device; fabricating a core-setting jig; fabricating a go-no-go gauge; fabricating a core-support fixture; performing final inspection; maintaining material identification; and, practising good housekeeping.

SKILLS

U5517.01 **Fabricate a core-setting jig** by following required procedures including (not limited to): selecting workpiece material; laying out workpiece; aligning and positioning workpiece in machine; machining core-setting jig; assembling components of core-setting jig; and, machining using mills, lathes, drills, or grinders; so that the core-setting jig is machined and built to locate and align cores in the moulding process in accordance with engineering 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

U5517.02 **Fabricate locating or checking device** by following required procedures including (not limited to): selecting workpiece material; laying out workpiece; aligning and positioning workpiece in machines; machining locating or checking device; assembling components of locating or checking device; and, machining using mills, lathes, drills, or grinders; so that the locating or checking device is machined and built to locate and place core in the mould in accordance with engineering drawings or job specifications.

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

U5517.03 Fabricate a core-assembly fixture by following required procedures including (not limited to): selecting metal, plastic, or wood workpiece material; laying out workpiece; aligning and positioning workpiece in machines; machining core-assembly fixture; assembling components of core-assembly fixture; and, using mills, lathes, drills, or grinders; so that the core-assembly fixture is machined and constructed to facilitate the assembly of several cores for the moulding process in accordance with engineering drawings or job specifications.

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

U5517.04 **Fabricate a go-no-go gauge** by following required procedures including (not limited to): selecting workpiece material; laying out workpiece; aligning and positioning workpiece in machine; machining the go-no-go gauge; assembling components of the go-no-go gauge; and, using mills, lathes, drills, or grinders; so that the go-no-go gauge is machined and built to check the profile and dimensional accuracy of the casting in accordance with engineering drawings or job specifications.

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

U5517.05 **Fabricate a core-support fixture** by following required procedures including (not limited to): selecting workpiece material; laying out workpiece; aligning and positioning workpiece in machine; machining core-support fixture; assembling components of core-support fixture; and, using mills, lathes, drills, or grinders; so that the core-support fixture is machined and built to maintain the shape, size, profile, and structure of the core during the curing process in accordance with engineering drawings or job specifications.

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

U5517.06 **Perform final inspection** using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, gauge blocks, inside/outside callipers, radius gauges, shrink rule, and tape measure, to ensure that the tolerances and dimensions of the completed foundry checking fixtures and gauges conforms to the engineering drawings and job specifications.

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

U5517.07 **Practise good 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 compliance with company standards/procedures and Safety Legislation.

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

SPONSOR CONFIRMATION FOR U5517: BUILD FOUNDRY CHECKING FIXTURES AND GAUGES		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

U5518.0 **PRODUCE A POLYSTYRENE PATTERN**

GENERAL PERFORMANCE OBJECTIVE

Produce a polystyrene pattern by: verifying features of the polystyrene pattern; devising and planning the construction of polystyrene pattern tooling; sectionalizing the engineering drawing; performing polystyrene-building related calculations; producing template(s); rough-cutting, taping, and squaring-up foam blocks; laying out foam material; carving and shaping polystyrene pattern tooling; assembling fabricated parts; finishing the polystyrene pattern tooling; finalizing surface of polystyrene pattern; performing final inspection; and completing work documentation.

SKILLS

U5518.01 **Verify features of the polystyrene pattern** by reading engineering drawings, mylars, data files, job specifications, allowance charts, and material specifications to correctly identify: type of material; assembly process; pattern features; datum/centre lines; joint/parting lines; type of equipment; draft angles; clearances; tolerances; errors; anomalies; omissions; job operations; sequencing; and, drawing revision level; ensuring that all the required polystyrene pattern features are checked, and identified.

(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

U5518.02 Devise and plan the construction of polystyrene pattern tooling by: reading and interpreting engineering drawings, job specifications, mylars, or CAD data files; verifying features of the pattern components; performing polystyrene-building related calculations; sectionalizing engineering drawings; identifying construction process; identifying dimensions, tolerances, allowances, material specifications, degree of contraction, and surface designation; ensuring that the types of machines and tools, job operations, sequencing of jobs, machining processes, required tooling, and the assembly and construction details of the polystyrene-building process are clearly identified and documented.

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

U5518.03 Sectionalize the engineering drawing to: determine the types, shapes, and sizes of the polystyrene pattern equipment; identify the constructions joints; and, assist in the fabrication of the pattern; so that the pattern components and features are correctly identified and sketched for shape, dimensions, tolerances, finishes, and assembly process in accordance with CAD date, engineering drawings, and job specifications.

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

U5518.04 **Perform polystyrene-building related calculations** using conversion tables/charts, material and product-specification tables/charts, to correctly identify draft, angles, casting weight, clearances, tolerances, allowances, shrinkage or contraction variables of materials, chords, and tangencies, so that all pattern dimensions, tolerances, size, and shapes are accurately determined and documented in accordance with engineering drawings, reference materials, and job specifications.

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

U5518.05 **Produce template(s)** by following required procedures and using prepared layout and required cutting tools, so that the template is the developed to the correct size and shape required for the checking and creation of the section profile in accordance with engineering drawings and job specifications.

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

U5518.06 **Rough-cut, tape, and square-up foam blocks** using tapes and cutting equipment including band saw, circular saws, or sander, so that the polystyrene is rough cut to size and shape in accordance with engineering drawings and job specifications.

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

U5518.07 **Lay out foam material** using layout tools including shrink rule, height gauge, scriber, marking gauge, square, dividers, verniers, and trammels, so that shape and size of workpiece is identified for the removal of surplus material in accordance to engineering drawings, job specifications, and layout plan.

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

U5518.08 **Carve and shape polystyrene pattern tooling** by following required procedure including (not limited to): cutting away surplus material; shaping the pattern and parts; and, using polystyrene milling cutters, turning cutters, rasps, knifes, and abrasives; so that the workpiece is shaped and prepared in accordance with layout, engineering drawings, and job specifications

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

U5518.09 **Assemble fabricated parts** using adhesives, tools, and equipment, so that the parts are aligned, mated, and assembled in accordance with layout, engineering drawings, and job specifications

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

U5518.10 **Finish the polystyrene pattern tooling** by following required procedure including (not limited to): applying fillets to inside corners; radiusing the outside corners; and, using polystyrene cutters, ball-nose cutters, fillet tools, fillet scraper, radius gauge, routers, lathe, or milling machine; so that the pattern is finished in accordance with engineering drawings and job specifications.

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

U5518.11 **Finalize surface of polystyrene pattern** by following required procedure including (not limited to): filling irregularities with gluing compound; taping irregularities and joints; and, using spatula, brush, or tape; so that the surface is finished in accordance with engineering drawings and job specifications.

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

U5518.12 Perform final inspection of polystyrene pattern using precision measuring instruments and checking devices including (not limited to) inside and outside micrometers, vernier height gauges or indicators, decimal tape. gauge blocks, inside/outside callipers, radius gauges, shrink tape rule, and shrink rule, to ensure that the tolerances and dimensions of the completed polystyrene pattern conform with the engineering drawings and job specifications.

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

U5518.13 Complete work documentation including (not limited to) CAD data, tracking sheets, sign-off sheets, 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 engineering 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

SPONSOR CONFIRMATION FOR U5518: PRODUCE A POLYSTYRENE PATTERN		
Date Completed (mm/dd/yy)	**Sponsor Name (Print)**	**Sponsor Signature**

DEFINITIONS

Apprentices Class
Individuals in this class:

- Hold one or more valid Registered Training Agreements with the Ministry of Training, Colleges and Universities 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 practise 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 Training, Colleges and Universities 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 successfully completing 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 Training, Colleges and Universities 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 on-the-job hours specified for the trade, and has 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 Training, Colleges and Universities 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 Training, Colleges and Universities 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 Training, Colleges and Universities 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 *(print name)*	
E-mail Address	

PROGRAM INFORMATION			
Trade Name			
Number of hours required as per Training Agreement *(for hours-based trades only)*			
Hours completed? *(documentation attached)*	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
5501.0	PROTECT SELF AND OTHERS	
5502.0	PLAN AND PREPARE FOR MACHNINING JOB	
5503.0	PERFORM WORK-IN-PROCESS DIMENSIONAL OR SURFACE VERIFICATION	
5504.0	PERFORM BENCHWORK	
5505.0	PERFORM SAWING	
5506.0	PERFORM DRILLING USING DRILL/PRESS/MACHINE	
5507.0	PERFORM MACHINE GRINDING	
5508.0	PERFORM LATHE WORK	
5509.0	PERFORM MILLING	
5510.0	PERFORM NUMERICALLY CONTROLLED (NC)/COMPUTERIZED NUMERICALLY CONTROLLED (CNC) MACHINING	
5511.0	DEVISE AND DETAIL A PLAN FOR THE PATTERN-BUILDING PROCESS	
5512.0	PRODUCE PATTERN TOOLING, MASTERS, MODELS AND PROTOTYPES	
5513.0	FABRICATE RESINE PATTERN TOOLING	
5514.0	PREPARE PRESSURE CAST MATCH PLATE	
5515.0	MOUNT SPLIT FOUNDRY PATTERN IN MOULDING PLATE	
5516.0	PRODUCE METAL OR REDIN-BOARD PRODUCTION PATTERN TOOLING	
5517.0	BUILD FOUNDRY CHECKING FIXTURES AND GAUGES	
5518.0	PRODUCE A POLYSTRENE PATTERN	

MINISTRY OF TRAINING, COLLEGES AND UNIVERSITIES 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 TRAINING, COLLEGES AND UNIVERSITIES
APPRENTICESHIP OFFICES IN ONTARIO (Appendix D)

Location	Contact	Location	Contact
Barrie 705-737-1431	55 Cedar Pointe Dr Unit 609, Barrie, ON L4N 5R7	**North Bay** 705-495-8515	200 First Ave West, North Bay, ON P1B 3B9
Belleville 613-968-5558	135 North Front St, Belleville, ON K8P 3B5	**Ottawa** 613-731-7100	Preston Square, 347 Preston St 3rd Flr, Ottawa, ON K1S 3H8
Brantford 519-756-5197	505 Park Rd North Suite 201, Brantford, ON N3R 7K8	**Owen Sound** 519-376-5790	1450 1st Ave West Suite 100, Owen Sound, ON N4K 6W2
Chatham 519-354-2766	870 Richmond St West 1st Floor, Chatham, ON N7M 5J5	**Pembroke** 613-735-3911	615 Pembroke St East, Pembroke, ON K8A 3L7
Cornwall 613-938-9702	132 Second St East Ste 202, Cornwall, ON K6H 1Y4	**Peterborough** 705-745-1918	901 Lansdowne St West, Peterborough, ON K9J 1Z5
Dryden 807-223-4632	Provincial Government Building, 479 Government St, Dryden, ON P8N 3K9	**Pickering (City of)** 905-837-7721	1420 Bayly St Unit 1, Pickering, ON L1W 3R4
Elliot Lake 705-848-4661	50 Hillside Dr North, Elliot Lake, ON P5A 1X4	**Sarnia** 519-542-7705	Bayside Mall, 150 Christina St North, Sarnia, ON N7T 7W5
Fort Frances 807-274-8634	922 Scott St 2nd Flr, Fort Frances, ON P9A 1J4	**Sault Ste. Marie** 705-945-6815	477 Queen St East 4th Flr, Sault Ste Marie, ON P6A 1Z5
Hamilton Central 905-521-7764	Ellen Fairclough Bldg, 119 King St West 8th Flr, Hamilton, ON L8P 4Y7	**St Catharines** 905-704-2991	Garden City Tower, 301 St Paul St 10th Flr, St Catharines, ON L2R 7R4
Kapuskasing 705-337-4381	Ontario Government Complex, 122 Government Rd West, Kapuskasing, ON P5N 2X8	**Sudbury** 705-564-3030	159 Cedar St Ste 506, Sudbury, ON P3E 6A5
Kenora 807-468-2879	227 1/2 Second St South, Kenora, ON P9N 1G4	**Thunder Bay** 807-346-1550	189 Red River Rd Suite 103, Thunder Bay, ON P7B 1A2
Kingston 613-548-1151	Cornell Corporate Centre, 299 Concession St Ste 201, Kingston, ON K7K 2B9	**Timmins** 705-235-1950	Ontario Government Complex, 5520 Highway 101 East Wing B, South Porcupine, ON P0N 1H0
Kitchener 519- 653-5758	4275 King St East Ste 200, Kitchener, ON N2P 2E9	**Toronto Central** 416-326-5800	625 Church St 1st Fl, Toronto, ON M7A 2B5
London 519-675-7788	1200 Commissioners Rd E Unit 72, London, ON N5Z 4R3	**Windsor Central** 519-973-1441	Roundhouse Centre, 3155 Howard Ave 2nd Fl, Ste 200, Windsor, ON N8X 4Y8
Mississauga (City of) 905-279-7333	The Emerald Centre, 10 Kingsbridge Garden Cir Ste 404, Mississauga, ON L5R 3K6		

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 MTCU staff may have, and provide any additional completion documentation they may require.
- Once they confirm completion, MTCU 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 MTCU, 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 MTCU 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

ONTARIO COLLEGE OF TRADES

ORDRE DES MÉTIERS DE L'ONTARIO

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